Name: Nodes\\Place\Place-making

<Internals\\IJHS 2004 Abstracts> - § 2 references coded [1.14% Coverage]

Reference 1 - 0.57% Coverage

¶53: the currently common deployment, under the rubric of cultural planning, of place-making and local cultural heritage awareness projects

Reference 2 - 0.57% Coverage

¶53: This interpretive exercise afforded a valuable opportunity to investigate the contours of the place-making process and its determinants

<Internals\\IJHS 2008 Abstracts> - § 2 references coded [0.13% Coverage]

Reference 1 - 0.04% Coverage

¶26: Place Making

Reference 2 - 0.09% Coverage

¶37: Making Place for Place-making

¶38:
<Internals\\IJHS 2018 abstracts> - § 1 reference coded [0.01% Coverage]

Reference 1 - 0.01% Coverage

¶52: place-making

Name: Nodes\\Legislation and policy\Planning system

<Internals\\Antiquity 1996 abstracts> - § 2 references coded [0.20% Coverage]

Reference 1 - 0.06% Coverage

¶16: hosted by the planning system

Reference 2 - 0.14% Coverage

¶133: taken an active interest in planning at Stonehenge and Avebury

<Internals\\Antiquity 2000 abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶385: exposes the incompatibility of the A303 proposals for Stonehenge with legislation and planning

<Internals\\Antiquity 2001 abstracts> - § 1 reference coded [0.36% Coverage]

Reference 1 - 0.36% Coverage

¶208: David Baker (formerly County Archaeologist for Bedfordshire and Chair of ACAO) & Richard Morris (formerly Chair of the Council for British Archaeology) add their views to the debate with a candid discussion of PPG-16 and the business of planning and archaeology.

<Internals\\Antiquity 2009 abstracts> - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

¶123: under the aegis of Transport Scotland (for the Scottish Government) and three local authorities, it has set a new standard in planning

<Internals\\IJCP 2009 Abstracts> - § 1 reference coded [0.50% Coverage]

Reference 1 - 0.50% Coverage

¶4: is typified by an absence of planning, which often places sites of cultural, historical, and archaeological significance in severe jeopardy.

<Internals\\IJHS 1994-6 Abstracts> - § 3 references coded [1.18% Coverage]

Reference 1 - 0.35% Coverage

¶27: Heritage is no longer an ‘add on’ to the planning system

Reference 2 - 0.45% Coverage

¶33: the care of historic urban space is dominated by planning professionals

Reference 3 - 0.38% Coverage

¶33: the level of protection afforded it by the planning system.

<Internals\\IJHS 1998 Abstracts> - § 1 reference coded [0.70% Coverage]

Reference 1 - 0.70% Coverage

¶8: Special attention is given to the community planning process and the principal players who will determine the town's future.

<Internals\\IJHS 2002 Abstracts> - § 1 reference coded [0.38% Coverage]

Reference 1 - 0.38% Coverage

¶6: a 1999 planning inquiry over the proposed redevelopment of the erstwhile fishing dock.

<Internals\\IJHS 2005 Abstracts> - § 3 references coded [1.55% Coverage]

Reference 1 - 0.27% Coverage

¶17: Seoul, Korea: its concept of culture and nature in heritage planning

Reference 2 - 0.77% Coverage

¶18: Heritage is taken to include both the cultural and natural spheres to incorporate people, activities, landscapes, monuments, landmarks, artefacts, and nature. Heritage planning then involves the

Reference 3 - 0.51% Coverage

¶18: of the cultural and natural environment to prepare for its stewardship, research, and communication for the benefit of society.

<Internals\\IJHS 2008 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶18: nor planning regulations,

<Internals\\IJHS 2009 Abstracts> - § 2 references coded [0.27% Coverage]

Reference 1 - 0.13% Coverage

¶24: weaknesses in the current planning process.

Reference 2 - 0.14% Coverage

¶64: Findings indicate that the planning frameworks

<Internals\\IJHS 2011 abstracts> - § 2 references coded [0.13% Coverage]

Reference 1 - 0.11% Coverage

¶31: Urban nation: Australia's planning heritage

Reference 2 - 0.03% Coverage

¶37: planning,

<Internals\\IJHS 2013 abstracts> - § 10 references coded [3.53% Coverage]

Reference 1 - 0.19% Coverage

¶3: The good, the bad and the self-referential: heritage planning and the productivity of difference

Reference 2 - 1.29% Coverage

¶4: Heritage planning, as an integrated approach to dealing with traces of the past in the ongoing organisation of the landscape, must be a trans-disciplinary endeavour. Bridging differences between scientific disciplines, as well as sciences and the law, administration, politics and economy, is a continuous challenge. We argue that Niklas Luhmann's social systems theory, with its sophisticated understanding of society as an evolving population of social systems, is very useful in understanding the value and difficulty of trespassing boundaries in heritage planning, and in understanding the value of conflict and cultivated difference in the planning process

Reference 3 - 0.11% Coverage

¶4: analyse similar mechanisms within planning administrations

Reference 4 - 0.33% Coverage

¶4: We argue for an approach to heritage planning that avoids self-reference in the planning system as a whole, while accepting and cherishing the self-reference of the actors

Reference 5 - 0.53% Coverage

¶29: Introducing the various sites earmarked for the Games, the paper explores the relationship between planning as a political tool and its impact on the built environment within the context of a complex web of local, national and international demands, needs and aspirations

Reference 6 - 0.56% Coverage

¶101: the conservation-planning assemblage

¶102: The focus of this paper is the practice of conservation applied through the English planning system, termed conservation-planning. It argues that a distinct conservation-planning social entity has developed that may be described as an 'assemblage'

Reference 7 - 0.08% Coverage

¶102: by the conservation-planning assemblage

Reference 8 - 0.04% Coverage

¶102: conservation-planning

Reference 9 - 0.23% Coverage

¶102: Through this analysis, we can better understand conservation-planning as a distinct heritage social entity and process.

Reference 10 - 0.18% Coverage

¶102: intimately related to its political relationship with other domains of urban management.

¶103:
<Internals\\IJHS 2014 abstracts> - § 8 references coded [1.20% Coverage]

Reference 1 - 0.14% Coverage

¶4: spatial planning concerns – a spectre of post-war modernism – is being criticised

Reference 2 - 0.38% Coverage

¶4: as a result of the fact that the government is reducing its involvement in spatial planning, of a turn-around in socio-economic and demographic development (from growth to shrinkage) and of a crisis in property development

Reference 3 - 0.04% Coverage

¶66: urban planning policy

Reference 4 - 0.16% Coverage

¶66: Delhi is one of the oldest living cities in the world. However, the vision of its planning policy

Reference 5 - 0.08% Coverage

¶66: I argue that Delhi's urban planning strategies

Reference 6 - 0.05% Coverage

¶70: affects planning in the city

Reference 7 - 0.11% Coverage

¶82: This study discusses the politics of urban planning and heritage

Reference 8 - 0.25% Coverage

¶111: This paper examines, firstly, the local sensibilities to these residential places in the context of a strong institutional spatial planning practice

<Internals\\IJHS 2016 abstracts> - § 8 references coded [1.19% Coverage]

Reference 1 - 0.19% Coverage

¶10: This article shows how participation in the reuse of industrial heritage sites has functioned in the planning process in Berlin-Oberschöneweide

Reference 2 - 0.18% Coverage

¶10: The field of planning, which is closely interwoven with that of heritage management, provides another important theoretical horizon

Reference 3 - 0.13% Coverage

¶28: With the help of interviews, content analysis of proceedings, planning decisions and court rulings,

Reference 4 - 0.04% Coverage

¶43: Irish conservation planning

¶44:
Reference 5 - 0.29% Coverage

¶127: the discourses by which town leaders and planners have conceived the heritage development project as one of improvement, the spatial practices by which those discourses have been realised in the built environment,

Reference 6 - 0.07% Coverage

¶135: through the lens of conservation planning practice.

Reference 7 - 0.04% Coverage

¶135: in rational planning environments

Reference 8 - 0.24% Coverage

¶135: and crucially, propose that wider trends in the heritage discourse cannot be adequately implemented within the current legal apparatus and mind-set of traditional rational planning

<Internals\\IJHS 2018 abstracts> - § 3 references coded [0.96% Coverage]

Reference 1 - 0.10% Coverage

¶58: Visualisations of land-use projects have become an important part of the planning process

Reference 2 - 0.11% Coverage

¶87: analysis of conservation area disputes in London through the eyes of planning inspectors

¶88:
Reference 3 - 0.75% Coverage

¶88: To examine these cleavages, the paper operationalises private and public concerns over heritage by asking if there is a recognisable set of justifications that policy-makers use for supporting a pro-conservation or alternatively a pro-development approach? To do this, the paper looks at appeals decided by Her Majesty's Planning Inspectors in London. The findings show that although they are not dichotomous, public and private interests in heritage development can be factually recognised in the setting of appeals. Moreover, the paper finds that Planning Inspectors often channel conflicts through the prism of certain public interests,

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶12: reviewing planning and the role of coastal cultural heritage in Italy

<Internals\\JCH 2008 Abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶210: In spite of its importance, all concerned in Tel Aviv-Jaffa municipality and urban planning,

<Internals\\JCH 2010 Abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶39: are often used for historic preservation planning

<Internals\\JCH 2017 abstracts> - § 6 references coded [0.79% Coverage]

Reference 1 - 0.03% Coverage

¶10: The Cyprus coastal heritage landscapes within Marine Spatial Planning process

Reference 2 - 0.12% Coverage

¶11: In many cases, antiquities are threatened due to the lack of a spatial planning that takes into consideration the sensitivity of these sites. As with in land sites, spatial planning is needed for coastal and sea sites too, in order to design current and future activities.

Reference 3 - 0.09% Coverage

¶21: During the last decades, Greater Cairo, Egypt, is increasing in population and in built-up extension. Some of the new buildings are informal, constructed in absence of government planning processes,

Reference 4 - 0.11% Coverage

¶21: In addition, the fertile land of the Nile floodplain is being urbanized despite the government's building prohibition since the 1990s. Therefore, constant monitoring of construction activity is crucial in the rapidly changing environment of this area.

Reference 5 - 0.27% Coverage

¶311: A supporting management model for the effective incorporation of archaeological sites in the planning process

¶312: Jordan is blessed with valuable archaeological vestiges that date back to several significant decades. The uncontrolled rapid urban sprawl due to different political, social and economic reasons and the absence of a well-articulated conservation plan that ensures the effective integration of archaeological treasure in the planning process has led to the irreversible deterioration of the physical fabric harmony leaving a deep negative impact on the archaeological sites and their surroundings.

Reference 6 - 0.17% Coverage

¶312: The aim of this paper is to formulate a supporting organic management model that guides the conservation of archaeological sites setting in urban contexts in Jordan, in a harmonious holistic way that combines heritage conservation and urban development, archaeological site and its surrounding, theory and practice, international attitude with the local cases qualifications'

<Internals\\JCH 2018 abstracts> - § 3 references coded [0.19% Coverage]

Reference 1 - 0.01% Coverage

¶163: to planning choices

Reference 2 - 0.13% Coverage

¶163: The results show that historic centers have progressively lost their social and economic attractiveness because of the structural mutations in Italian society and the country's economy. The dense regulatory mechanisms that had matured and were tested over decades of economic and demographic growth no longer appear to hold.

Reference 3 - 0.05% Coverage

¶269: This is confirmed in the numerous legislative measures that deal with urban planning at the international level.

Name: Nodes\\'Critical' heritage discussion\Abstract concepts of heritage\Plurality

<Internals\\Antiquity 1995 abstracts> - § 1 reference coded [0.33% Coverage]

Reference 1 - 0.33% Coverage

¶145: natural and human agencies there, and how the research community can choose between several interpretations becoming available.

<Internals\\Antiquity 1997 Abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶117: A plurality of pasts

<Internals\\Antiquity 2002 abstracts> - § 2 references coded [0.12% Coverage]

Reference 1 - 0.07% Coverage

¶33: incorporating the sensitive management of multi-vocal landscapes

Reference 2 - 0.04% Coverage

¶173: Whose perspective on Wales' prehistory?

<Internals\\Antiquity 2007 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶398:

The Archaeology of Plural a

<Internals\\Antiquity 2008 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶115: multivocality in action?

<Internals\\Antiquity 2010 abstracts> - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

¶163: reveals the conjuncture of its origins and its subsequent parallel lives in science, war, politics and the imagination.

<Internals\\Antiquity 2016 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶84: contribute towards greater multi-vocality.

¶85:
<Internals\\Curator 1998> - § 2 references coded [0.79% Coverage]

Reference 1 - 0.13% Coverage

¶3: SHARED HISTORY

Reference 2 - 0.66% Coverage

¶39: questions the idea of a single historical narrative that can do justice

<Internals\\Curator 2011 abstracts> - § 1 reference coded [0.13% Coverage]

Reference 1 - 0.13% Coverage

¶85: developing alternative narratives

<Internals\\Curator 2012 abstracts> - § 2 references coded [0.22% Coverage]

Reference 1 - 0.09% Coverage

¶81: Disagreement Makes Us Strong?

Reference 2 - 0.13% Coverage

¶82: encouraging a plurality of voices to speak?

<Internals\\IJCP 1995 abstracts> - § 1 reference coded [0.23% Coverage]

Reference 1 - 0.23% Coverage

¶43: Heritages for Europe

<Internals\\IJCP 2005 Abstracts> - § 1 reference coded [0.20% Coverage]

Reference 1 - 0.20% Coverage

¶35: It is about competing conceptions of history and spirituality.

<Internals\\IJCP 2006 Abstracts> - § 1 reference coded [0.29% Coverage]

Reference 1 - 0.29% Coverage

¶58: since these works possess multiple purposes as works of art and sacred objects.

¶59:
<Internals\\IJCP 2013 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶45: the conflicting identities of historic sites.

¶46:
<Internals\\IJHS 1998 Abstracts> - § 3 references coded [5.65% Coverage]

Reference 1 - 3.41% Coverage

¶12: Cornwall and its people are imagined and represented in bewilderingly diverse ways, from within and without, by native commentators and participants, outside journalists and visitors, artists, writers, film-makers, holiday promoters and diverse others. Nineteenth-century narratives of industry, technical achievement and diaspora clash with romantic images of antiquity, Celtic myth and superstition, backwardness, rustication, changelessness and insularity. Images of golden beaches, semi-tropical gardens and picturesque fishing ports take precedence over those of industrial decline and economic despair.

Reference 2 - 1.96% Coverage

¶37: There is a geography of McCourt's Limerick, much of which is still extant, composed of row housing, docks, gas works, public houses, Victorian churches and the like that is a different Limerick to the medieval conserved monuments of English Town or the stately residences of the Georgian Newtown (as portrayed in the earlier novels of Kate O'Brien).

Reference 3 - 0.28% Coverage

¶38: a polysemic and essentially multilayered heritage.

<Internals\\IJHS 1999 Abstracts> - § 2 references coded [0.62% Coverage]

Reference 1 - 0.23% Coverage

¶16: to the variety of social and ethnic identities

Reference 2 - 0.38% Coverage

¶38: popular-culture spaces often engage with the visitor in diverse, provocative

<Internals\\IJHS 2000 Abstracts> - § 1 reference coded [2.49% Coverage]

Reference 1 - 2.49% Coverage

¶60: With the help of the two concepts ?tied to the city centre? and ?solidarity with the city centre?, three city-centre resident types are theoretically constructed who are the ?connoisseurs?, the ?take-

it-or-leavers? and the ?rejecters?. The empirical data collected in two Dutch cities, Leeuwarden and Alkmaar, made it possible to search for these assumed types to see whether they really exist and to find out if the different types give different meanings to urban heritage.

<Internals\\IJHS 2001 abstracts> - § 3 references coded [1.65% Coverage]

Reference 1 - 0.20% Coverage

¶14: which past in Northern Ireland?s museums?

Reference 2 - 0.95% Coverage

¶21: Since these lives are tacit, and every user will complete the cultural institution in a different way, the museum should be seen as a situation where no single interpretation erases any other.

Reference 3 - 0.49% Coverage

¶40: Robben Island functions not only as a museum but also as a sacred site and a shrine to a living man

<Internals\\IJHS 2002 Abstracts> - § 1 reference coded [0.13% Coverage]

Reference 1 - 0.13% Coverage

¶6: plural heritage landscapes.

¶7:
<Internals\\IJHS 2004 Abstracts> - § 2 references coded [0.49% Coverage]

Reference 1 - 0.19% Coverage

¶16: At the same time, it is a living sacred site—

Reference 2 - 0.30% Coverage

¶31: how competing interpretations should be included in the management plan

<Internals\\IJHS 2005 Abstracts> - § 2 references coded [0.69% Coverage]

Reference 1 - 0.47% Coverage

¶9: gives insight into the complexity of attitudes towards the area in question, of widely differing perceptions and values.

Reference 2 - 0.22% Coverage

¶34: Contrasting Perspectives from Australia and New Zealand

<Internals\\IJHS 2007 Abstracts> - § 1 reference coded [0.24% Coverage]

Reference 1 - 0.24% Coverage

¶12: identifies the ways in which public heritage represents these varied stories.

<Internals\\IJHS 2008 Abstracts> - § 2 references coded [1.03% Coverage]

Reference 1 - 0.65% Coverage

¶5: Taking the recent removal of penguins from Lubetkin's Penguin Pool (1934) in London Zoo as a point of departure, this article highlights the complexities of reconciling natural and cultural heritage in the zoo today.

¶6:
Reference 2 - 0.38% Coverage

¶62: This article investigates heritage in terms of different intertwined temporalities and polyphonic pasts in the Mediterranean.

<Internals\\IJHS 2009 Abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶71: Geographies of Australian Heritages:

<Internals\\IJHS 2010 Abstracts> - § 5 references coded [1.87% Coverage]

Reference 1 - 0.50% Coverage

¶12: The paper particularly focuses on notions of landscape, sites and artefacts and the ways in which archaeological and indigenous perspectives of these are both different and similar.

Reference 2 - 0.42% Coverage

¶33: It draws upon a number of interviews with local practitioners and professionals in the field to explore the multiple understandings of cultural heritage

Reference 3 - 0.50% Coverage

¶49: I conclude that scholars may need to abandon 'heritage' as an analytical category if they want to begin to understand fundamentally different or hybridised ways of being in the world.

Reference 4 - 0.08% Coverage

¶72: to accept pluralistic concepts

Reference 5 - 0.37% Coverage

¶74: which should be protected, whereas for residents they stand stands for the continuity of their local culture and creative possibilities

<Internals\\IJHS 2011 abstracts> - § 2 references coded [0.39% Coverage]

Reference 1 - 0.25% Coverage

¶39: but also convergences between these different interests. The emergence of such entangled narratives

Reference 2 - 0.14% Coverage

¶59: the validation and/or rejection of intended messages.

¶60:

<Internals\\IJHS 2012 Abstracts> - § 1 reference coded [0.44% Coverage]

Reference 1 - 0.44% Coverage

¶19: reveals the multiple, and at times contradictory, discourses that undergird the production of particular images of Bedouin culture through heritage institutions that interlock, rather than harmonise, them.

<Internals\\IJHS 2013 abstracts> - § 2 references coded [0.41% Coverage]

Reference 1 - 0.34% Coverage

¶6: Heritage places are characteristically imbued with a multiplicity of meanings contingent on the specificities of the society, time and space in which such places are perceived.

Reference 2 - 0.06% Coverage

¶43: that fosters heritage dualities

<Internals\\IJHS 2014 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶40: with the emphasis on the tensions between different PMH practices, discourses and the producers of heritage

<Internals\\IJHS 2015 abstracts> - § 4 references coded [0.69% Coverage]

Reference 1 - 0.41% Coverage

¶13: A central argument is that the Norwegian heritage authorities contributed to construct the bus shelter as ostensibly harmless by creating it as a symbol of a rather vague local past, while the object from the outset represents a potentially dangerous and ambiguous object containing lots of complex history

Reference 2 - 0.04% Coverage

¶85: pluralism and relationality.

¶86:
Reference 3 - 0.10% Coverage

¶147: Marginal or mainstream? Migrant centres as grassroots and official heritage

Reference 4 - 0.14% Coverage

¶148: Ideas of what constitutes official and unofficial heritage can be mutually inclusive – a dialectical process

<Internals\\IJHS 2016 abstracts> - § 11 references coded [2.20% Coverage]

Reference 1 - 0.11% Coverage

¶26: was differentially constructed by local inhabitants, tourists and the City Council.

Reference 2 - 0.25% Coverage

¶40: In the process of 'heritageisation', stakeholders that include the state, the local government, the villagers and the principal lineage strive to negotiate different cultural meanings,

Reference 3 - 0.16% Coverage

¶40: and the traditions. Consequently, three different heritage discourses coexist alongside each other in one locality

Reference 4 - 0.33% Coverage

¶42: As heritage research has engaged with a greater plurality of heritage practices, scale has emerged as an important concept in Heritage Studies, albeit relatively narrowly defined as hierarchical levels (household, local, national, etcetera).

Reference 5 - 0.17% Coverage

¶74: suggests that an examination of heritage sites and the ways in which they engage with, or are received by multiple stakeholders

Reference 6 - 0.38% Coverage

¶76: This study proposes new methodological arts of the contact zone to enhance new ways in heritage management that can collective engage with the multiple and transnational layers of heritage places beyond their geographic boundaries and any relationship with defined static pasts

Reference 7 - 0.12% Coverage

¶90: It brings to light the value of heritage-making outside centralised heritage discourses

Reference 8 - 0.12% Coverage

¶116: Heritage-making and the dilemma of multivocality in South Africa: a case of Wildebeest Kuil

Reference 9 - 0.15% Coverage

¶117: in terms of the practice of multivocality; that is, the co-existence of diverse perspectives and narratives.

Reference 10 - 0.25% Coverage

¶135: The article suggests that further research is required to understand how the multiple and diverse layers of heritage meanings can be emplaced and legitimised within planning settings.

Reference 11 - 0.17% Coverage

¶137: It is important to pay attention to multi-vocal elements such as social, political and educational backgrounds of the communities

<Internals\\IJHS 2018 abstracts> - § 8 references coded [0.95% Coverage]

Reference 1 - 0.21% Coverage

¶23: Using Bakhtin's concept of 'heteroglossia,' this article examines the layering and intersections of multiple claims to heritage places that form dialogics about heritage truths.

Reference 2 - 0.10% Coverage

¶23: in enabling several languages or dialects of belonging to coexist without dissonance

Reference 3 - 0.05% Coverage

¶23: While all heritage discourse is heteroglossic

Reference 4 - 0.08% Coverage

¶27: as a symbolic Welsh first-place, as well as broader Argentine heritage.

Reference 5 - 0.05% Coverage

¶73: ascribed to heritage by different claimants,

Reference 6 - 0.06% Coverage

¶73: that are beyond the national and political level

Reference 7 - 0.02% Coverage

¶73: and, as a consequence

Reference 8 - 0.37% Coverage

¶112: It discusses what happened when representatives from different groups of former victims and perpetrators met together with facilitators and worked towards a shared understanding of the past to reach some consensus about how to deal with different and apparently conflicting narratives within a new museum of communism

Name: Nodes\\'Critical' heritage discussion\Power and political heritage

<Internals\\Antiquity 1994 abstracts> - § 11 references coded [2.92% Coverage]

Reference 1 - 0.11% Coverage

¶25: Destruction of a common heritage:

Reference 2 - 0.58% Coverage

¶26: The civil war in the former Yugoslavia, the largest conflict in Europe for half a century, is more than incidentally about objects from the past and proofs of past possession.

Reference 3 - 0.09% Coverage

¶41: The landscape of imperialism

Reference 4 - 0.27% Coverage

¶51: Ethnohistory and archaeology: approaches to postcontact change in the Americas.

¶52:

Reference 5 - 0.06% Coverage

¶58: national monuments

Reference 6 - 0.30% Coverage

¶67: an established tradition of rock-art has continued and extends into present-day knowledge.

Reference 7 - 0.24% Coverage

¶77: whose views of the past may not match much or at all with the academics.

Reference 8 - 0.39% Coverage

¶85: Albania, isolated from Europe for nearly half a century, was closed to absolute archaeological dating during that time.

Reference 9 - 0.18% Coverage

¶95: More on the vexed question of collectors, looting, and

Reference 10 - 0.49% Coverage

¶189: . These archaeological finds now have an active role in the region's politics, where the present is again being re-made by the pictures of the past.

Reference 11 - 0.22% Coverage

¶223: The archaeology of gender: separating the spheres in urban America.

<Internals\\Antiquity 1995 abstracts> - § 19 references coded [4.40% Coverage]

Reference 1 - 0.27% Coverage

¶4: removed from Berlin to be kept quietly in Moscow and–it now proves–in St Petersburg these last 50 years

Reference 2 - 0.06% Coverage

¶6: Aboriginal archaeology

Reference 3 - 1.00% Coverage

¶14: Contemporary diaries and the water-colours of artists such as the Port Jackson Painter vividly tell of Aboriginal life when the First Fleet in 1788 settled its cargo of convicts in Australia. Fishing was important around the waters of Port Jackson, whose Aboriginal inhabitants are recorded to have used the techniques of spear-fishing and angling. Were other methods also used?

Reference 4 - 0.07% Coverage

¶19: Our own engendered species

Reference 5 - 0.22% Coverage

¶20: This BIG problem is explored, and some approaches to its resolution are developed.

¶21:
Reference 6 - 0.22% Coverage

¶57: the confrontations over the Côa site that were in the headlines early this year.

¶58:
Reference 7 - 0.26% Coverage

¶111: conceals as well as reveals fundamentals that no real practice of archaeology can actually escape.

Reference 8 - 0.03% Coverage

¶112: Politics and

Reference 9 - 0.15% Coverage

¶113: The archaeology of their indigenous people, the Guanches

Reference 10 - 0.18% Coverage

¶113: is caught up now in the contemporary politics of the Islas Canarias.

¶114:
Reference 11 - 0.17% Coverage

¶189: precursor of the extraordinary societies of the island today.

¶190:
Reference 12 - 0.15% Coverage

¶197: The forced repatriation of cultural properties to Tasmania

Reference 13 - 0.53% Coverage

¶198: A recent court case in Australia changes the established frames under which research archaeologists, parks administrators and Tasmanian Aborigines deal with the prehistoric archaeology of the island.

¶199:
Reference 14 - 0.06% Coverage

¶199: politicizing the past

Reference 15 - 0.26% Coverage

¶208: As once-colonial countries recognize the special claim of indigenous peoples to their own history

Reference 16 - 0.21% Coverage

¶208: so archaeology is becoming more a partnership between researcher and community.

Reference 17 - 0.47% Coverage

¶208: The next step, of indigenous people directing their own archaeology, was taken long ago by the Zuni peopel of New Mexico, in a programme that is an example and model for others.

Reference 18 - 0.06% Coverage

¶235: Women in archaeology:

Reference 19 - 0.05% Coverage

¶239: politics and ideas.

<Internals\\Antiquity 1996 abstracts> - § 20 references coded [3.19% Coverage]

Reference 1 - 0.07% Coverage

¶7: An embarrassment of professors

Reference 2 - 0.27% Coverage

¶28: It is, more than most nations, encouraged or required to share what might be its particular heritage with a wider world.

¶29:
References 3-4 - 0.10% Coverage

¶59: Palestine: social transitions, diverse concerns

References 5-6 - 0.18% Coverage

¶60: Coming to terms with the living: some aspects of repatriation for the archaeologist

Reference 7 - 0.16% Coverage

¶61: Red earth, White lies: Native Americans and the myth of scientific fact.

Reference 8 - 0.13% Coverage

¶105: Repatriation, power relations and the politics of the past

Reference 9 - 0.16% Coverage

¶130: and the voluntary association the National Trust own parts of each site.

Reference 10 - 0.08% Coverage

¶137: the issues raised by modern genetics,

Reference 11 - 0.03% Coverage

¶177: United we stand?

Reference 12 - 0.07% Coverage

¶192: The end of the Cold War in 1989

Reference 13 - 0.10% Coverage

¶201: the question of gendered practice in archaeology

Reference 14 - 0.83% Coverage

¶202: Do gender roles, or expectations about gender roles, affect what kind of study is pursued by the individual researcher? Has excavation been rather a man's business? And if so, have other kinds of study — regional survey, for example — rather become women's business? These issues are explored as they are illuminated by the research careers of two eminent Australian contemporaries.

Reference 15 - 0.54% Coverage

¶218: It is not a surprising fact, given the special place antiquities had, and have, in defining national identities in the Scandinavian lands. As J.J.A. Worsaae (1821–1885) said, any country which takes itself seriously ought to know about its own past.

Reference 16 - 0.11% Coverage

¶236: Through the looking glass: nationalism, archaeology

Reference 17 - 0.12% Coverage

¶237: The ghost of Cain? Neanderthals, racism and speciesism

Reference 18 - 0.06% Coverage

¶240: Connoisseurship in context

Reference 19 - 0.12% Coverage

¶247: Chesapeake prehistory: old traditions, new directions.

Reference 20 - 0.08% Coverage

¶253: social and political perspectives.

<Internals\\Antiquity 1997 Abstracts> - § 14 references coded [2.77% Coverage]

Reference 1 - 0.15% Coverage

¶9: Hua people–Descendants of the dragon–Chinese: an archaeological seeking after roots

Reference 2 - 0.05% Coverage

¶40: Native Americans of its region

Reference 3 - 0.16% Coverage

¶50: the methodology and interpretations advocated by the Megaws are both false and dangerous.

Reference 4 - 0.05% Coverage

¶185: Rock art of the Dreamtime.

Reference 5 - 0.09% Coverage

¶188: Why are there so few black American archaeologists?

References 6-7 - 0.61% Coverage

¶189: A Society for American Archaeology survey (1997) reports that its membership is overwhelmingly 'European American'. Although it is no longer true that archaeology in the US is simply man's business rather than woman's, where are the practising archaeologists descended from historically marginalized groups so much of archaeology studies?

Reference 8 - 0.24% Coverage

¶190: 'Strange paintings' and 'mystery races': Kimberley rockart, diffusionism and colonialist constructions of Australia's Aboriginal past

Reference 9 - 0.35% Coverage

¶191: the Bradshaws are not so much 'early Aboriginal' as 'pre-Aboriginal'. Issue is taken with that notion, in light of European attitudes to Aboriginal accomplishment over the last two centuries.

Reference 10 - 0.68% Coverage

¶256: This makes electronic Egypt an intellectual and ethical minefield for the uninitiated, especially as there proves often little to differentiate between this panoply of sites in terms of presentation and professionality. It palpably illustrates the homogenization of knowledge on the net and prompts us to consider the construction of archaeology and archaeological knowledges.

Reference 11 - 0.11% Coverage

¶260: A coming of age: pedagogy, politics and gender archaeology

Reference 12 - 0.08% Coverage

¶261: Invisible people and processes: writing gender

Reference 13 - 0.15% Coverage

¶268: prehistory to politics: John Mulvaney, the humanities and the public intellectual.

Reference 14 - 0.03% Coverage

¶269: Multicultural Japan

<Internals\\Antiquity 1998 abstracts> - § 24 references coded [5.33% Coverage]

Reference 1 - 0.08% Coverage

¶66: Celts, politics and motivation in archaeology

Reference 2 - 0.05% Coverage

¶69: it is a nationalist reaction

Reference 3 - 0.04% Coverage

¶69: derived from insecurity

Reference 4 - 0.05% Coverage

¶87: Research under dictatorship:

Reference 5 - 0.79% Coverage

¶88: All too often in the past, state politics has exerted a strong influence over the direction of academic archaeology. This was particularly true of the German Archaeological Institute under the Third Reich in the 1930s. Here, Klaus Junker offers an intriguing insight into the events and outcomes of this uncomfortable episode, and how the Institute managed to retain its leading position during and after the Nazi régime.

Reference 6 - 0.13% Coverage

¶104: Archaeology and nationalism in Guatemala at the time of independence

Reference 7 - 0.03% Coverage

¶105: The political,

Reference 8 - 0.22% Coverage

¶123: the passions which can be aroused by discussions concerning concepts of prehistoric as well as present-day ethnicity.

Reference 9 - 0.06% Coverage

¶148: Ancient past, imperial present

Reference 10 - 0.22% Coverage

¶164: The Tupi were a horticultural/potter group who lived on the Brazilian coast at the time of the first European arrivals

Reference 11 - 0.58% Coverage

¶170: In contemporary archaeology of the Brazilian Amazon, rapidly increased knowledge about the early pre-ceramic and ceramic occupation has not been matched by an understanding of the socio-political dynamics of native Amazonian societies during the last two millennia, notably immediately before the 15th century AD.

Reference 12 - 0.06% Coverage

¶180: Bororo and cultural continuity

Reference 13 - 0.57% Coverage

¶181: Cultural continuity and discontinuity is a fascinating issue in archaeological investigation, especially in regions where native populations are still present, as in the case of southeastern Mato Grosso. Since there is no necessary correlation between archaeological cultures and self-conscious ethnic groups

Reference 14 - 0.22% Coverage

¶181: This is especially true in a context of colonial impact on native populations, as in the case of the Bororo society.

¶182:
Reference 15 - 0.24% Coverage

¶206: Erect men, undulating women: the visual imagery of gender, race and ‘progress’ in reconstructive illustrations of human evolution

Reference 16 - 0.12% Coverage

¶210: the practice of archaeology and history in non-Western settings

Reference 17 - 0.16% Coverage

¶220: set out some of the ideals and current realities of this highly political enterprise.

¶221:
Reference 18 - 0.21% Coverage

¶237: With changes in political structures, a pan-European dimension is increasing in importance for many archaeologists

References 19-20 - 0.24% Coverage

¶237: Although nationalist frameworks are currently more important, archaeologists should keep a critical eye on European developments.

Reference 21 - 0.06% Coverage

¶239: for restitution of its heritage,

Reference 22 - 0.05% Coverage

¶246: People and the diverse past:

Reference 23 - 0.07% Coverage

¶268: The Communist manifesto, 150 years later

Reference 24 - 1.06% Coverage

¶269: The Communist manifesto does not have much to say about the pre-capitalist societies most archaeologists deal with, and still less about the primitive societies that interest most prehistorians. (Nothing from the Manifesto makes its way, for example, into the useful compendium brought together by Godelier (1973).) Much of what Marx and Engels had to say directly about antiquity consists of unpublished sketches and passing references, and even the systematic treatment of The origins of the family, private property and the state (1884) must be considered provisional

<Internals\\Antiquity 1999 abstracts> - § 20 references coded [4.61% Coverage]

Reference 1 - 0.16% Coverage

¶42: Archaeology and ideological propaganda in annexed Alsace (1940–1944)

¶43:
Reference 2 - 0.51% Coverage

¶43: Various measures were taken as early as 1940, such as a ban on the speaking of French and even the wearing of the Basque beret. Those measures were backed up with the use of propaganda at different levels in everyday life.

Reference 3 - 0.15% Coverage

¶43: and that those origins justified their integration into the Reich

Reference 4 - 0.21% Coverage

¶43: Local archaeological research was especially favoured by the Nazis to further this theory.

¶44:
Reference 5 - 0.05% Coverage

¶106: Capitalism and critique

References 6-7 - 0.31% Coverage

¶144: Viet Nam has a long tradition of scholarly concern with its own past, born out of 900 years of resistance to Chinese political domination.

Reference 8 - 0.19% Coverage

¶146: and has been used by élites as propaganda legitimizing their political positions.

Reference 9 - 0.12% Coverage

¶146: then into the common ancestor of all Chinese people.

¶147:
Reference 10 - 0.17% Coverage

¶148: Contested ethnicities and ancient homelands in northeast Chinese archaeology

Reference 11 - 0.26% Coverage

¶149: In many countries of east Asia, archaeological knowledge is frequently used in the construction of ethnic histories

Reference 12 - 0.76% Coverage

¶149: It is thus important for archaeological research in this region to understand how archaeological knowledge is used in each country to establish national identity, to promote national solidarity, to delineate various ethnic groups and to proclaim ancestral territories, cultural antiquity and unbroken cultural and ethnic continuity.

Reference 13 - 0.11% Coverage

¶150: Nationalism and preserving Korea's buried past:

Reference 14 - 0.20% Coverage

¶153: Construction of national identity and origins in East Asia: a comparative perspective

¶154:
Reference 15 - 0.81% Coverage

¶154: ‘East Asian archaeology is national history or it is nothing’ would be an overstatement, but it is not too far from the reality. The major goal of archaeology in East Asia is to enhance understanding of a nation's past, by increasing its temporal depth. In other words, construction of national identity is the prime business of archaeology in East Asia.

Reference 16 - 0.11% Coverage

¶170: Redirected light on the indigenous Mediterranean

Reference 17 - 0.08% Coverage

¶185: Archaeology under fire: nationalism

Reference 18 - 0.16% Coverage

¶185: poltics and heritage in the Eastern Mediterranean and Middle East.

¶186:
Reference 19 - 0.03% Coverage

¶208: The bombing of

Reference 20 - 0.22% Coverage

¶208: in 1998 provides the focus for an analysis of the political targeting of heritage in Sri Lanka.

<Internals\\Antiquity 2000 abstracts> - § 68 references coded [9.13% Coverage]

Reference 1 - 0.06% Coverage

¶63: are part of the national cultural consciousness.

Reference 2 - 0.07% Coverage

¶65: mainly deals with the past of its indigenous peoples. Thi

Reference 3 - 0.10% Coverage

¶65: tied to geographical categorization of aboriginal cultures within the national territory

Reference 4 - 0.10% Coverage

¶69: as the politics of the past precluded the application of archaeology in the classroom.

Reference 5 - 0.18% Coverage

¶71: a distinctive and politically sensitive document that has attempted to highlight features which will be of cultural relevance to those in the Principality

Reference 6 - 0.18% Coverage

¶73: This partly reflects Australia's history as a former British colony which currently has a minority of indigenous Aboriginal and Torres Strait Islander people

Reference 7 - 0.18% Coverage

¶73: many of whom regard archaeology as yet another colonial imposition which at best is largely irrelevant to their own understanding of their history. Presen

Reference 8 - 0.11% Coverage

¶73: empower Aboriginal people to veto certain kinds of archaeological research they do not agree with.

Reference 9 - 0.26% Coverage

¶75: A growing body of literature has shown that archaeological antiquities have contributed substantially to the generation and perpetuation of a genealogical national myth upon which the modern nation- state of Greece was founded

Reference 10 - 0.45% Coverage

¶75: This ideology of nationalism not only presented the nation-state as the ideal form of political organization for 19th-century Greece, but also presented the inhabitants of Greece as direct descendants of Socrates and Plato. Intellectuals and the emerging middle class merchants imported this western romantic ideology (so popular amongst the European middle-class of the time) into Greece.¶76:

Reference 11 - 0.10% Coverage

¶78: the past is often represented as mirrored by the dominant groups in a given society.

Reference 12 - 0.03% Coverage

¶78: useful for people in power an

Reference 13 - 0.02% Coverage

¶80: diverse pasts

Reference 14 - 0.06% Coverage

¶83: and the political landscape of American schools¶84:

Reference 15 - 0.12% Coverage

¶84: a primary mode for transmitting society's knowledge, values and beliefs, is a highly political endeavour.

Reference 16 - 0.04% Coverage

¶84: the appropriation of the past.

Reference 17 - 0.32% Coverage

¶86:

In Ireland I think it could be said that while archaeology plays an important role in national identity, this role is implicit and not very welldefined. Images of monuments in mist or glorious sunshine and artefacts displayed as treasure or jewellery are very widely deployed.

Reference 18 - 0.15% Coverage

¶86: More traditionally, of course, material remains played a very important role in the construction of national identities in Ireland

Reference 19 - 0.04% Coverage

¶94:

Ireland: fierce tradition grows claws¶95:

Reference 20 - 0.09% Coverage

¶105:

Laboring in the fields of the Lord: Spanish missions and Southeastern Indians

References 21-22 - 0.23% Coverage

¶132: Lhote's work is now recognized for its denigration of almost all and sundry. He likened the local people, the Tuareg, who made many of his 'discoveries', to wolves and living by the laws of the jungle.

Reference 23 - 0.29% Coverage

¶132: Worse still, he undertook what might be regarded today as the systematic vandalism of the sites, not only by liberally washing the paintings to restore their colour, but by collecting and removing copious quantities of material artefacts from the area.¶133:

C

Reference 24 - 0.04% Coverage

¶156:

After years of discussion and argument

Reference 25 - 0.04% Coverage

¶194: the new South African coat of arm

Reference 26 - 0.04% Coverage

¶227:

Death and society: a Marxist approach¶228:

Reference 27 - 0.01% Coverage

¶229:

Diversity

Reference 28 - 0.15% Coverage

¶238:

Whilst archaeological discoveries initiated by the Europeans have long encouraged a pride in India's past among its educated elite

Reference 29 - 0.10% Coverage

¶238: there is even less evidence of nationalism influencing the practice of Indian Archaeology

Reference 30 - 0.10% Coverage

¶240: Bruce Trigger dismissed the role of nationalism within the archaeology of south Asia

Reference 31 - 0.13% Coverage

¶240: apparently ignoring even the archaeological nature of the crest of the new Indian republic — the Sarnath lion

References 32-33 - 0.32% Coverage

¶240: the very real relationship between the south Asian nation-state and archaeology. We have expanded Trigger's tripartite division of nationalist, colonialist or imperialist archaeology (1984), to reflect the aspirations of additional units such as regions, religious groups and

Reference 34 - 0.02% Coverage

¶243: Colonial Indology

Reference 35 - 0.13% Coverage

¶244: as built within the colonial Indological framework of race, language and culture and its Aryan–non-Aryan dichotomy,

References 36-37 - 0.21% Coverage

¶244: is unacceptable to modern India and Indians. It is unacceptable because of its emphasis on the notion of Aryan invasion and the subjugation of, and interaction with, the native population

Reference 38 - 0.22% Coverage

¶244: This notion, the key element of ancient Indian history, culture and archaeology, keeps a vast segment of Indian population away from a sense of positive participation in the country's past.

Reference 39 - 0.36% Coverage

¶244: the key ingredient of this notion is the Indian Vedic literature, which thus makes it primarily a textual notion, and as long as it persists, the Indian upper castes, who ipso facto are given a place in the Aryan ruling order, have no particular reason to seek a primarily archaeology-based past for themselves

Reference 40 - 0.27% Coverage

¶245: evaluating the indigenous status of Maharashtra's Mahars¶246:

The idea of indigenous people in South Asia is more complex than elsewhere, in part because it involves longstanding and intimate contact between ‘tribal’ and non-tribal peoples

Reference 41 - 0.24% Coverage

¶246: Additional complications arise from the hierarchal and endogamous structure of Hindu social and ritual organization, including the plight of people who occupy the lowest stratum of the hierarchy — ‘untouchables’

Reference 42 - 0.12% Coverage

¶246: Because the system of socioreligious stratification known as caste does not encourage social mobility

Reference 43 - 0.14% Coverage

¶246: others lay claim to indigenous origins seeking to benefit from rights and privileges that accompany autochthonous status

Reference 44 - 0.28% Coverage

¶246: This process is sufficiently common in India to be labelled ‘Sanskritization’ when a Hindu caste emulates higher castes (Srinivas 1968), ‘Hinduization’ when tribal or non-caste groups emulate Hindu castes, or more generally, ‘elite-emulation’

References 45-46 - 0.14% Coverage

¶248: Such duality is typical among the diversity of community, ethnic, communal, federalist and national values at issue in India

Reference 47 - 0.10% Coverage

¶249: images of ethnicity tend to be defended as if at risk of pollution or theft by outsiders

Reference 48 - 0.20% Coverage

¶249: Under the influence of European ideology, the commonest symbol for ethnic or nationalist aspiration is language but religion and other markers of culture have been used too

Reference 49 - 0.15% Coverage

¶249: Although literacy — including in the ‘English medium’ — is spreading, archaeology is not appreciated by everyone in Orissa. Partly

Reference 50 - 0.10% Coverage

¶249: there have been various views as to how the temples should be presented and to whom.¶250:

Reference 51 - 0.21% Coverage

¶251: ‘How is it that your countrymen steal our gods?’ asked a Brahmin of the Baptist missionary, John Chamberlain who noted the details of this conversation in his diary on 20 November 1817

References 52-53 - 0.16% Coverage

¶252: Finally, the gentleman ‘got his people together, and took away the goddess by night. There the tree stands, Sir, but the goddess is gone!’ ¶253:

Reference 54 - 0.01% Coverage

¶253: politics

Reference 55 - 0.20% Coverage

¶255:

After the destruction of Ayodhya's Babri mosque in 1992 by supporters of the Vishva Hindu Parishad (VHP), the statement above seems laden with premonition of the events to come

Reference 56 - 0.29% Coverage

¶255: Carnegy’s comments highlight that the mosque’s destruction was not simply the result of 20th-century politics. The events surrounding and following the outbreak of violence in 1992 have resulted in more ‘spilt ink’ than Carnegy could ever have imagined.

Reference 57 - 0.27% Coverage

¶255: the initial documentation submitted to the government by a group of VHP aligned historians, which presented the ‘archaeological proof’ that the Babri mosque had occupied the site of a Hindu temple dating to the 10th and 11th century AD

Reference 58 - 0.09% Coverage

¶255: a second group of ‘progressive’ Indian historians began a counter-argument,

Reference 59 - 0.22% Coverage

¶255: this has been preoccupied with finding an acceptable route through the battlefield which arises as a result of the problematic, but recurrent, marriage between archaeology, folklore and politics

Reference 60 - 0.07% Coverage

¶256: Bangladesh: building national identity through archaeolog

Reference 61 - 0.14% Coverage

¶257: These venues, identified by politicians and philosophers as the repositories for symbols of heritage and national identity,

Reference 62 - 0.11% Coverage

¶260: Here we will focus on a key influence which has deep archaeological and political implications

Reference 63 - 0.09% Coverage

¶260: and has played a major role in determining the dynamics of this conflict.¶261:

Reference 64 - 0.09% Coverage

¶301:

South America (Cambridge History of the Native Peoples of the Americas Vol. III)

Reference 65 - 0.09% Coverage

¶302:

Mesoamerica (Cambridge History of the Native Peoples of the Americas Vol. II)

Reference 66 - 0.02% Coverage

¶340: return to Cambodia¶341:

Reference 67 - 0.24% Coverage

¶385: the fortunes of Stonehenge are intimately linked with politics, money and public opinion, and the long saga of possible solutions to make the site a better place for the future rest on these changing variables

Reference 68 - 0.06% Coverage

¶385: the problems of the various Plans and politics.¶386:

<Internals\\Antiquity 2001 abstracts> - § 11 references coded [1.23% Coverage]

Reference 1 - 0.04% Coverage

¶95: a set of élite origin myths,

Reference 2 - 0.02% Coverage

¶128: Gender agenda?

Reference 3 - 0.02% Coverage

¶129: and ownership

Reference 4 - 0.07% Coverage

¶130: Beyond chiefdoms: pathways to complexity in Africa.

Reference 5 - 0.08% Coverage

¶208: We have received three comments from fellow professionals

Reference 6 - 0.12% Coverage

¶208: has taken over its years of increasingly high-profile professional and business activity.

Reference 7 - 0.04% Coverage

¶230: Last rites for the Tipu Maya

Reference 8 - 0.33% Coverage

¶247: written from the perspective of someone who has been actively involved in professional archaeology since the creation of the first county 'units' in 1973, who helped to promote a professional institute and its codes of contractual behaviour

Reference 9 - 0.08% Coverage

¶290: Mali is a country with a rich history and diverse cultures.

Reference 10 - 0.28% Coverage

¶297: Among the general public, the extraordinarily important role played by cultural resource management (hereafter CRM) procedures in the conservation of archaeological materials usually goes unrecognized.

Reference 11 - 0.14% Coverage

¶297: publication procedures and venues are so different in the worlds of academic and contract archaeology.

<Internals\\Antiquity 2002 abstracts> - § 25 references coded [2.50% Coverage]

Reference 1 - 0.02% Coverage

¶33: political challenges

Reference 2 - 0.16% Coverage

¶55: In recent years, considerable attention has been dedicated to the involvement of archaeology (and most notably prehistory) with nationalism.

Reference 3 - 0.14% Coverage

¶59: a political problem which, as demonstrated by current debate, including acts of violence, goes well beyond archaeology.

Reference 4 - 0.24% Coverage

¶59: This led to a search in protohistorical archaeology [Iberians, Celts, Tartessians, etc.) for a possible solution to the political problems caused by a lack of institutional agreement between states and regions.

Reference 5 - 0.25% Coverage

¶60: national narratives at the turn of the 20th century

¶61: As a discipline concerned with the past, and especially the remote past, archaeology is in a unique position to contribute to the growing discussion on nationalism

Reference 6 - 0.37% Coverage

¶64: When politicians engage in archaeology, it is convenient for all concerned to say that they 'turn' to it: for both parties, this move confirms that the discipline itself is essentially neutral and independent from extrinsic considerations. Already subject to much suspicion, this comforting conception can be further undermined

Reference 7 - 0.05% Coverage

¶65: German archaeology during the Third Reich

References 8-9 - 0.17% Coverage

¶66: The history of the archaeological disciplines in Germany during the Nazi era can be considered as a locus classicus of nationalist interpretation

Reference 10 - 0.03% Coverage

¶66: and misuse of the past.

Reference 11 - 0.17% Coverage

¶66: our understanding of important aspects of Nazi cultural politics as well as the involvement of traditional institutions into the dictatorial system.

Reference 12 - 0.03% Coverage

¶92: Ambivalent Europeans:

Reference 13 - 0.05% Coverage

¶265: repatriation in principle, policy and practice

Reference 14 - 0.05% Coverage

¶286: The last saltmakers of Nexquipayac, Mexico

Reference 15 - 0.08% Coverage

¶290: Occaneechi Town: archaeology of an Eighteenth Century Indian village

Reference 16 - 0.05% Coverage

¶437: has been a more or less political process

Reference 17 - 0.21% Coverage

¶437: A small country sharing a small island with a world power will never have a quiet life (as Pierre Trudeau described Canada's relationship with the USA — 'being in bed with an elephant').

Reference 18 - 0.03% Coverage

¶483: The archaeology of colonialism

Reference 19 - 0.02% Coverage

¶544: A marxist archaeology

Reference 20 - 0.11% Coverage

¶551: From hunting to drinking: the devastating effects of alcohol on an Australian Aboriginal community

Reference 21 - 0.03% Coverage

¶574: Loot, legitimacy and ownership

Reference 22 - 0.02% Coverage

¶637: The theft of culture

Reference 23 - 0.02% Coverage

¶639: Politics, archaeology

Reference 24 - 0.09% Coverage

¶639: the creation of a national museum of Ireland: an expression of national life

Reference 25 - 0.11% Coverage

¶641: Facts on the ground: archaeological practice and territorial self-fashioning in Israeli society

<Internals\\Antiquity 2003 abstracts> - § 6 references coded [1.69% Coverage]

Reference 1 - 0.12% Coverage

¶39: archaeological theory after communism

¶40:

Reference 2 - 0.07% Coverage

¶47: Mexico's Indigenous Past

Reference 3 - 0.17% Coverage

¶111: for the modern multi-cultural country of New Caledonia.

Reference 4 - 0.47% Coverage

¶127: After more than a decade after its demolition, the December 1992 destruction of the sixteenth century mosque in Ayodhya remains a powerful heritage issue.

Reference 5 - 0.62% Coverage

¶127: the mosque's demolition caused the loss of about 2000 Indian lives in Hindu-Muslim rioting across India and led to the destruction of Hindu temples in the neighbouring countries of Pakistan and Bangladesh.

Reference 6 - 0.25% Coverage

¶190: Sydney's Aboriginal past: investigating the archaeological and historical records.

<Internals\\Antiquity 2004 abstracts> - § 17 references coded [3.90% Coverage]

Reference 1 - 0.06% Coverage

¶20: Tracing Comanche history

Reference 2 - 0.61% Coverage

¶21: Depictions on rock in south-east Colorado show mounted warriors with horses clad in leather armour. This was the military strategy adopted by Comanche and Apache peoples between 1650 and 1750 – after the arrival of the horse and before the availability of firearms.

Reference 3 - 0.15% Coverage

¶63: Welcome to an exciting new world of local cultural diversity …

¶64:

Reference 4 - 0.05% Coverage

¶74: problem or opportunity?

Reference 5 - 0.15% Coverage

¶75: can be answered positively, but it must be answered in context.

Reference 6 - 0.27% Coverage

¶75: to consider and review submissions on the issue of the return of non-UK human remains to their descendent communities

Reference 7 - 0.21% Coverage

¶75: In effect, the report was primarily concerned with human remains from Indigenous communities

Reference 8 - 0.29% Coverage

¶75: as “distinct cultural groups having a historical continuity with pre-colonial societies that developed on their territories”

Reference 9 - 0.27% Coverage

¶75: Consequently, the report deals primarily with the Indigenous communities of Australia, New Zealand and North America.

Reference 10 - 0.06% Coverage

¶76: people, pots and politics

Reference 11 - 0.86% Coverage

¶77: they had no interest in Victorian colonialism or establishing which early population was the most 'primitive' or 'savage' or 'inferior', although they did recognise differences in cultural dynamics (with the Romans getting top marks). The term "race" was used for long barrow people, Romans, Saxons and others, simply to refer to populations in a time and cultural frame.

Reference 12 - 0.10% Coverage

¶78: Handle with care: thoughts on the return of

Reference 13 - 0.17% Coverage

¶79: is a matter in which two viewpoints, both equally valid, are confronted.

Reference 14 - 0.32% Coverage

¶79: puts our diversity into context by the finding that we share something like 99 per cent of our genetic makeup with all other human beings.

Reference 15 - 0.17% Coverage

¶81: A professional offering on the same subject appeared almost simultaneously

Reference 16 - 0.01% Coverage

¶168: Power

Reference 17 - 0.14% Coverage

¶168: Agency, ecology, and history in the American Bottom, Illinois

<Internals\\Antiquity 2005 abstracts> - § 11 references coded [3.42% Coverage]

Reference 1 - 0.17% Coverage

¶30: How has Turkey used archaeology to define itself and address political goals

Reference 2 - 0.22% Coverage

¶30: How have these goals clashed with western Europeans in pursuit of the Hittites and ancient Greeks?

Reference 3 - 0.37% Coverage

¶30: The author analyses the context of her own work in the Black Sea coastal area of Turkey, and deconstructs its ethnic influences in the context of modern archaeology.

Reference 4 - 0.08% Coverage

¶58: an archaeology of preunderstanding

Reference 5 - 0.13% Coverage

¶103: the National Museum of the American Indian in Washington, DC

Reference 6 - 0.45% Coverage

¶104: Probably the most theoretically informed museum in North America, this is no shrine to the past: it is a museum that claims both past and present to shape a decolonised future for Indigenous populations.

Reference 7 - 0.20% Coverage

¶144: communities are diverse, exhibiting a culture that is rich, multicultural and complex.

¶145:

Reference 8 - 0.51% Coverage

¶159: and which, by allowing the conflation of such categories as language, ethnicity, race and institution, worked to the detriment of many groups and nations during the twentieth century, and now, no doubt, also in the twenty-first.

Reference 9 - 0.98% Coverage

¶163: The danger of political misuse does not originate from research into this relationship; it originates from simplistic theoretical and methodological conflations of such categories with racist and chauvinistic historical constructions. The relationship between language and DNA, which Colin Renfrew has propagated, is no less subject to such manipulation. The only weapon against this is a developed theoretical and methodological strategy.

Reference 10 - 0.05% Coverage

¶207: Politics and narratives

Reference 11 - 0.27% Coverage

¶208: The author considers the prospects of Islamic archaeology in one of the most politically sensitive places in the world.

<Internals\\Antiquity 2006 abstracts> - § 11 references coded [0.90% Coverage]

Reference 1 - 0.28% Coverage

¶103: will be Professor Mulvaney's current assessment of the Aboriginal-European discourse and the management of the Australian heritage.

Reference 2 - 0.06% Coverage

¶251: Reclaiming a Plundered Past

Reference 3 - 0.07% Coverage

¶251: Archaeology and Nation Building

Reference 4 - 0.03% Coverage

¶251: in Modern Iraq

Reference 5 - 0.04% Coverage

¶277: Who Owns Objects?

Reference 6 - 0.09% Coverage

¶277: Politics of Collecting Cultural Artefacts

Reference 7 - 0.02% Coverage

¶278: the Return

Reference 8 - 0.15% Coverage

¶344: Australian Apocalypse:The story of Australia’s greatest cultural monument

Reference 9 - 0.09% Coverage

¶347: The Native American World Beyond Apalachee:

Reference 10 - 0.04% Coverage

¶367: power and subversion

Reference 11 - 0.04% Coverage

¶368: God’s Terrorists.

<Internals\\Antiquity 2007 abstracts> - § 10 references coded [0.97% Coverage]

Reference 1 - 0.05% Coverage

¶30: The perils of pseudo-Orwellianism

Reference 2 - 0.08% Coverage

¶127: Science, Sensibility, and White South Africa 1820-2000.

Reference 3 - 0.10% Coverage

¶141: Inconstant Companions: Archaeology and North American Indian Oral Traditions

Reference 4 - 0.13% Coverage

¶142: Cross-Cultural Collaboration: Native Peoples and Archaeology in the Northeastern United States

Reference 5 - 0.23% Coverage

¶206: one marked by a tendency to 'substitute socio-political subjects for specialist courses' and 'the growing disparagement of highly skilled researchers and teachers'.

Reference 6 - 0.07% Coverage

¶250: Monumental Ambivalence: The Politics of Heritage

Reference 7 - 0.09% Coverage

¶254: Constructing Power – Architecture, Ideology and Social Practice

Reference 8 - 0.06% Coverage

¶318: The Last Pescadores of Chimalhuacán, Mexico

Reference 9 - 0.09% Coverage

¶373: The author calls into question the ethnic and exploitative models

Reference 10 - 0.08% Coverage

¶495:

Archaeology of the Lower Muskogee Creek Indians 1715–1836

<Internals\\Antiquity 2008 abstracts> - § 21 references coded [2.54% Coverage]

References 1-3 - 0.48% Coverage

¶29: an indigenous archaeological tradition in India

¶30: Archaeological investigation in India begins conventionally with the interest of Europeans. But India's own historical texts reveal examples of indigenous, curiosity-driven fieldwork as early as the sixteenth century

Reference 4 - 0.25% Coverage

¶32: But current archaeological research recognises that the indigenous peoples of the north were themselves diverse and had diverse histories

Reference 5 - 0.10% Coverage

¶68: Indigenous Archaeologies: Decolonizing Theory and Practice

Reference 6 - 0.07% Coverage

¶95: Gesture politics and the art of ambiguity

Reference 7 - 0.10% Coverage

¶114: Europe, it argues, is a concoction of disparate traditions

Reference 8 - 0.45% Coverage

¶114: It raises a range of issues left latent in the gallery. How can we create an appropriate narrative for the first millennium AD, particularly with archaeological finds? How, for that matter, can Europe's tradition be defined; and what prompts the issue?

Reference 9 - 0.07% Coverage

¶169: Locating places for repatriated burial:

Reference 10 - 0.15% Coverage

¶170: In this ingenious co-operative case study, archaeologists and Indigenous peoples

Reference 11 - 0.22% Coverage

¶170: The process is also building a procedure for the low impact and respectful research of early Indigenous burial locations.

¶171:
Reference 12 - 0.02% Coverage

¶175: Repatriation,

Reference 13 - 0.06% Coverage

¶176: Should there be more such loans?

Reference 14 - 0.09% Coverage

¶188: Us and them: archaeology and ethnicity in the Andes

Reference 15 - 0.08% Coverage

¶237: since the place remains sacred and in use.

¶238:
Reference 16 - 0.06% Coverage

¶248: The archaeology of Islam in Britain

Reference 17 - 0.09% Coverage

¶253: The attention to large political systems is timely

Reference 18 - 0.07% Coverage

¶254: Diverse histories and meta-narratives

Reference 19 - 0.10% Coverage

¶255: its contested reception in Denmark, Britain, and Ireland

Reference 20 - 0.02% Coverage

¶256: nationalism

Reference 21 - 0.04% Coverage

¶256: colonialism, and the past

<Internals\\Antiquity 2009 abstracts> - § 20 references coded [2.49% Coverage]

Reference 1 - 0.05% Coverage

¶23: Nineteenth-century Apache wickiups

Reference 2 - 0.20% Coverage

¶30: For years controversial plans to improve the Stonehenge environs (costed at £600m) had dominated media and much academic debate

Reference 3 - 0.10% Coverage

¶30: As road protests diminished, real archaeologists took the stage.

Reference 4 - 0.04% Coverage

¶34: the Science Museum returned

Reference 5 - 0.09% Coverage

¶34: the remains of Tasmanian Aborigines to their cultural home

Reference 6 - 0.11% Coverage

¶34: The Guardian reported on the desire of neo-pagans to take ownership

Reference 7 - 0.05% Coverage

¶41: from people ‘without history’ -

Reference 8 - 0.03% Coverage

¶45: : representation

Reference 9 - 0.03% Coverage

¶54: stones in contention

Reference 10 - 0.16% Coverage

¶103: Dismantling this model, our authors show it to be based upon a post-conquest European-Aztec hybrid.

Reference 11 - 0.03% Coverage

¶137: Who owns Antiquity?

Reference 12 - 0.08% Coverage

¶137: Museums and the battle over our ancient heritage

Reference 13 - 0.34% Coverage

¶202: Like a horde of irritating poltergeists the human remains of the ancients have returned to harass us in the form of the reburial issue; perennial source of postcolonial guilt and undergraduate seminar material.

Reference 14 - 0.11% Coverage

¶202: The Council of British Druid Orders (CoBDO) has requested the reburial

Reference 15 - 0.20% Coverage

¶202: In response English Heritage have carried out a consultation, amidst considerable publicity and public debate (Hole 2008).

¶203:

Reference 16 - 0.14% Coverage

¶207: Academic freedom, political correctness, and early civilisation in Chinese archaeology

Reference 17 - 0.56% Coverage

¶208: A general tendency in the debate, as seen in publications, is that most Chinese archaeologists and historians believe that the Erlitou site represents the material culture of an early dynasty, Xia or Shang, while most scholars in the West have reservations regarding such interpretations (Liu & Chen 2003: 26-35; Liu 2004: 223-38; Liu & Xu 2007).

References 18-19 - 0.10% Coverage

¶245: Archaeology and national identity in Italy and Europe 1800–1950

Reference 20 - 0.06% Coverage

¶248: the cultural politics of archaeology

<Internals\\Antiquity 2010 abstracts> - § 13 references coded [2.28% Coverage]

Reference 1 - 0.04% Coverage

¶19: migration, ethnicity

Reference 2 - 0.37% Coverage

¶22: The anniversary of the abolition of slavery was justly celebrated worldwide in 2007. But what is the character of freedom, how does it relate to material culture, and how can archaeology study it?

Reference 3 - 0.07% Coverage

¶35: Raymond Dart and the danger of mentors

Reference 4 - 0.78% Coverage

¶36: But adherence to mentors has its dangers. That is shown in the career of Raymond Dart, whose professional work was deeply flawed by the adherence he paid to his mentor Grafton Elliot Smith. His status has been maintained by his dedicated disciple, the great physical anthropologist Phillip Tobias, but critical assessment of the corpus of Dart's work (Dubow 1996; Derricourt 2009) contrasts with his selective reputation.

Reference 5 - 0.06% Coverage

¶38: Great Men in the jungle of nations

Reference 6 - 0.06% Coverage

¶65: Monuments, empires, and resistance

Reference 7 - 0.10% Coverage

¶66: The lost legions: culture contact in colonial Australia

Reference 8 - 0.03% Coverage

¶67: Contested objects

Reference 9 - 0.21% Coverage

¶109: raising new questions about the degree of interaction and acculturation between Maroons and indigenous people.

¶110:
Reference 10 - 0.35% Coverage

¶169: The Iron Age sequence in the southern Levant is one of the most evocative and provocative in ancient history, since it coincides with events remembered in the Hebrew Bible (Old Testament).

Reference 11 - 0.07% Coverage

¶217: Understanding the politics of heritage

Reference 12 - 0.06% Coverage

¶233: the seat of an indigenous power

Reference 13 - 0.07% Coverage

¶262: Islamic archaeology at a difficult age

<Internals\\Antiquity 2011 abstracts> - § 27 references coded [4.52% Coverage]

Reference 1 - 0.11% Coverage

¶19: his anonymous co-author, and National Socialism: new evidence from the archives

¶20:

Reference 2 - 0.21% Coverage

¶20: an ultimately uplifting account of Jacobsthal's struggle to establish one of the foundations of European archaeology at a time of grave political persecution

Reference 3 - 0.30% Coverage

¶20: Not the least of the achievements of this paper is the definitive rehabilitation of the lost co-author of Early Celtic Art, Eduard Neuffer, whose name never appeared on the cover and whose contribution was perforce unrecognised.

¶21:

Reference 4 - 0.02% Coverage

¶68: Hidden hands:

Reference 5 - 0.26% Coverage

¶90: provide rare and precious insights into how the indigenous people of the area came to terms with changes that occurred as the result of the arrival of Europeans in the late 1800s and early 1900s.

Reference 6 - 0.12% Coverage

¶116: At the same time, however, and as Greek nationalist strategies were beginning to unfold,

Reference 7 - 0.20% Coverage

¶116: Classical antiquity became a disputed topos, a cultural identity of sorts contested between Greece on the one hand and the 'Western world' on the other

Reference 8 - 0.06% Coverage

¶116: Archaeological sites thus became disputed spaces

Reference 9 - 0.21% Coverage

¶116: claimed by various interested parties of national or supra-national authority wishing to impose their own views on how they should be managed — and to what ends

Reference 10 - 0.05% Coverage

¶116: a national project still in progress

Reference 11 - 0.11% Coverage

¶118: The relationship between antiquity, archaeology and national imagination in Greece

Reference 12 - 0.14% Coverage

¶118: In fact, Greece has proved a rich source of insights for other cases of nation-state heritage politics.

Reference 13 - 0.25% Coverage

¶118: was bound to be shaped by the poetics of nationhood right from the start, given that its prime referent is the most sacred object of the Hellenic national imagination, the Acropolis of Athens

References 14-15 - 0.43% Coverage

¶120: Most of the opposition directed at the new AcropolisMuseum (herafter NAM), both beforeand since its opening in June 2009, has turned out to be politically motivated, mainly from the Left in Greece, mainly from the Right in Britain (the Daily Telegraph called it 'a hideous visitor centre in modern Athens'before it was even built

Reference 16 - 0.10% Coverage

¶190: one that should be credited to the Native American pioneer scholar, Sequoyah.

¶191:

Reference 17 - 0.11% Coverage

¶192: some of the last indigenous potters still working in the twenty-first century AD.

Reference 18 - 0.37% Coverage

¶198: Irrespective of whether climate change poses the greatest challenge in the twenty-first century or whether it is just one of many challenges facing humanity (cf. Rowland 2010), the absence of an archaeological voice diminishes the relevance and impact of the debate as a whole.

¶199:
Reference 19 - 0.31% Coverage

¶202: But this imaginative process is bound by factors widely discussed in social epistemology, including unequal social relations among researchers. Such unequal geopolitics in knowledge has been explored by the present author and others

Reference 20 - 0.10% Coverage

¶205: What should professional archaeologists do about objects discovered by amateurs?

Reference 21 - 0.20% Coverage

¶205: The British Museum is now promoting a code of practice (Bland 2008: 81–2); and, at pains to avoid counterposing professional archaeologists and amateurs

Reference 22 - 0.13% Coverage

¶205: Thus Bland (2008: 80) welcomes collective knowledge . . . founded on public . . . participation'

Reference 23 - 0.10% Coverage

¶205: rather than . . . research . . . conceived and executed by professionals'.

Reference 24 - 0.02% Coverage

¶247: Roots of diversity

Reference 25 - 0.10% Coverage

¶266: Their archaeological study finds an underlying driver that is part political,

Reference 26 - 0.44% Coverage

¶274: It is only appropriate to observe, then, that the problematic nature of Wilkinson's book comes as no surprise to a historian of Egyptology. Both it — and the accompanying comparison of the country's past to its present — are part of a long tradition (although tradition is too positive a word) of questionable Egyptological analysis.

¶275:
Reference 27 - 0.11% Coverage

¶306: The life and writings of Julio C. Tello: America's first indigenous archaeologist

<Internals\\Antiquity 2012 abstracts> - § 8 references coded [2.16% Coverage]

Reference 1 - 0.03% Coverage

¶65: Pride, prejudice

Reference 2 - 0.06% Coverage

¶66: war, exploitation by big business

Reference 3 - 0.17% Coverage

¶74: Sharing the inquiry with the public of today also revealed some of the disquieting mechanisms

Reference 4 - 1.45% Coverage

¶82: The familiar term “pseudoarchaeology” allows us to categorise and comfortingly dismiss a diverse group of alternative presentations of the past, and reinforce our own professionalism as scholars and scientists. Glyn Daniel regularly denounced the ideas of a “lunatic fringe” in Antiquity editorials, and contributors to a recent unforgiving book analyse “how pseudoarchaeology misrepresents the past” (Fagan 2006). Other terms like “alternative” or “cult” archaeologies describe the same phenomena, and it is appropriate to consider elements of pseudohistory in the same argument. The conventional image is of a clear gap between the knowledge gained through our scholarly and scientific research and thinking, and the illusory pasts and falsehoods created by others. But such a binary division does present problems

Reference 5 - 0.06% Coverage

¶86: and/or aboriginal communities.

¶87:

Reference 6 - 0.13% Coverage

¶109: Exhuming loss: memory, materiality and mass graves of the Spanish Civil War

Reference 7 - 0.16% Coverage

¶118: find echoes among hunting practice and shamanistic images of the indigenous Yukaghir people

Reference 8 - 0.11% Coverage

¶232: Cross-disciplinary perspectives on a contested Buddhist site

<Internals\\Antiquity 2013 abstracts> - § 14 references coded [3.14% Coverage]

Reference 1 - 0.12% Coverage

¶18: together with a closely argued case for cultural hybridity within the postcolonial paradigm.

Reference 2 - 0.03% Coverage

¶35: Modern political views

Reference 3 - 0.72% Coverage

¶36: The Tea Party, the Arab Spring and the _Occupy movements may seem to have little in common. They respond to very different circumstances, and they are fuelled by very different ideologies. Furthermore, they do not represent homogeneous movements and each of them amalgamates very different groups with very different interests. Stripped of their most obvious traits, however, they share a common dissatisfaction with the nature of power in the present world, and each has opened a debate on the nature and legitimacy of current power structures

Reference 4 - 0.17% Coverage

¶42: In Estonia, the professions middle order, having witnessed the assertion of national independence from Russia in 1991 as youngsters

Reference 5 - 0.03% Coverage

¶94: Marking resistance?

Reference 6 - 0.25% Coverage

¶95: These are shown to belong to the Contact period and represent the response of Indigenous artists to European land-taking by recalling and restating traditional themes from earlier times.

¶96:

Reference 7 - 0.01% Coverage

¶103: nationalism

Reference 8 - 0.03% Coverage

¶107: The creation of inequality

Reference 9 - 0.14% Coverage

¶135: to have been built by Bedouin or other local communities to trap carnivores that threatened their flocks

Reference 10 - 0.40% Coverage

¶169: , urged all the archaeologists in China "to cooperate fully, so that in the next three or five years, in the entire nation, we can build up a scientific and holistic system out of all cultural remains of all periods; that is to say, to build up a Marxist Chinese archaeological system" (Yin 1959: 123).

Reference 11 - 0.25% Coverage

¶170: This call had two keywords in it.One was 'Chinese'. Ever since the early twentieth century, growing nationalism had drum-beaten Chinese archaeologists to search for Chinese cultural origins

Reference 12 - 0.89% Coverage

¶170: A particularly urgent matter for archaeologists of the 1950s was to dispel the notion of 'the western origin of Chinese culture' that was current among foreign and native archaeologists during theNationalist Era (1911-1949). To achieve this goal, it was imperative to undertake archaeological investigation systematically so as to prove the autochthonous origins and undisrupted development of Chinese civilisations. The second word, 'Marxist', reflects a process of cutting the umbilical cord of the reborn archaeology of the 'New China' from the 'bourgeois archaeology' of the 'Old China' and swaddling the discipline with the mantle of Marxist theories and models

¶171:
Reference 13 - 0.06% Coverage

¶179: Power and landscape in Atlantic West Africa

Reference 14 - 0.02% Coverage

¶247: national heritage

<Internals\\Antiquity 2014 abstracts> - § 6 references coded [0.88% Coverage]

Reference 1 - 0.50% Coverage

¶131: Our answers will profoundly shape the future of our field. As archetypal students of history, we must learn from the lessons of the past and act. Playing the part of the metaphorical ostrich and burying our heads in the sand would be far easier, perhaps even customary, but this cannot be our course. A strong and engaged field is needed now more than ever—my primary intent here is to dissect what this means.

¶132:
Reference 2 - 0.01% Coverage

¶142: power

Reference 3 - 0.08% Coverage

¶143: US cultural diplomacy and archaeology. Soft power, hard heritage

Reference 4 - 0.02% Coverage

¶144: governance in China

Reference 5 - 0.09% Coverage

¶195: an indicator of pre-colonial exchange systems in south-eastern Australia

¶196:
Reference 6 - 0.17% Coverage

¶196: Such shields often had special value to their Australian Aboriginal owners and hence might have been exchanged over considerable distances

<Internals\\Antiquity 2015 abstracts> - § 17 references coded [2.41% Coverage]

Reference 1 - 0.07% Coverage

¶57: An archaeology of resistance: materiality and time in an African borderland.

Reference 2 - 0.15% Coverage

¶76: this site in the central Kalahari Desert exemplifies the role of heterarchy and indigenous agency in the evolving political economy of the subcontinent.

¶77:
Reference 3 - 0.05% Coverage

¶84: foster an inclusive approach to the excavation process

Reference 4 - 0.06% Coverage

¶89: Leaping to conclusions: archaeology, gender and digital news media

Reference 5 - 0.26% Coverage

¶90: In addition, the interpretation put forward exposed the continued androcentrism inherent in many sub-disciplines of archaeology, which, 30 years on from Conkey and Spector's (1984) transformative publication, remain locked in deeply problematic interpretative patterns

Reference 6 - 0.08% Coverage

¶90: and queries archaeological responsibility and visibility in an age of 24-hour news.

Reference 7 - 0.06% Coverage

¶104: Kuaʻāina kahiko: life and land in ancient Kahikinui, Maui.

Reference 8 - 0.19% Coverage

¶110: he focuses on the barriers that must be broken down in order to secure a relevant and meaningful future for the practice and dissemination of archaeology in this continent that was the cradle of humanity

Reference 9 - 0.12% Coverage

¶169: Creationists, however, have argued, from the incomplete preservation of the motifs, that it depicts a winged monster or pterosaur.

Reference 10 - 0.06% Coverage

¶175: testifying to the long-distance movement of slave labour.

¶176:

Reference 11 - 0.05% Coverage

¶190: Historical archaeologies of spatial practices and power

Reference 12 - 0.26% Coverage

¶191: communities deploy landscapes to materialise, and even to naturalise, claims to political authority and power. They reveal how the study of landscape at multiple scales spurs narratives and counter-narratives about how people experience the world and vie for control of it

Reference 13 - 0.07% Coverage

¶206: We move on to consider the role of cultural heritage and its colonial baggage

Reference 14 - 0.05% Coverage

¶206: the process of nation-building in Jordan and Singapore

Reference 15 - 0.08% Coverage

¶232: the devastating effects of European diseases on indigenous New World populations

Reference 16 - 0.25% Coverage

¶250: The charmed life of Albania's archaeologists until 1991 is easily explained. Between 1944 and 1985, the dictator Enver Hoxha invested in archaeology to secure an Illyrian myth for an unstable republic, which, in 1913, was carved out of the western Ottoman Empire.

Reference 17 - 0.54% Coverage

¶250: The first generation of communist archaeologists was trained in the Soviet Union; they in turn mentored subsequent generations. As a result, with the advent of democracy, almost no archaeologist had first-hand experience of Western European or American archaeology. The few who had engaged with Western Europe (Neritan Ceka, Aleksander Meksi, Genc Pollo) changed careers and entered politics (Hodges 2014). After the first elections, the 1990s, bearing the bitter scars of communism, were exceedingly confusing and practically complicated for Albania's archaeologists

<Internals\\Antiquity 2016 abstracts> - § 25 references coded [4.05% Coverage]

Reference 1 - 0.91% Coverage

¶4: It is not often that Egyptology features in US presidential campaigns, but such was the case back in November when Republican candidate Ben Carson asserted that the pyramids of Egypt were built not for burials but as grain stores. He had held this view for some time, apparently ascertaining it from the biblical narrative that tells how Joseph was sold into slavery in Egypt, rose to be the pharaoh's right-hand man and built grain stores in the seven years of plenty to prepare for the seven lean years to follow (Genesis 41). Whether or not there is some historical truth behind that story, a leap of faith of an entirely different order is required to believe that the pyramids were the grain stores in question. Carson's theory has been widely—and quite properly—dismissed, and one could well ask, does it matter? But surely it must. Ignorance of the past among politicians, and the public at large, is not encouraging, and if they take so little notice of evidence from archaeology, will they do any better elsewhere?

Reference 2 - 0.04% Coverage

¶33: Conflict antiquities and conflicted antiquities

Reference 3 - 0.12% Coverage

¶74: Then there are those living in Mayaland itself, an area embracing parts of Guatemala, Mexico, Honduras, El Salvador and all of Belize.

Reference 4 - 0.09% Coverage

¶74: stem in part from a sense of direct inheritance, extending to rights of ownership and interpretation.

Reference 5 - 0.45% Coverage

¶84: Post-colonial tensions remain fresh among Indigenous communities in Mexico and Guatemala. The survival of local Maya heritage narratives in the face of conflicting belief systems, the increased commodification of antiquities and the decline of traditional ways of life is increasingly difficult. At Santiago Atitlán in the Guatemalan highlands, and at Tahcabo in the state of Yucatán, Mexico, individuals have sought to preserve traditional narratives through ontological constructs and by enacting hybridity

Reference 6 - 0.05% Coverage

¶84: These studies demonstrate how collaborative archaeology

Reference 7 - 0.05% Coverage

¶84: highlight the perspectives of Indigenous communities

Reference 8 - 0.23% Coverage

¶89: He suggests, indeed, that precise characterisation and formalisation as a stratigraphic unit may hinder such use, causing (for instance) all humans—rather than specific socio-economic groups—to be held equally responsible for the degradation of planetary systems.

Reference 9 - 0.09% Coverage

¶91: It matters that he formulated the term to indicate the scale of transformation in geological language.

Reference 10 - 0.04% Coverage

¶150: War and peace: heritage on the front line

Reference 11 - 0.03% Coverage

¶161: Historical archaeologies of capitalism

Reference 12 - 0.51% Coverage

¶163: Migration is rarely out of the news, and the movement of people has become one of the most politically charged issues of the day. At the time of writing, Pope Francis is embroiled in a spat with presidential hopeful Donald Trump over the issue of Mexican migration to the USA, attempts to restrict the free movement of European citizens underlie much of the discussion of the forthcoming UK referendum and refugees continue to flee war-torn Syria. In such a context, the symbolism of Neil MacGregor's choice for his final curatorial acquisition for the British Museum is potent

Reference 13 - 0.29% Coverage

¶190: was at the heart of sixteenth-century Spanish colonial projects. Communities on the island were exposed to the earliest waves of European impact during a critical period of transformation and the forging of new identities. One of many caves within an extensive subterranean world on the island was marked both by indigenous people

Reference 14 - 0.01% Coverage

¶205: battle

¶206:
Reference 15 - 0.15% Coverage

¶206: the full horror only registered later, after seeing many more bones, much finely crafted weaponry and armour, and pictures and plans of fights both modern and ancient

Reference 16 - 0.05% Coverage

¶209: Archaeologies of colonialism in Europe's ‘New World’

Reference 17 - 0.05% Coverage

¶242: some of which predate the period of European contact.

Reference 18 - 0.16% Coverage

¶267: In another book, writer Jay Miller seeks a cosmological explanation of all eastern North American mounds, in some ways reaffirming the centrality of mound building to Native identities

Reference 19 - 0.02% Coverage

¶316: social diversity.

References 20-21 - 0.31% Coverage

¶318: When considered in the context of local history, developments in the rock art of Doria Gudaluk during the second half of the twentieth century can be understood as the result of new cultural collaborations between incoming groups and older, local communities.

¶319: ‘The most awkward building in England’? The ‘Rotten’ heritage of ‘Tin Pan Alley’ revisited

Reference 22 - 0.22% Coverage

¶320: Five years ago, comparisons in an Antiquity paper between the ‘simulations of scenes’ drawn on the wall of 6 Denmark Street by John Lydon, during Sex Pistols rehearsals in the 1970s, and the Palaeolithic cave art of Lascaux provoked a strong response.

Reference 23 - 0.05% Coverage

¶334: Following the referendums on Scottish independence and Brexit

Reference 24 - 0.11% Coverage

¶334: research into the first farming communities of these islands and their tangled traditions assumes particular resonance.

Reference 25 - 0.03% Coverage

¶348: Victims of Ireland's Great Famine:

<Internals\\Antiquity 2017 abstracts> - § 5 references coded [0.68% Coverage]

Reference 1 - 0.16% Coverage

¶35: Allied to this is the matter of colonialism and ‘post-colonial’ archaeology, with questions of hybridity, importation, local imitation and acculturation or adaptation; all these are things that loom large in these volumes and many others

Reference 2 - 0.10% Coverage

¶67: The case is of particular interest as the Tham Lod individual probably belonged to a population ancestral to extant Australo-Melanesian peoples.

¶68:
Reference 3 - 0.04% Coverage

¶231: Post-colonial thought affects the heart of Western science.

Reference 4 - 0.21% Coverage

¶231: . Examination of recent literature dealing with so-called modern human origins highlights key neglected aspects of this discourse, namely the status of nature and rationality, and demonstrates how these aspects are entangled with ongoing political and colonial influences on the production of knowledge.

¶232:
Reference 5 - 0.17% Coverage

¶309: The European colonisation of South America had different effects on the indigenous peoples, particularly on mobile hunter-gatherer societies such as those that inhabited mainland southern continental Patagonia and the island of Tierra del Fuego

<Internals\\Antiquity 2018 abstracts> - § 45 references coded [6.02% Coverage]

Reference 1 - 0.01% Coverage

¶5: Diversity

Reference 2 - 0.09% Coverage

¶27: Indigenous Caribbean perspectives: archaeologies and legacies of the first colonised region in the New World

Reference 3 - 0.12% Coverage

¶28: The role of pre-contact indigenous peoples in shaping contemporary multi-ethnic society in Hispaniola (Haiti and the Dominican Republic)

Reference 4 - 0.08% Coverage

¶28: and elsewhere in the Caribbean, has been downplayed by traditional narratives of colonialism

Reference 5 - 0.04% Coverage

¶28: three (pre-)Contact-era Amerindian settlements,

Reference 6 - 0.21% Coverage

¶28: Indigenous knowledge of the landscape was key to the success of early Europeans in gaining control of the area, but also survives quite clearly in many aspects of contemporary culture and daily life that have, until now, been largely overlooked.

Reference 7 - 0.89% Coverage

¶36: Historians properly recognise Karl Marx as an important contributor to Western thought in a time of economic turmoil one and a half centuries ago. Especially, his efforts to motivate opposition to an exploitative economic system are highly regarded—I, for one, have made a pilgrimage to view his work-space in the British Museum reading room. And I agree that ideas influenced by Marx and Engels (considering the work of Childe, White, Wittfogel, Polanyi and the like) have been so thoroughly internalised that they amount to a kind of “disciplinary common sense” (in the introductory chapter by Robert Rosenswig and Jerimy Cunningham, p. 1), perhaps better characterised as ‘entrenched ideas’. From the perspective of contemporary anthropological theory, however, I find it difficult to understand why researchers might insist on bringing notions from Marx and Engels directly into today's archaeological thinking and practice, but this is exactly what most of the contributors to Modes of production and archaeology have done.

Reference 8 - 0.07% Coverage

¶38: with their findings feeding back into broader narratives of national culture,

Reference 9 - 0.02% Coverage

¶84: and social diversity

Reference 10 - 0.13% Coverage

¶89: is key to understanding the formation and evolution of indigenous Sámi identity in Northern Fennoscandia from the Iron Age to the seventeenth century AD.

Reference 11 - 0.20% Coverage

¶89: An examination of such evidence can illuminate how major changes, such as the shift from hunting to reindeer pastoralism, colonialism by emerging state powers and Christianisation, were mediated by the Sámi at the local level.

Reference 12 - 0.08% Coverage

¶93: From Brazil to the United Kingdom, 2016 was a critical year in global politics. Heritage,

References 13-14 - 0.40% Coverage

¶93: were and will all be affected, and it is time to reflect critically on the phenomenon of 'reactionary populism' and how it affects the practice and theory of archaeology. 'Reactionary populism' can be defined as a political form that is anti-liberal in terms of identity politics (e.g. multiculturalism, abortion rights, minority rights, religious freedom), but liberal in economic policies. It is characterised by nationalism, racism and anti-intellectualism

Reference 15 - 0.13% Coverage

¶93: and as Judith Butler states in a recent interview, it wants "to restore an earlier state of society, driven by nostalgia or a perceived loss of privilege"

References 16-17 - 0.32% Coverage

¶93: Our intention here is to argue that the liberal, multi-vocal model of the social sciences and the humanities is no longer a viable option. Instead, we ask our colleagues to embrace an archaeology that is ready to intervene in wider public debates not limited to issues of heritage or of local relevance, is not afraid of defending its expert knowledge in the public arena

Reference 18 - 0.04% Coverage

¶93: and is committed to reflective, critical teaching.

Reference 19 - 0.31% Coverage

¶95: We commend González-Ruibal et al. (above) for their well-formulated challenge to a widely held view in Anglophone archaeology. Their insistence that archaeologists must rethink their position in a radically changed political context is highly apposite, although we do not agree entirely with all of their arguments. Here, we address three principal issues.

Reference 20 - 0.03% Coverage

¶96: Decolonial archaeology as social justice

Reference 21 - 0.32% Coverage

¶97: And now what? This anxious question torments many of us in the current socio-political moment: that of Trumpism and Brexit; of resurgent xenophobia and racism expressed through election results and policies around Europe; and of the return of fascism and Nazism. It is this moment that has prompted González-Ruibal et al. (above) to call for a new, politicised archaeology

Reference 22 - 0.05% Coverage

¶97: the discourse of apolitical and abstract multiculturalism

Reference 23 - 0.04% Coverage

¶97: and for an explicit, public political stance

Reference 24 - 0.08% Coverage

¶97: If the politicisation of archaeology was important 10 years ago, it is much more urgent now.

Reference 25 - 0.12% Coverage

¶99: At its heart, and despite the radical rhetoric, Gonzalez-Ruibal et al.'s paper is another defence of archaeological expertise by archaeologists

Reference 26 - 0.04% Coverage

¶101: people who "are diverse, fragmented and complex"

Reference 27 - 0.14% Coverage

¶101: The authors find fault with the multi-vocal, multi-cultural approaches of epistemic populist archaeologies that tend to exclude most of those who fit this description

Reference 28 - 0.34% Coverage

¶101: I could object to some of the details of the authors' critiques of epistemic populism and heritage studies, but their core arguments are mostly correct and powerful. At the same time, at least within a North American context, I think that archaeologists have generally reacted to the various populist pressures of the past century and that we have already started to do what the authors suggest.

Reference 29 - 0.06% Coverage

¶102: Authority vs power: capitalism, archaeology and the populist challenge

¶103:
Reference 30 - 0.27% Coverage

¶111: Stemming initially from a colonial perspective, which saw the Roman Empire as 'civilising' those who were subsumed into it, the study of these interactions now includes a wealth of diverse post-processual or post-colonial approaches that stress the complexity of interactions within and between these social groups.

Reference 31 - 0.02% Coverage

¶121: gender and violence

Reference 32 - 0.20% Coverage

¶145: the gathering of more than 5000 archaeologists from the USA and beyond offered the opportunity to lobby politicians and policymakers on their home turf. Delegates were accordingly encouraged to contact their elected representatives

Reference 33 - 0.05% Coverage

¶170: 100 years later: the dark heritage of the Great War

Reference 34 - 0.24% Coverage

¶171: Archaeological research into twentieth-century global conflicts has understandably focused on sorrow, pain and death when interpreting the associated material, structural and human remains. There are, however, other approaches to studying 'difficult' (or 'dark') heritage

Reference 35 - 0.02% Coverage

¶186: and political action

Reference 36 - 0.03% Coverage

¶217: from an African-centred viewpoint.

Reference 37 - 0.13% Coverage

¶221: the recent rise of ISIS has involved the deliberate targeting of heritage sites as part of a broader strategy towards local communities in Syria and Iraq

Reference 38 - 0.03% Coverage

¶222: Approaching the archaeopolitical

Reference 39 - 0.03% Coverage

¶341: The Brexit hypothesis and prehistory

References 40-41 - 0.48% Coverage

¶342: This has led to the increasing mobilisation of archaeological data and interpretations within the discourses of nationalism and identity politics. This debate piece introduces the Brexit hypothesis, the proposition that any archaeological discovery in Europe can—and probably will—be exploited to argue in support of, or against, Brexit. Examples demonstrate how archaeological and ancient DNA studies are appropriated for political ends, and a series of recommendations and strategies for combatting such exploitation are proposed by the author.

¶343:
Reference 42 - 0.03% Coverage

¶344: Power, knowledge and the past

Reference 43 - 0.02% Coverage

¶345: The Brexit syndrome

References 44-45 - 0.10% Coverage

¶345: towards a hostile historic environment?

¶346: Countering the Brexit hypothesis through solidarity, advocacy and activism

<Internals\\Curator 1994> - § 14 references coded [9.86% Coverage]

Reference 1 - 0.23% Coverage

¶13: professionalism versus the audience

Reference 2 - 0.29% Coverage

¶13: connoisseurship versus the public experience,

Reference 3 - 0.19% Coverage

¶15: Neither Too Young Nor Too Old

Reference 4 - 0.35% Coverage

¶17: Challenging the Context: Perception, Polity, and Power

Reference 5 - 0.59% Coverage

¶26: commonly poorly explained to, and therefore commonly misunderstood by, the general public.

Reference 6 - 1.60% Coverage

¶32: The museum embarked on a campaign to have the proposed cuts more broadly assigned or the funding restored. The methods used included testimonials to legislators by survey clients and visits by museum staff to explain the benefits of the surveys.

References 7-8 - 0.25% Coverage

¶46: Cultural Elitism vs. Cultural Diversity

Reference 9 - 1.72% Coverage

¶52: This article suggests that one way to involve the viewer in this balance is to approach the exhibition not so much as a lecture but as a conversation, with the consequence that the focus is on those issues that are open to verification or resolution by the viewer.

Reference 10 - 0.22% Coverage

¶63: Diversity and the Museum of London

References 11-12 - 2.00% Coverage

¶64: Increasingly, some — but not all — urban history museums are facing the challenges of reaching out to and serving growingly diversified populations. Described here is the Museum of London's The Peopling of London, which recognizes the history and contributions of immigrant communities and their descendants.

References 13-14 - 2.42% Coverage

¶64: Planning for the exhibition required an about face from the museum's traditional in-house method of exhibition development — involving members of minority communities. Both the planning process and the resulting exhibition serve as a model for consideration and possibly emulation as urban history museums look at the growing diversification of the populations they serve.

<Internals\\Curator 1995> - § 13 references coded [8.80% Coverage]

Reference 1 - 0.16% Coverage

¶5: Finding Common Ground

Reference 2 - 1.37% Coverage

¶8: Further boundaries are blurring as the native communities worldwide ask museum personnel to change their methods of collections care and alter rules of accessioned objects' use.

Reference 3 - 0.16% Coverage

¶16: Everybody's a Curator

Reference 4 - 0.31% Coverage

¶17: Controversial Exhibitions and Censorship

Reference 5 - 0.47% Coverage

¶34: to meet the needs and expectations of a more diverse public.

Reference 6 - 0.26% Coverage

¶48: Native Hawaiians and Bishop Museum

Reference 7 - 0.31% Coverage

¶48: Negotiating Ownership of the Island Past

Reference 8 - 1.17% Coverage

¶49: Despite its history and close proximity to Hawaiians, Bishop Museum has neither a long nor an unblemished record of consulting the indigenous community.

Reference 9 - 2.56% Coverage

¶49: Within the last three years, there has been a theft/removal of sacred objects, a lawsuit involving repatriation of Hawaiian remains, demonstrations and state government hearings concerning the Bishop's interpretation of archaeological sites, as well as more positive activity; e.g., a renewed interest in exhibiting Hawaiian culture.

Reference 10 - 0.50% Coverage

¶49: factionalism within the indigenous community complicates matters,

Reference 11 - 0.81% Coverage

¶49: As Hawaiians assume a more active role, their 106-year relationship with Bishop Museum is being redefined.

Reference 12 - 0.34% Coverage

¶52: especially its the Native Hawaiian community

Reference 13 - 0.39% Coverage

¶52: controversial projects associated with repatriation

<Internals\\Curator 1996> - § 25 references coded [23.01% Coverage]

Reference 1 - 0.75% Coverage

¶7: intended to draw African-American visitors to the Smithsonian museums on the Mall,

Reference 2 - 0.51% Coverage

¶7: to focus broadly on African-American history and culture

Reference 3 - 0.58% Coverage

¶7: Staff efforts to “professionalize” and upgrade museum operations

Reference 4 - 0.59% Coverage

¶7: threatened community access to the exhibition-development process

Reference 5 - 1.26% Coverage

¶7: provided an opportunity to devise new ways of integrating the perspectives of a changed community into the exhibition-development process.

Reference 6 - 0.34% Coverage

¶8: Previous Possessions, New Obligations

Reference 7 - 0.64% Coverage

¶9: covering relations between museums and Australia's indigenous peoples.

Reference 8 - 2.88% Coverage

¶9: the first of which recognizes the right to self-determination of Aboriginal and Torres Strait Islander peoples in respect of their cultural property. The policy recognizes a multiplicity of interests in indigenous peoples' cultural property but emphasizes Aboriginal and Torres Strait Islander peoples' primary role.

Reference 9 - 0.77% Coverage

¶10: The policy was developed through consultation with indigenous people and communities,

Reference 10 - 0.47% Coverage

¶10: museums, professional associations, and governments.

Reference 11 - 1.54% Coverage

¶10: when museums are dealing with indigenous cultures.

¶11: This paper traces the history of museums' dealings with indigenous peoples in several countries, especially Australia

Reference 12 - 1.29% Coverage

¶12: especially the provenancing of human remains and secret/sacred material, to assist in returning such material when requested and appropriate.

Reference 13 - 0.22% Coverage

¶23: Zuni Photographic Images

Reference 14 - 1.45% Coverage

¶24: provides a context for the forthcoming request from Zuni religious leaders that they be allowed to exercise some control over sensitive images held by museums.

Reference 15 - 1.46% Coverage

¶24: This request is part of the debate over whether Native Americans should exercise some degree of control over historic photographs of their religious ceremonies.

Reference 16 - 0.93% Coverage

¶24: Some Zuni community members always considered photography of religious ceremonies to be inappropriate.

Reference 17 - 1.21% Coverage

¶24: How it happened sheds light on how Zunis incorporated the then-new technology into their traditional beliefs and social organization.

Reference 18 - 1.49% Coverage

¶24: lending weight to the contention that forthcoming requests from Native Americans are based on long-held beliefs rather than simply contemporary political expediency

Reference 19 - 0.69% Coverage

¶24: history also suggests the parameters for an equitable solution to this issue

Reference 20 - 0.32% Coverage

¶34: Women Scientists and Their Research

Reference 21 - 0.29% Coverage

¶35: the research of women scientists

Reference 22 - 0.67% Coverage

¶44: Māori People as Photographic Subjects: A Colonial and a Contemporary View

Reference 23 - 1.32% Coverage

¶46: Using the streets and structures of the city to present the science and technology of everyday life in order to reach the non-museum-going public

Reference 24 - 1.04% Coverage

¶46: requires skills and experience that stretch beyond the expertise of a science-technology museum exhibition staff.

Reference 25 - 0.30% Coverage

¶53: Lobbying the History of Enola Gay

<Internals\\Curator 1997> - § 1 reference coded [1.02% Coverage]

Reference 1 - 1.02% Coverage

¶22: Specifically, it links the Washington reaction to the contemporaneous controversy regarding the National Endowment for the Arts (NEA).

<Internals\\Curator 1998> - § 14 references coded [8.77% Coverage]

Reference 1 - 0.11% Coverage

¶3: ITS PROBLEMS

Reference 2 - 0.57% Coverage

¶5: Reexamining Diversity: A Look at the Deaf Community in Museums

Reference 3 - 2.37% Coverage

¶6: While these programs and provisions are necessary museum services, they do not acknowledge the view of many Deaf people—that they are not disabled but rather members of a community that does not hear. Nor do accessibility programs generally include programs

Reference 4 - 1.67% Coverage

¶7: This paper seeks to introduce museum professionals to the Deaf cultural community and Deaf cultural exhibitions that celebrate the history, achievements, and tradition of Deaf people

Reference 5 - 0.23% Coverage

¶12: ISSUES OF REPRESENTATION

Reference 6 - 0.34% Coverage

¶32: THE EXPANDING DEFINITION OF DIVERSITY

Reference 7 - 0.38% Coverage

¶35: The two present widely divergent versions

Reference 8 - 0.17% Coverage

¶35: Chinese “history.”

Reference 9 - 0.35% Coverage

¶36: Removing the Legacy of the Korean Past

Reference 10 - 0.18% Coverage

¶37: the tortured history

Reference 11 - 1.39% Coverage

¶37: a history that, unfortunately, seems to exemplify the triumph of politics over scholarship as the primary factor guiding this museum's policy decisions.

Reference 12 - 0.44% Coverage

¶39: while also illustrating a unified national past.

Reference 13 - 0.35% Coverage

¶41: examines the ideologies and practices

Reference 14 - 0.24% Coverage

¶56: MASHANTUCKET-PEQUOT MUSEUM

<Internals\\Curator 1999> - § 15 references coded [13.56% Coverage]

Reference 1 - 0.11% Coverage

¶15: National Identity

Reference 2 - 0.16% Coverage

¶16: The simmering controversy

Reference 3 - 1.27% Coverage

¶16: A brief historical overview reveals that, for most of the twentieth century, the American scientific community received enthusiastic public support for its perceived service to national goals and ideals.

Reference 4 - 1.02% Coverage

¶16: Science in American Life was soon engulfed by that broader, often acrimonious debate about science and society which involved notions of pure and applied science.

Reference 5 - 0.54% Coverage

¶16: analyzed in terms of scientists' criticisms of three of the exhibition's case studies.

Reference 6 - 0.24% Coverage

¶17: Visitors' Role in an Exhibition Debate

References 7-8 - 1.32% Coverage

¶18: objections were raised by the exhibition's chief sponsor, the American Chemical Society, and by the American Physical Society. These critics argued that the exhibition gave the public a negative view of science.

Reference 9 - 0.16% Coverage

¶19: Images of Native Americans

Reference 10 - 7.19% Coverage

¶20: Through interviews we identified attitudes of Smithsonian visitors toward Native Americans. Three results stand out: First, although most visitors have had some minimal contact with contemporary Native Americans, imagery of the past dominated their responses. This past is characterized as a period in which Native Americans had freedom of movement, had control over their destiny, and lived in harmony with nature. This peaceful existence was destroyed with the arrival of the Europeans. Second, current Indian life is seen as grim, except in those cases where Native Americans have fully assimilated into urban environments. Implicit is an assumption that traditional life and values can only be maintained on reservations. At the same time, reservations are associated with poverty, alcoholism, unemployment, and poor health care. Third, visitors would like the new museum to emphasize aspects of Native life and culture that are unique or different from their own. Overall, visitors have only a cursory familiarity with Native philosophy, history, or current conditions. Very few express strongly held beliefs or positions about Native Americans.

Reference 11 - 0.27% Coverage

¶36: DOMESTICATING HISTORY: THE POLITICAL ORIGINS

Reference 12 - 0.27% Coverage

¶40: Indigenous Collections: Beyond Repatriation

Reference 13 - 0.22% Coverage

¶41: As indigenous voices become stronger

Reference 14 - 0.42% Coverage

¶41: museums with indigenous collections must reexamine their approaches

Reference 15 - 0.37% Coverage

¶41: participation from indigenous and tribal groups increases.

<Internals\\Curator 2000> - § 14 references coded [6.65% Coverage]

Reference 1 - 0.57% Coverage

¶5: “When I Grow Up I'd Like to Work in a Place Like This”: Museum Professionals' Narratives of Early Interest in Museums

Reference 2 - 0.10% Coverage

¶6: museum professionals

Reference 3 - 0.44% Coverage

¶6: both narrator and colleagues can find clues about where their beliefs and values really lie

Reference 4 - 0.17% Coverage

¶21: that serve diverse constituencies.

Reference 5 - 0.22% Coverage

¶36: in their relatioships with indiginous peoples

Reference 6 - 1.77% Coverage

¶37: to Native Americans who can prove they are lineal descendants or members of tribes which are culturally affiliated with identified items covered by the legislation.

¶38: Effective repatriation programs are characterised by:

¶39: * a genuine belief in the primary rights of indigenous people in the management of their cultural material presently held in museum collections;

¶40:
Reference 7 - 0.26% Coverage

¶40: pertaining to items of indigenous cultural heritage;

¶41:
Reference 8 - 0.60% Coverage

¶42: museums are engaging in consultation with indigenous people in the management of collections of indigenous cultural heritage

References 9-10 - 1.28% Coverage

¶42: Museums espouse goals which promote external consultation, the involvement of indigenous people in their activities, respect for the cultural goals of indigenous people and a commitment to increasing public awareness of indigenous cultural heritage and social issues

Reference 11 - 0.37% Coverage

¶42: is there evidence of communication and consultation, commitment of resources

Reference 12 - 0.21% Coverage

¶42: sharing of authority with indigenous people

Reference 13 - 0.25% Coverage

¶42: consistent with the outcomes intended under NAGPRA.

Reference 14 - 0.42% Coverage

¶54: are indications of the extent to which the African American audience research project

<Internals\\Curator 2001> - § 7 references coded [4.51% Coverage]

Reference 1 - 0.21% Coverage

¶14: These include bringing together a diverse team

Reference 2 - 0.68% Coverage

¶18: The museum also took the first steps to include the traditional knowledge of indigenous peoples as an additional source of wisdom about the natural world.

Reference 3 - 0.26% Coverage

¶27: Management and Change: Who is Invited and Who Participates?

References 4-5 - 0.75% Coverage

¶28: accommodating these shifts will demand a different style of decision making. In the future, museums will need to include more people in the decision-making conversation.

Reference 6 - 2.33% Coverage

¶52: AS museums respond to changing forces in our increasingly complex world, we who must make the changes find ourselves in the throes of discomfort and even conflict with formerly comfortable colleagues. We blame those on opposing sides of our views as obstinate, ignorant, or self-serving.

Why then does change invariably engender conflict? This article explores the underlying factors — the world-views that each of us brings to the table — and presents a model of archetypes that hints at where museum professionals might fit.

Reference 7 - 0.28% Coverage

¶69: Traditions associated with conservatism, scholarly content, and

<Internals\\Curator 2002> - § 4 references coded [1.36% Coverage]

Reference 1 - 0.10% Coverage

¶14: DIVERSITY PLUS ONE

Reference 2 - 0.32% Coverage

¶17: The Authority Debate and Art Museum Leadership in America

Reference 3 - 0.36% Coverage

¶18: theirs and that of the art museum itself in contemporary society.

Reference 4 - 0.58% Coverage

¶42: The Ones That Are Wanted: Communication And the Politics of Representation In a Photographic Exhibition

<Internals\\Curator 2003> - § 6 references coded [6.68% Coverage]

Reference 1 - 0.31% Coverage

¶24: reinforced the idealized notions of the Colonial Revival

Reference 2 - 0.51% Coverage

¶27: Museums and Indigenous People in Australia: A Review of Previous Possessions, New Obligations

Reference 3 - 2.83% Coverage

¶28: Previous Possessions, New Obligations was launched by Museums Australia Inc. in 1993, the International Year for the World's Indigenous People, as a policy framework to guide the development of relationships between museums in Australia and Indigenous Australians. The policy was based on consultation with Indigenous people to develop protocols, policies and procedures for more sensitive collection management and for including Indigenous people in research and public programs; and to address issues of governance.

Reference 4 - 1.65% Coverage

¶29: The evaluation found that the policy had substantially met its goals, particularly in establishing the primary rights of Indigenous people to control their cultural material in museum collections. However, a range of substantially new issues emerged which require new policy responses and initiatives.

Reference 5 - 1.25% Coverage

¶37: A Peace Corps volunteer who began work at the Museum of Moroccan Judaism—the only Jewish museum in the Arab world—just before the attacks on the World Trade Center in New York describes the shock waves engulfing her small museum

Reference 6 - 0.13% Coverage

¶39: Interpreting Apartheid:

<Internals\\Curator 2004> - § 2 references coded [1.05% Coverage]

Reference 1 - 0.77% Coverage

¶9: The study found considerable variety in the backgrounds, expertise, titles and training of people developing Web sites within institutions.

Reference 2 - 0.27% Coverage

¶38: while recognizing the diversity among audiences.

<Internals\\Curator 2005> - § 28 references coded [14.24% Coverage]

Reference 1 - 0.15% Coverage

¶5: Why Save Art For The Nation?

Reference 2 - 0.21% Coverage

¶13: Australian Museums and Social Inclusion

References 3-5 - 1.60% Coverage

¶18: Fifteen years after the fall of the Berlin Wall, Central and Eastern European museums continue to go through demanding transitions. The former Eastern bloc has dissolved into many countries and cultures. Its cultural sector now openly displays a vivid diversity once hidden under Communism.

Reference 6 - 0.87% Coverage

¶18: Achieving much with little, they have had to learn to function within a dramatically changing local environment, and to speak “English” in a globalized world.

Reference 7 - 0.95% Coverage

¶20: Of interest are the ways in which natural history museums reconcile anthropological notions of humanity's shared evolutionary history—in particular, African origins accounts

Reference 8 - 1.48% Coverage

¶20: As museums play an increasing role in the transnational homogenization of cultures, human origins exhibitions are increasingly challenged to communicate an evolutionary prehistory that we collectively share, while validating the cultural histories that make us unique.

Reference 9 - 0.67% Coverage

¶22: illustrates the challenges of museum work in a global environment filled with widely differing social, cultural, political

Reference 10 - 0.12% Coverage

¶22: and professional norms

Reference 11 - 0.47% Coverage

¶22: Saudi Arabia and its neighboring countries view museums as a source of national pride

Reference 12 - 0.30% Coverage

¶22: frequently draw on Western expertise in building them.

Reference 13 - 0.40% Coverage

¶22: A postscript looks at museum trends in Oman, after 9/11 and the Iraq war.

Reference 14 - 0.43% Coverage

¶31: Native Waters: Integrating Scientific and Cultural Ways of Knowing about Water

Reference 15 - 0.90% Coverage

¶32: Away needs to be found to make young people want to learn the importance of water, before it is too late and our information is lost forever. —Rosebud Sioux elder.

Reference 16 - 0.26% Coverage

¶36: This study documents how adult female volunteers

Reference 17 - 0.44% Coverage

¶36: historically inexperienced and/or excluded from traditional practices of science

Reference 18 - 0.12% Coverage

¶52: Whether to be elitist

Reference 19 - 0.31% Coverage

¶52: far more inclusive and pragmatic than is usually noted.

Reference 20 - 0.12% Coverage

¶62: That Politics Problem

Reference 21 - 1.29% Coverage

¶64: Collaborative exhibitions built by aboriginal communities and museums often seek to reposition aboriginal peoples as the authors and experts of their cultures, and to assert their active and continued presence in the contemporary world

Reference 22 - 0.48% Coverage

¶64: to Nitsitapiisinni: Our Way of Life, a permanent exhibition created by Blackfoot Elders

Reference 23 - 0.55% Coverage

¶64: and thus rarely equated Nitsitapiisinni with concepts of self-representation or self-determination.

Reference 24 - 0.68% Coverage

¶64: namely the impact of colonialism, the efforts to revitalize Blackfoot culture, and the importance of Blackfoot spirituality

Reference 25 - 0.31% Coverage

¶64: the first-person authorship of First Nations cultures.

¶65:

Reference 26 - 0.54% Coverage

¶66: the responses of potential visitors from different cultural groups to ideas for narrative signage.

Reference 27 - 0.24% Coverage

¶68: involved in museum professional development

Reference 28 - 0.35% Coverage

¶74: The Rape of the Masters: How Political Correctness Sabotages Art

<Internals\\Curator 2006> - § 8 references coded [8.48% Coverage]

Reference 1 - 2.26% Coverage

¶15: Even wealthy industries such as the oil and gas sector cannot attract young people—especially young women—to engineering, despite the fact that engineers with less than a decade of experience earn an average of U.S. $75,000 a year, and when fully experienced, an average of U.S. $127,000 a year. Overall, it seems that the ability of the public to interrogate issues driven by changes in science and technology, and their level of trust, are effectively decreasing.

Reference 2 - 0.41% Coverage

¶39: Building Relationships through Communities of Practice: Museums and Indigenous People

Reference 3 - 1.54% Coverage

¶40: by demonstrating how a key stakeholder group, Indigenous people, have been involved with and engaged in the work of the Australian Museum, Sydney, over the past 30 years. It is suggested that the processes museums have developed in building relationships with Indigenous people, particularly at the practitioner level

Reference 4 - 0.30% Coverage

¶46: Under the Palace Portal: Native American Artists in Santa Fe:

Reference 5 - 0.28% Coverage

¶70: Museums and the Agency of Ideology: Three Recent Examples

Reference 6 - 2.24% Coverage

¶71: Museums are not neutral organizations; they are active social participants. While museums serve many social purposes, fundamentally they define and express major social narratives. Museums are important collections of ideological symbols and perform a special communication as

well as legitimizing role. The narratives conveyed by museums are observed as definitive and authoritative, and the objects displayed are understood as emblematic or normative culture.

Reference 7 - 1.05% Coverage

¶71: Attention is paid to the political implications of recent program decisions. The social and political interactions that accompany these institutions' program decisions demonstrate the ideological purpose of the museum

Reference 8 - 0.40% Coverage

¶73: the museum has shifted its focus to answer questions of ownership and entitlement.

<Internals\\Curator 2007> - § 8 references coded [3.11% Coverage]

Reference 1 - 0.07% Coverage

¶24: national identity,

Reference 2 - 0.67% Coverage

¶24: Who should be deemed crucial to the telling of our national history? The evolution of thinking in our own day about the nature of national identity has undergone a dramatic shift

Reference 3 - 0.51% Coverage

¶28: Four complementary research strategies are proposed for studying the relationships between museum professionals and published research.

Reference 4 - 0.25% Coverage

¶32: a more inclusive approach to interpretation of the American past;

Reference 5 - 0.58% Coverage

¶36: reflect on the intermix of society and art, glimpse the colonial mind in postmodern dress, and illuminate a restless subculture of professional migrants.

Reference 6 - 0.17% Coverage

¶36: “Diversity” hardly seems an adequate word.

¶37:
Reference 7 - 0.42% Coverage

¶49: A museum that works within a cycle of intentionality has created an inclusive, process-oriented infrastructure

Reference 8 - 0.44% Coverage

¶76: These mixed feelings are presented against the backdrop of Japanese national identity re-emergent on the world stage

<Internals\\Curator 2008> - § 10 references coded [8.40% Coverage]

Reference 1 - 0.09% Coverage

¶6: Participatory

Reference 2 - 0.86% Coverage

¶7: their role as custodians of cultural content and so presents debate around an institution's attitude towards cultural authority.

Reference 3 - 1.74% Coverage

¶13: You may enjoy and learn something from the depiction of a religious legend, but you find salvation only in Jesus Christ, Who was made to be sin for us that we might be made the righteousness of God in Him.—text panel, Bob Jones University Museum and Gallery.

Reference 4 - 0.54% Coverage

¶27: can be challenging both for visitors and for museums as cultural institutions.

¶28:

Reference 5 - 0.73% Coverage

¶29: and realigning communication between management and front-line staff in order to empower front-line staff.

Reference 6 - 0.74% Coverage

¶37: children's agendas are often overlooked, and are at times in competition with the accompanying adult's agendas

Reference 7 - 0.37% Coverage

¶41: after attending a Native American interpretive program

Reference 8 - 0.22% Coverage

¶53: Who's Behind What's on the Walls?

Reference 9 - 0.68% Coverage

¶58: This article presents a personal working study in navigating this increasingly complex career choice.

Reference 10 - 2.43% Coverage

¶60: Visitors to a zoo were presented with seven environmental messages. They then selected—from a list of zoo-related job titles—the one they deemed most credible and the one considered least credible. Statistical analysis established that three "credible" job titles were selected significantly more often, while three were generally selected as "least credible."

<Internals\\Curator 2009> - § 13 references coded [9.27% Coverage]

Reference 1 - 1.49% Coverage

¶19: This paper meditates upon a conundrum: Can there be a right way to represent the traumatic experience of Atlantic slavery within the context of a museum setting? The analysis deals with the question

Reference 2 - 0.42% Coverage

¶19: to the public memorialization of highly charged subjects

References 3-4 - 1.99% Coverage

¶19: the Great Blacks in Wax emerges as the more radical institution, closely in touch with the dynamic and creative museum aesthetic of the wider Black Atlantic Diaspora, and of Brazil in particular.

¶20: At Hospitality's Threshold: From Social Inclusion to Exilic Education

Reference 5 - 0.94% Coverage

¶21: this article explores the philosophical and pedagogical double binds that have brought multiculturalism to a political impasse

Reference 6 - 0.25% Coverage

¶21: in an increasingly diverse society

References 7-8 - 0.62% Coverage

¶25: Cité Nationale de l'Histoire de l'Immigration

¶26: Cultural Appropriation and the Arts

Reference 9 - 0.55% Coverage

¶29: The Need for Museum Programs for People with Dementia and Their Caregivers

Reference 10 - 0.28% Coverage

¶32: socioeconomic constraints on visits.

Reference 11 - 0.43% Coverage

¶43: Fred Wilson, PTSD, and Me: Reflections on the History Wars

Reference 12 - 1.90% Coverage

¶44: But if history is destined to be contested, where should museums be in that contest and how do we get there? Fred Wilson's Mining the Museum has turned out to be a path not taken; Enola Gay was a cautionary tale. But we should have these fights in museums

Reference 13 - 0.40% Coverage

¶44: where the national narrative is blocked out and staged

<Internals\\Curator 2010 Abstracts> - § 12 references coded [6.35% Coverage]

Reference 1 - 0.94% Coverage

¶10: Fresh encounters with Māori treasures first seen by the author at the Metropolitan Museum in 1984 revealed the concentrated power of these objects and the importance of their presence among the beliefs and continuities of their makers' culture

Reference 2 - 1.55% Coverage

¶14: Have visitors been telling us this and we have failed to listen? For many people, museums play many roles in their lives; for most others few or none. How can this be? "Museum-adept" visitors seem to prize museums as theaters in which their own emotional and spiritual journeys can be staged, but what about the non-museum-adept? Can the museum-adept teach us how to realize our medium's full potential?

References 3-4 - 2.00% Coverage

¶16: In essence, those who follow this approach are committed to creating exhibitions that will tell visitors what they must experience. Yet people come to museums to construct something new and personally meaningful (and perhaps unexpected or unpredictable) for themselves. They come for

their own reasons, see the world through their own frameworks, and may resist (and even resent) attempts to shape their experience. How can museums design and evaluate exhibitions that seek to support visitors rather than control them?

Reference 5 - 0.37% Coverage

¶16: How can museum professionals cultivate “not knowing” as a motivation for improving what they do?

Reference 6 - 0.33% Coverage

¶17: “Passion on All Sides”: Lessons for Planning the National September 11 Memorial Museum

Reference 7 - 0.21% Coverage

¶23: cultural diversity as an integral resource for learning

Reference 8 - 0.06% Coverage

¶27: for more diverse

Reference 9 - 0.07% Coverage

¶27: inclusive audiences

Reference 10 - 0.23% Coverage

¶51: the impact of environments that break down museum stereotypes

Reference 11 - 0.34% Coverage

¶57: How will we meet those challenges and who will lead us to the new shore of our future?

Reference 12 - 0.25% Coverage

¶77: An exhibition team at the National Museum of the American Indian

<Internals\\Curator 2011 abstracts> - § 17 references coded [6.19% Coverage]

Reference 1 - 0.24% Coverage

¶4: How can you carve out a museum space that’s less authoritative?

Reference 2 - 0.12% Coverage

¶19: Confessions of a Confident Man

Reference 3 - 0.28% Coverage

¶24: The outcome of this defensive turn is a retreat from difficult exhibitions

Reference 4 - 0.63% Coverage

¶24: As a consequence of the collapse of culture with a capital “C” and the crisis of human subjectivity, cultural policy demands less of the public and delivers less.

¶25:
Reference 5 - 0.23% Coverage

¶29: Art/Museums: International Relations Where We Least Expect It

Reference 6 - 0.09% Coverage

¶30: The Participatory Museum

Reference 7 - 0.74% Coverage

¶42: Knowing how to do installations is implicit practical knowledge, which perhaps doesn’t need to be made explicit. Hanging is a practice mastered by gifted curators who don’t write out the rules.

Reference 8 - 1.79% Coverage

¶68: Throughout the cultural institution sector, shifts in audience participation call for new ways to share knowledge and view partnerships both online and onsite. Increasingly, this “transformation in cultural communication” suggests that a new type of mutually beneficial exchange is required between audiences and museums; and that those acting as agents of cultural change must be cognizant of how a participatory culture will drive our future institutional missions

Reference 9 - 0.18% Coverage

¶68: create new connections with diverse communities

Reference 10 - 0.08% Coverage

¶77: FOCUS ON CO-CURATION

Reference 11 - 0.04% Coverage

¶78: Co-Curation

Reference 12 - 0.12% Coverage

¶79: A Museum Gives Power to Children

Reference 13 - 0.53% Coverage

¶81: Using personal accounts, the article explores the value of participation for the museum's audience, as well as for the institution itself.

Reference 14 - 0.22% Coverage

¶84: Reclaiming History through the Co-curated Remixing of Film

Reference 15 - 0.07% Coverage

¶85: reclaimed histories

Reference 16 - 0.20% Coverage

¶85: describes the evolution of an approach to co-curation

Reference 17 - 0.59% Coverage

¶85: Projects such as London Recut suggest that audiences have both the enthusiasm and the skills to open up this radical "remix" approach to interpretation.

¶86:
<Internals\\Curator 2012 abstracts> - § 80 references coded [27.69% Coverage]

Reference 1 - 0.72% Coverage

¶5: The city of Cairns, in north Queensland, is home to one of the most diverse populations of Australia. Situated close to South and Southeast Asia as well as the Pacific islands, it has been attracting migrants for more than 120 years.

Reference 2 - 0.35% Coverage

¶5: Local museums, run by historical societies, focus almost exclusively on the experience of Anglo-Celtic settlers.

Reference 3 - 0.88% Coverage

¶5: that addressed the history, contributions, and the process of cultural adaptation of "forgotten" peoples: migrants from south China, Hmong refugees from Laos, Sikh sugar cane farmers, recent migrants from Papua New Guinea, and Europeans who came as Displaced Persons after World War II

Reference 4 - 0.16% Coverage

¶7: in increasingly unstable and unequal urban contexts.

Reference 5 - 0.14% Coverage

¶7: with a philosophy of intense social activism

Reference 6 - 0.79% Coverage

¶9: the site of one of the world's worst industrial tragedies in 1984, involving the Union Carbide pesticide factory. The government wants to build a memorial at the site, but some survivor groups say the government does not have the moral right to memorialize

Reference 7 - 0.21% Coverage

¶9: because it is complicit in the injustice meted out to the community

References 8-9 - 0.83% Coverage

¶9: They have enlisted me for the project because I advocate for contemporary social histories and people's movements in Indian museums. The traveling exhibition has the potential to help guide India's museums—which are locked in patterns of patriotic cultural showcasing

Reference 10 - 0.19% Coverage

¶9: to confront troubling social discourses for the first time.

¶10:

Reference 11 - 0.34% Coverage

¶11: Over the past 20 years, they have increasingly been seen as out of touch with contemporary countryside issues

References 12-13 - 0.47% Coverage

¶11: The nature of rural collections means they may privilege romanticized images of the rural past over discussions of contemporary countryside politics,

Reference 14 - 0.12% Coverage

¶11: high-profile "social inclusion" trends.

Reference 15 - 0.19% Coverage

¶12: Working with Muslim Communities in a Multicultural Society

¶13:

Reference 16 - 0.96% Coverage

¶13: For museums in Western Europe, the presentation of Islam-related topics is closely related to the domestic issues of migration and multiculturalism. The new millennium has seen a vigorous debate about multiculturalism in Western Europe; several European leaders have declared multiculturalism a failed policy

Reference 17 - 0.14% Coverage

¶13: in the context of the public debate on Islam

Reference 18 - 0.25% Coverage

¶13: for museums that intend to reflect the cultural diversity of European societies.

¶14:

Reference 19 - 0.13% Coverage

¶15: in complex and culturally diverse societies

Reference 20 - 0.39% Coverage

¶15: present a discourse of nation building from prehistory up to 1945, when the country gained independence from French colonialism

Reference 21 - 0.21% Coverage

¶15: Cham people became an ethnic minority group in present-day Vietnam.

Reference 22 - 0.26% Coverage

¶15: explores how the politics of display of contested materials has changed through time

Reference 23 - 0.18% Coverage

¶15: in forming national identity construction in the museum.

¶16:

Reference 24 - 0.04% Coverage

¶16: Museum Experts

Reference 25 - 0.93% Coverage

¶17: often required by indigenous communities, particularly for secret and/or sacred cultural objects. Consultation is necessary before digitizing cultural objects in order to ensure that digitization

delivers the promised benefits of broadened access while respecting traditional knowledge and copyright.

References 26-27 - 0.29% Coverage

¶17: Culturally sensitive consultation needs to include source communities, diasporic populations,

Reference 28 - 0.08% Coverage

¶17: museum and cultural experts

Reference 29 - 0.08% Coverage

¶17: from the Pacific diaspora

Reference 30 - 0.16% Coverage

¶17: 17 museum experts and specialists on Pacific cultures

Reference 31 - 0.30% Coverage

¶17: It brings the voices of the Pacific into the discussion of digitization of cultural collections.

¶18:

Reference 32 - 0.17% Coverage

¶22: In remembering the attainment of political emancipation

Reference 33 - 0.28% Coverage

¶22: post-independence African countries have learned to narrate the official national narrative

Reference 34 - 0.55% Coverage

¶22: Commemoration of the nation’s past almost always goes hand in hand with officially decreed national amnesia. Therefore, the story of the nation has to be narrated and remembered

Reference 35 - 0.73% Coverage

¶22: Focusing on Kenya as an example, this paper argues that the national commemoration of political emancipation from colonial rule tends to silence narratives of opposition and political incarceration that emerge in the postcolonial moment

Reference 36 - 0.16% Coverage

¶22: The outcome is a remembering-and-forgetting battle

Reference 37 - 0.30% Coverage

¶22: that has implications for how diverse individuals conceive of themselves collectively as a nation

Reference 38 - 0.12% Coverage

¶23: Concerning the Telling of Painful Tales

Reference 39 - 0.22% Coverage

¶24: The public seems more likely to take issue with what history museums say

Reference 40 - 0.59% Coverage

¶24: In part, this is because these disciplines are understood to be challenging, not least because of the often opaque language and methods designed to impart psychic distance from their content

Reference 41 - 0.17% Coverage

¶24: thereby making it easier to process difficult subjects

Reference 42 - 0.94% Coverage

¶24: Did the disciplines through which the story was approached remove the story temporarily from the highly charged slave narrative and place it in a different, less contested—because more reified—context, a different kind of narrative? If so, was that a constructive contribution or a missed opportunity?

Reference 43 - 0.13% Coverage

¶25: Interpreting Shared and Contested Histories

Reference 44 - 0.49% Coverage

¶26: focused on the history and impacts of the forced removal of Aboriginal children from their biological parents in Queensland, Australia between 1869 and 1969.

Reference 45 - 0.39% Coverage

¶26: Five principles are derived for the application of hot interpretive techniques in the context of shared and contested histories

Reference 46 - 0.15% Coverage

¶33: Chiming in on Museums and Participatory Culture

Reference 47 - 0.16% Coverage

¶34: A debate surrounding the changing nature of authority

Reference 48 - 0.13% Coverage

¶34: the participatory expectations of society

References 49-50 - 0.75% Coverage

¶34: When making decisions that define how audiences play a role or not in their organizations, museums must consider the far-reaching consequences of these choices on the relationships they have with their communities.

¶35: Art and National Identity

Reference 51 - 0.18% Coverage

¶36: There is a close link between art museums and nationalism

Reference 52 - 0.21% Coverage

¶37: Letting Go? Sharing Historical Authority in a User-Generated World

¶38:
Reference 53 - 0.25% Coverage

¶38: Art, Economics and the End of Capital

¶39: Heritage, Labour and the Working Classes

Reference 54 - 0.21% Coverage

¶45: identify some of its challenges in taking up a more activist role.

¶46:
Reference 55 - 1.78% Coverage

¶47: In the last 10 years or so, commemorative, archival, and educational spaces have been established all over Argentina, both to honor the victims of acts of state-sponsored terrorism perpetrated in the “Dirty War” of the 1970s and 1980s, and to explore the complex history of this era. The author spent four months living and working in Buenos Aires as a Fulbright Scholar in 2011 and was able to visit a few of these important new spaces and speak to staff. This article attempts to review some of the successes and problems each site experiences in doing this difficult work

Reference 56 - 0.48% Coverage

¶47: While national memorials differ in every time period and in every country, some similarities may be drawn, and each may have something important to teach us

Reference 57 - 0.07% Coverage

¶48: No More White History

Reference 58 - 1.00% Coverage

¶49: History museums and historic sites that back away from telling difficult history do a disservice to the victims of the trauma, the bearers of the historical knowledge, and the public. Staff members and visitors alike are frequently uncomfortable with broaching these subjects, yet helping people talk about difficult topics

References 59-60 - 0.36% Coverage

¶49: Silence and selective amnesia only perpetuate injustice.

¶50: Taku Manawa/My Human Rights, a Case Study in Partnership:

Reference 61 - 0.13% Coverage

¶53: in the nation’s 54 ethnic community groups

Reference 62 - 0.33% Coverage

¶53: playing the role of social critic, reflecting contemporary life, and targeting marginalized women groups.

¶54:
Reference 63 - 0.25% Coverage

¶58: Doors Being Open: Rights of Afro-descendents in the National Museum of Colombia

¶59:
Reference 64 - 0.53% Coverage

¶59: First, the rights granted to minority groups so they might guide their lives according to their traditions and the recognition of the multicultural character of the nation

Reference 65 - 0.12% Coverage

¶59: In the context of a multicultural nation

Reference 66 - 0.65% Coverage

¶59: looks at the issue of differentiated rights for Afro-descendents through analysis of Wakes and Live Saints among Black, Afro-Colombian, Maroon and Islander Communities at the National Museum of Colombia (2008)

References 67-68 - 0.51% Coverage

¶59: This exhibition was chosen because Afro-Colombian activists and scholars have strongly demanded that the National Museum respond to claims of historical reparation.

¶60:
Reference 69 - 0.80% Coverage

¶61: The model was revised to suit the needs and the political and social situation in Israel, particularly in Jerusalem. The project is an initiative of the Jerusalem Foundation, in cooperation with the Olivestone Trust and the Bloomfield Science Museum Jerusalem

References 70-71 - 1.31% Coverage

¶62: Curating Queer Heritage: Queer Knowledge and Museum Practice

¶63: Important work in the last decades within the museum studies field has laid bare the implicit nationalist, evolutionist, and patriarchal narratives of the traditional museum. So far, though, only a few writers have discussed the museum's role in supporting "heteronormative" narratives that consolidate heterosexuality as a norm within social and cultural life.

Reference 72 - 0.42% Coverage

¶63: a critical discussion of methodological aspects of a queer perspective in interpreting, exhibiting, and organizing museum collections.

Reference 73 - 0.19% Coverage

¶64: Call The Lost Dream Back: Essays on History, Race and Museums

Reference 74 - 0.11% Coverage

¶65: Museums, Equality and Social Justice

Reference 75 - 0.48% Coverage

¶68: The contentious relationship between cultural heritage professionals and commercial entities is nowhere more fraught than in underwater archeological sites

Reference 76 - 0.16% Coverage

¶68: around commercial exploitation of cultural heritage.

Reference 77 - 0.61% Coverage

¶82: to what extent do city museums, for instance, actively and consciously reflect the ethical, political, or social dilemmas, contradictions, and conflicts that drive and impact the cities they serve?

Reference 78 - 0.06% Coverage

¶87: Who Owns Antiquity

Reference 79 - 0.16% Coverage

¶87: Museums and the Battle Over Our Ancient Heritage

¶88:
Reference 80 - 0.10% Coverage

¶88: Representation and Contestation

¶89:
<Internals\\Curator 2013 abstracts> - § 16 references coded [6.87% Coverage]

Reference 1 - 0.59% Coverage

¶13: Research has highlighted the vast gulf that exists between experts' and novices' understandings of science, and how difficult it is to bridge this gulf.

Reference 2 - 0.30% Coverage

¶15: Filipino collaboration and participation were vitally important from the outset

Reference 3 - 0.24% Coverage

¶23: rather than in competition with formal institutional knowledge.

Reference 4 - 0.30% Coverage

¶24: Mutualizing Museum Knowledge: Folksonomies and the Changing Shape of Expertise

Reference 5 - 0.71% Coverage

¶25: The networking of knowledge in the Internet age is calling into question the relationship between experts and non-experts in the development, preservation, and communication of knowledge

References 6-7 - 0.74% Coverage

¶25: There is a growing movement towards knowledge co-creation and “mutualization.” These changes in the roles of expertise will have implications for museums as traditional gatekeepers of knowledge

Reference 8 - 0.64% Coverage

¶27: Libraries, archives, and museums have a long history of collaboration with members of the public. There is already considerable interest in extending this relationship

Reference 9 - 0.19% Coverage

¶32: Museum use is a process of ideological negotiation

Reference 10 - 0.59% Coverage

¶40: Museums today grapple with the reconciliation of traditional models of authority with the expectation to incorporate new voices in cultural interpretation

Reference 11 - 0.48% Coverage

¶40: At the same time, society is increasingly empowered by a social Web that provides collaboration, connectivity, and openness.

Reference 12 - 0.39% Coverage

¶40: offering Wikipedia as a platform for facilitating new perspectives in collaborative knowledge-sharing

Reference 13 - 1.24% Coverage

¶40: Expanding on the metaphors of the museum as “the Temple and the Forum” and the Web as “the Cathedral and the Bazaar,” this essay argues that issues of democratization, voice, and authority in museums can be addressed through Wikipedia's community, process, and its potential as a model for a new Open Authority in museums.

¶41:
Reference 14 - 0.13% Coverage

¶55: Inclusion through Rich Experience

Reference 15 - 0.18% Coverage

¶61: inclusive meant going above and beyond the ADA.

Reference 16 - 0.15% Coverage

¶63: Museums and Technology: Being Inclusive

<Internals\\Curator 2014 abstracts> - § 36 references coded [13.38% Coverage]

Reference 1 - 0.09% Coverage

¶14: Nation and National Museums

Reference 2 - 0.08% Coverage

¶14: a Contested Relationship

Reference 3 - 0.54% Coverage

¶15: The motivation for this article arose from the wish to share our outside perspectives on how national museums in the U.S. mediate ideas of national identity

References 4-5 - 0.27% Coverage

¶15: investigating how such museums address changing national identities over time.

Reference 6 - 0.23% Coverage

¶17: understand power dynamics within museums at many levels of analysis

References 7-8 - 0.17% Coverage

¶24: the Ethnographic Silencing of First Nations Women

Reference 9 - 0.32% Coverage

¶25: First Nations women were instrumental to the collecting of Northwest Coast Indigenous culture

Reference 10 - 0.22% Coverage

¶25: yet their voices are nearly invisible in the published record.

Reference 11 - 0.97% Coverage

¶25: overshadow the intellectual influence of his mother, Anislaga Mary Ebbetts, his sisters, and particularly his Kwakwaka'wakw wives, Lucy Homikanis and Tsukwani Francine ‘Nakwaxda'xw. In his correspondence with Boas, Hunt admitted his dependence upon high-status Indigenous women,

Reference 12 - 0.54% Coverage

¶25: he gave his female relatives visual prominence in film, photographs, and staged performances, but their voices are largely absent from anthropological texts.

Reference 13 - 1.19% Coverage

¶25: Hunt faced many unexpected challenges (disease, death, arrest, financial hardship, and the suspicions of his neighbors), yet he consistently placed Boas' demands, perspectives, and editorial choices foremost. The resulting cultural representations marginalized the influence of the First Nations women who had been integral to their creation.

¶26:
Reference 14 - 0.44% Coverage

¶30: Returning the tataayiyam honuuka' (Ancestors) to the Correct Home: The Importance of Background Investigations for NAGPRA Claims

Reference 15 - 0.45% Coverage

¶31: can be frustrating for Native American communities due to hindrances such as the lack of provenience and provenance of collections

References 16-18 - 1.60% Coverage

¶31: assert that background research of collections is imperative to ensure that ancestral remains are returned to the appropriate lineal descendants or Native American descendant community. Further, the Glidden collections show that disputed provenience and provenance information has massive implications for NAGPRA claims made by non-federally recognized tribes, such as the Gabrielino/Tongva, the Indigenous inhabitants of Santa Catalina and the Los Angeles Basin

Reference 19 - 0.05% Coverage

¶32: Repatriation,

Reference 20 - 0.30% Coverage

¶33: explores the concept of “loss” in physical anthropology in the context of repatriation

Reference 21 - 0.36% Coverage

¶33: physical anthropologists may be able to foster more productive partnerships with descendant communities.

Reference 22 - 0.50% Coverage

¶35: The exchange of anthropological objects by museums in the nineteenth and twentieth centuries involved circulation of Indigenous material culture

Reference 23 - 0.45% Coverage

¶37: By accepting Native American and other human remains, the museum assumes all associated legal, ethical, and financial obligations

Reference 24 - 0.22% Coverage

¶37: NAGPRA objects, and explore the consequences of that decision.

Reference 25 - 1.04% Coverage

¶39: Beginning in the 1960s, in an effort to establish global baselines of biological variation, biological anthropologists and human geneticists emphasized the importance of salvaging blood samples from Indigenous peoples whose survival they considered to be endangered by the corrosive forces of modernity

Reference 26 - 0.33% Coverage

¶41: ownership of materials, and data sharing were considered in the establishment of the repository

Reference 27 - 0.08% Coverage

¶42: Art, Education, Politics

Reference 28 - 0.34% Coverage

¶42: Curators, Collections and Collaborations

¶43: What We Made: Conversations on Art and Social Cooperation

Reference 29 - 0.09% Coverage

¶57: Participatory Museology:

Reference 30 - 0.28% Coverage

¶59: The Festival was conceived as giving voice to the less known and under-represented

Reference 31 - 0.85% Coverage

¶61: At the Folklife Festival, which takes place on the National Mall in Washington, D.C. each summer, the culture bearers speak for themselves in a presentational environment designed to promote interaction among the participants and audience members

Reference 32 - 0.54% Coverage

¶63: addresses the role of the Smithsonian Folklife Center in advocating for a cultural heritage policy grounded in cultural democracy and intercultural dialogue

Reference 33 - 0.24% Coverage

¶66: Cultivating Connectivity: Folklife and Inclusive Excellence in Museums

Reference 34 - 0.07% Coverage

¶68: Intentional Civility

Reference 35 - 0.30% Coverage

¶69: Yet museums have mostly lived with the traditional, class-dependent notion of etiquette.

Reference 36 - 0.21% Coverage

¶74: Plantation to Nation: Caribbean Museums and National Identity

<Internals\\Curator 2015 abstracts> - § 36 references coded [15.73% Coverage]

Reference 1 - 1.09% Coverage

¶6: Over the past decade, museum administrators, curators, and staff have begun to recognize a subset of visitors that is starting to view their roles in museums differently. No longer is this new museum audience willing to accept curators' authoritative narratives passively. Instead, this group of visitors seeks to share authority with curators

Reference 2 - 0.83% Coverage

¶6: This article explores how Balade Blanche, a historical ghost tour that took place in France in 2010, took on some of the new demands of this "participatory visitor" and put them into practice by sharing curatorial authority and creating an immersive experience.

¶7:
Reference 3 - 0.07% Coverage

¶9: An Arena Where Meaning

Reference 4 - 0.14% Coverage

¶9: Are Debated and Contested on a Global Scale

Reference 5 - 0.06% Coverage

¶14: Dialogical Curating

Reference 6 - 0.16% Coverage

¶14: Towards Aboriginal Self-Representation in Museums

¶15:
Reference 7 - 0.45% Coverage

¶15: proposes the idea of dialogical curating based on Grant Kester's term “dialogical art.” This term refers to the idea of allowing conversation

Reference 8 - 0.54% Coverage

¶15: the curatorial strategies used and discourses concerning the display of aboriginal objects can be called dialogical. By exploring methods of aboriginal self-representation

Reference 9 - 0.54% Coverage

¶15: such as alternative research and education methodologies as well as collaboration—it is possible to imagine a curatorial practice that is not a methodology, but a discourse

Reference 10 - 0.17% Coverage

¶15: that contributes to the processes of de-colonization.

¶16:
Reference 11 - 0.81% Coverage

¶17: How do we create the conditions for dialogue and exchange within a cultural institution? When we cannot define a project from the outset, can we collectively create parameters for communities to unpack their own narratives in an inclusive and dynamic way?

References 12-13 - 2.47% Coverage

¶17: By examining several curatorial initiatives at the Gladstone, this article explores the ways in which alternative approaches to the concepts of “expert,” “gallery,” and “curator” are realized within the context of a hybrid space.

¶18: Creating Discursive Space for Intercultural Encounters: La Casa Encendida, Madrid

¶19: As increasingly heterogeneous museum audiences seek to participate actively in museum discourses, a new question arises: who is included in the conversation? This article extends that question to cultural-spatial production, and seeks to illuminate key players’ roles in creating spaces that welcome marginalized groups in order to facilitate intercultural encounters. It argues that inclusive, discursive environments are as much a product of “scripting as design.”

Reference 14 - 0.62% Coverage

¶19: This analysis highlights the contribution of cultural-spatial production and occupation strategies to facilitating, revealing, and drawing into dialogue marginalized groups.

¶20: Co-Curation as Hacking

Reference 15 - 0.29% Coverage

¶21: first, the opening up of museums through external collaborations, for instance in co-curation

Reference 16 - 0.56% Coverage

¶21: With regard to the first trend, we suggest that hacking may be a useful framework for thinking about co-curation, and argue that co-curation needs to be understood as a process

Reference 17 - 0.21% Coverage

¶21: that doesn't just involve the representation of diverse narratives

Reference 18 - 0.30% Coverage

¶21: instead incorporates a range of diverse actors into the design and production of an exhibition

Reference 19 - 0.28% Coverage

¶24: Democracy for Export: Museums Connect Program as a Vehicle of American Cultural Diplomacy

Reference 20 - 0.19% Coverage

¶25: public inclusion from the perspective of cultural diplomacy

Reference 21 - 0.49% Coverage

¶25: the discussion considers the more important mechanisms of American museum missions and practices as means of achieving American foreign-policy objectives.

¶26:

Reference 22 - 0.13% Coverage

¶32: Talking Deeper about Cultural Difference

Reference 23 - 0.45% Coverage

¶33: encouraging participants to engage with one another's ideas about racism and cultural diversity by creating and responding to video questions

Reference 24 - 0.25% Coverage

¶33: the project affords participants a sense of ownership over their representations

Reference 25 - 0.53% Coverage

¶33: their responses generally support a broadly conceived openness to cultural difference. On this basis, the project furthers a promising form of intercultural dialogue.

¶34:
Reference 26 - 0.62% Coverage

¶38: With reference to the craft of knitting, we draw on the concept of the contact zone) to show how the current breaching of museum boundaries by yarn bombers can draw further attention to inclusions

Reference 27 - 0.52% Coverage

¶38: exclusions in museum curation. Just as traditional age and gender distinctions are both problematized and perpetuated in public images and press reports on knitting

Reference 28 - 0.11% Coverage

¶48: into how to educate a diverse public

Reference 29 - 0.70% Coverage

¶50: where young people who offend of Pacific Islander heritage were introduced to an extensive range of Pacific Islander cultural materials. The key assumption of the project was that young Pacific Islander people who offend

Reference 30 - 0.36% Coverage

¶51: Firstly, the twenty-two Pacific Islander young offender study participants were already proud of their heritage,

Reference 31 - 0.22% Coverage

¶51: and the potential for a greater influence on Pacific Islander youth.

Reference 32 - 0.50% Coverage

¶64: Since the devolution of political authority was introduced to Wales, the museums and culture sector has been increasingly influenced by the political sector.

Reference 33 - 0.33% Coverage

¶64: explores how effective the National Museum has been in exploring national narratives through its displays

Reference 34 - 0.08% Coverage

¶64: with a national narrative

Reference 35 - 0.34% Coverage

¶64: a narrative seen to be a priority by Welsh politicians and the museum hierarchy—why is this failure occurring

Reference 36 - 0.32% Coverage

¶64: How might it be confronted? And ultimately does, or should, this emphasis matter in the first place?

<Internals\\Curator 2016 abstracts> - § 16 references coded [9.19% Coverage]

Reference 1 - 0.62% Coverage

¶5: reports on a study that was designed to provide insight about the barriers that limit families with children with autism spectrum disorder (ASD) from visiting fine arts museums.

References 2-3 - 1.38% Coverage

¶5: were frustrated with reactions from others during typical museum experiences. Museum staff and volunteers expressed that museum participation was important, but responses were split between those who desired to learn more about ASD in order to create an optimal museum experience, and those who preferred not to take on this initiative. Studies such as this help museums become more inclusive.

¶6:
Reference 4 - 0.10% Coverage

¶13: and human rights and diversity

Reference 5 - 0.13% Coverage

¶18: No museum is actually “neutral,” ever.

Reference 6 - 1.09% Coverage

¶19: In it, the author lays out the provocative case that museums not only are not, but should not be “neutral” when it comes to issues of human rights and social justice. Museums need not present

both sides of every argument, or retain a lofty academic tone when it comes to the injustices of the present and the past

Reference 7 - 0.49% Coverage

¶21: The exhibition was organized by a State-run museum against a background of difficult relations between the State and its Catholic communities

Reference 8 - 0.90% Coverage

¶23: This argument is based on the fact that conceptual art took its root from Africa in a non-academic format that has long been practiced in the continent for centuries, and therefore not an emergent art in the African artistic milieu—as it is perceived to be.

Reference 9 - 1.30% Coverage

¶30: This form of ignorance assumes authority in describing and acting on behalf of a subject, even as it fails to take seriously the subject's self-knowledge and agency. While Ortega initially coined this term to describe the stance of white feminists toward women of color, here I extend the concept to describe a wider range of knowers—in this case, the institutional museum

Reference 10 - 0.78% Coverage

¶30: Using a case study at the Museum of Fine Arts, Boston to illustrate this problem, I will suggest that becoming aware of instances of loving, knowing ignorance and learning to avoid it is a key skill for museum professionals

Reference 11 - 0.12% Coverage

¶30: diverse and democratic society.

¶31:
References 12-13 - 1.73% Coverage

¶42: In so doing, it calls into question the public art institution's ability to perform a self-critique when embedded within the hegemony of the neoliberal order and constrained by bureaucratic institutional limitations. It concludes by noting that Mouffe's strategy of engagement does not give sufficient consideration to the dependence critical public art institutions have on local and national political support and its funding channels, making them extremely susceptible to instrumentalization.

Reference 14 - 0.09% Coverage

¶53: Principles and Politics

¶54:
Reference 15 - 0.32% Coverage

¶64: reported here looked at how two groups of people – one with art expertise and one without –

Reference 16 - 0.15% Coverage

¶68: The Politics and Performance of Display

¶69:
<Internals\\Curator 2017 abstracts> - § 27 references coded [9.65% Coverage]

Reference 1 - 0.18% Coverage

¶5: Coming Together to Address Systemic Racism in Museums

Reference 2 - 0.12% Coverage

¶6: Become Agencies of Social Justice?

¶7:
Reference 3 - 0.20% Coverage

¶22: to help us ensure we are really achieving what we claim to.

Reference 4 - 0.11% Coverage

¶26: a team of American Indian elders

Reference 5 - 0.12% Coverage

¶26: American Indian history for 18 years

Reference 6 - 0.32% Coverage

¶26: The site is sacred to many American Indian communities and is situated in a Dakota homeland.

Reference 7 - 1.62% Coverage

¶26: This model privileges American Indian tradition knowledge, oral traditions spirituality, inquiry methods, and perspectives. Museum staff and non-Indian inquiry methods play a supporting role. This model not only provides a telling of American Indian history from perspective of American Indian elders for museum visitors, but also satisfies the goal of these elders to recover, preserve, enhance and expand our knowledge of indigenous people before the coming of Europeans.

Reference 8 - 0.30% Coverage

¶28: its representation of the rights of residents of the refugee camp where it is located

Reference 9 - 0.27% Coverage

¶28: to disseminate information about the challenges faced in the Saharawi territory.

References 10-11 - 0.50% Coverage

¶28: supported the political struggle of a people demanding their right to self-determination after decades of exclusion as residents in a refugee camp.

Reference 12 - 0.12% Coverage

¶29: The Presence of Women Photographers

Reference 13 - 0.31% Coverage

¶30: Gender inequality in the various artistic disciplines is still a socio-political problem

Reference 14 - 1.31% Coverage

¶30: and then compare the proportion of women among the artists in their collections. For this purpose, the number of works and artists was counted and analysed in each museum in the sample taking into account the social, political and economic conditions of the institution and relating them to the rest of art institutions. The results show a clear underrepresentation of women artists.

Reference 15 - 0.24% Coverage

¶32: a distinct way of understanding gender roles in the twentieth century

Reference 16 - 0.11% Coverage

¶36: alongside its symbolic capital

Reference 17 - 0.36% Coverage

¶36: a space wherein all Americans can see their country through the lens of the African American experience.

¶37:
Reference 18 - 0.14% Coverage

¶39: Confessions of an Accidental Zoo Curator

Reference 19 - 0.23% Coverage

¶41: particularly in their efforts to draw culturally diverse audiences

Reference 20 - 0.75% Coverage

¶41: The results, however, indicated that the formalisation of the restaurant space in this context further exaggerated cultural difference rather than attempting its engagement towards tolerance through museological means

Reference 21 - 0.21% Coverage

¶41: through which museum professionals and educators may network

References 22-23 - 0.47% Coverage

¶43: so that as authors, curators, educators, editors and publishers we can reach our audiences with greater inclusiveness and effectiveness.

¶44:
Reference 24 - 0.55% Coverage

¶47: challenges remain in creating opportunities for and facilitating enactments of co-creation. Time, funding and supporting infrastructure are significant hurdles.

Reference 25 - 0.56% Coverage

¶47: Successful elements combined to facilitate key criteria for co-creation including early and continuous empowerment and co-ownership between co-creating parties.

¶48:
Reference 26 - 0.46% Coverage

¶49: Demographic factors also were a factor, and race/ethnicity was more strongly associated with program placement than household income.

Reference 27 - 0.09% Coverage

¶72: in the Age of Black Power

<Internals\\Curator 2018 abstracts> - § 7 references coded [6.94% Coverage]

Reference 1 - 0.10% Coverage

¶3: Ivory and its Discontents

Reference 2 - 0.65% Coverage

¶11: Efforts to stop the international ivory trade and save the affected elephants have increasingly emphasized public ivory crushes of confiscated tusks and carved works.

Reference 3 - 0.86% Coverage

¶35: Giant screen film producers have an existing participatory relationship during film production with their “consumers”, which includes both the institutions that screen their films and the audiences who watch their films.

Reference 4 - 0.08% Coverage

¶52: Challenging Exclusion

Reference 5 - 1.36% Coverage

¶62: This paper describes our synthesis of prior research about females’ social, historical, and cultural practices in STEM learning from a variety of fields. The paper further details our process of developing the FRD Framework with the help of museum practitioners, female youth, researchers, and experts from the fields of design, gender, and museums

Reference 6 - 0.81% Coverage

¶62: This framework contributes to a growing movement to more thoughtfully consider females when designing STEM exhibits. We hope that the museum field will expand, evolve, and deeply explore the FRD Framework.

¶63:
Reference 7 - 3.08% Coverage

¶64: Findings suggest that the design strategies identified in our previously developed Female-Responsive Design Framework can inform exhibit designs that better engage girls. However, the specific design attributes that address the broader strategies are not all equal: we identified a subset of nine exhibit design attributes that were consistently strongly related to girls' engagement. Further, none of those nine design attributes were harmful to boys' engagement. In practice, we hope educators will help address gender disparities in museums by considering female-responsive design when creating STEM exhibits: broadening their design approaches and choosing among the nine EDGE Design Attributes based on their appropriateness for a particular exhibit experience or set of exhibits.

<Internals\\IJCP 1994 abstracts> - § 10 references coded [5.17% Coverage]

Reference 1 - 0.23% Coverage

¶2: Museum professionals

Reference 2 - 0.23% Coverage

¶4: Respecting Ancestors

Reference 3 - 0.31% Coverage

¶5: The Nation and the Object

¶6:
Reference 4 - 0.27% Coverage

¶6: heavily nation-oriented

Reference 5 - 1.50% Coverage

¶10: it is now essential to improve the status of restorers and to recognise that art restoration is highly skilled, professional work

Reference 6 - 0.24% Coverage

¶24: the Nation's Heritage

Reference 7 - 0.30% Coverage

¶24: Whose Past is it Anyway?

Reference 8 - 0.20% Coverage

¶31: Contested Culture

Reference 9 - 0.35% Coverage

¶32: Whose Culture? Whose Property?

Reference 10 - 1.53% Coverage

¶38: the problem of possible return of the cultural and historic property from the country where it is located to its country of origin.

<Internals\\IJCP 1995 abstracts> - § 9 references coded [4.80% Coverage]

Reference 1 - 0.24% Coverage

¶3: Retentive nationalism

Reference 2 - 0.77% Coverage

¶6: les objets culturels habituellement designes comme "ethnographiques"

Reference 3 - 1.13% Coverage

¶17: The participants were museums professionals, police and customs officers from 21 African countries.

Reference 4 - 0.46% Coverage

¶24: “Repatriation of American Indian Remains”

Reference 5 - 0.25% Coverage

¶27: A problematic heritage

Reference 6 - 0.53% Coverage

¶36: the sensitive (politically and otherwise) topic

References 7-8 - 1.19% Coverage

¶44: the Cultural and Intellectual Property Rights of Indigenous Peoples

¶45: Cultural Agency/Cultural Authority:

Reference 9 - 0.24% Coverage

¶45: the Post-Colonial Era

<Internals\\IJCP 1996 Abstracts> - § 12 references coded [21.59% Coverage]

Reference 1 - 1.72% Coverage

¶6: When a thief steals a work of art and resells it to a bona fide purchaser, most commentators favor protecting the buyer's title against a claim by the original owner.

Reference 2 - 3.44% Coverage

¶8: Grave robbers, we all know, loot tombs for material gain. Recently, however, Italian tomb robbers, or tombaroli, have sought public attention by publishing their biographies and appearing on television to present an entirely new image of their métier. They depict themselves as heroes who bring the treasures of the past to the public

Reference 3 - 0.79% Coverage

¶8: boast of an expertise, which remains unrecognised by official archaeologists.

Reference 4 - 1.66% Coverage

¶10: What is barely mentioned in these articles, however, is the problem of the trade in art objects originating from occupied territories in times of armed conflict.

Reference 5 - 0.67% Coverage

¶11: Restitution of Archaeological Artifacts: The Arab-Israeli Aspects

References 6-10 - 11.70% Coverage

¶12: The Arab-Israeli case highlights the problematic side of this solution. Following the Six Day War in 1967, the Sinai Peninsula, the Golan Heights, the Gaza strip and the territory known as the “West Bank” came under Israeli control. Israeli archaeologists carried out numerous excavations, and discovered artifacts of special importance to Jewish cultural heritage. It is regrettable that, as a result of the peace treaty with Egypt, these artifacts can no longer be exhibited and appreciated at the Israel Museum in Jerusalem, but had to be delivered to Egypt, where they now face an uncertain future. A similar fate may befall the artifacts excavated in the Golan Heights. The Palestinian claim for restitution cannot be based on the Protocol. The Problem is nevertheless the same in all cases; if the artifacts are to be preserved, properly appreciated and made available for purposes of study and research, it may be more appropriate to distribute them among the states by way of compromise and agreement, that will seek to enhance their cultural significance, rather than use the arbitrary sole criterion of the place of discovery.

Reference 11 - 0.67% Coverage

¶19: Theodore Steinberg Slide Mountain: On the Folly of Owning Nature.

Reference 12 - 0.94% Coverage

¶23: The authorities must appreciate that cultural heritage management has an ideological basis,

<Internals\\IJCP 1997 Abstracts> - § 9 references coded [11.54% Coverage]

Reference 1 - 0.45% Coverage

¶6: thus bringing the problem to a head.

Reference 2 - 0.43% Coverage

¶26: Majah: Indigenous Peoples and the Law

Reference 3 - 2.93% Coverage

¶30: The enactment of the Native American Graves Protection and Repatriation Act (NAGPRA) in 1990 represented the culmination of a long process of negotiation and ultimate compromise between representatives of Native American tribes and American museums.

Reference 4 - 2.23% Coverage

¶30: That stage reveals that interaction between the two sides has entailed (and continues to entail) negotiations not only concerning the disposition of specific Native American cultural objects

Reference 5 - 1.37% Coverage

¶30: equally important concerning the professional identities of Native Americans and museum professionals, respectively.

Reference 6 - 0.83% Coverage

¶30: maintaining the social and ideological dialectic of American society.

¶31:
Reference 7 - 1.26% Coverage

¶34: the criticism which the Austrian government received for failing to find more of these owners are discussed

References 8-9 - 2.03% Coverage

¶34: The situation was finally resolved last year when the remaining objects were auctioned and the proceeds given to various organizations representing the victims of the Nazis.

<Internals\\IJCP 1998 abstracts> - § 26 references coded [14.96% Coverage]

References 1-2 - 1.58% Coverage

¶4: the relevance of deontological and consequentialist arguments for the return of cultural property, as well as avoidance strategies by which a country of origin can make a claim for restitution while ignoring the long-term questions of the legitimacy, power, and responsibilities of national governments.

Reference 3 - 1.02% Coverage

¶6: the difficult area of antiquities and questions whether anyone involved in it - from source nations, archaeologists, and ethnographers to museums, collectors, and the art trade - has clean hands.

Reference 4 - 0.45% Coverage

¶8: in order both to establish accepted practices of professionals in various disciplines

Reference 5 - 0.21% Coverage

¶11: reburial, and the past as public heritage

Reference 6 - 0.79% Coverage

¶12: By declaring that the past is a public heritage, claiming that archaeologists should be its stewards, and moving toward a positivist scientific approach

Reference 7 - 0.24% Coverage

¶12: American archaeology has alienated its public.

Reference 8 - 0.34% Coverage

¶12: Prompted by pressure from Native Americans on the reburial issue,

Reference 9 - 1.39% Coverage

¶12: These issues are examined from the perspective of the reburial issues, offering the possibility that an ethnocritical archaeology might provide mechanisms that will allow archaeologists to be more truly accountable and, in the long term, better stewards of the past.

Reference 10 - 1.51% Coverage

¶14: portrays the indigenous populations who engage in subsistence digging of sites in Latin America both as a means of supporting themselves economically and as a way of connecting themselves to their past and their ancestors who left the buried remains as a type of gift to their descendants.

Reference 11 - 0.63% Coverage

¶14: critical of the mainstream archaeologists, who, according to the author, hide behind the veil of scientific objectivity.

References 12-13 - 0.73% Coverage

¶14: juxtaposes the varying competing interests, particularly against the backdrop of denial of basic human and economic rights in these regions,

Reference 14 - 0.34% Coverage

¶14: poses the question, to whom should these cultural remains belong?

Reference 15 - 1.67% Coverage

¶22: are found in traditional Native American philosophy and practice. The contemporary fashion among curators for contextualization of displayed objects from Indigenous cultures is critiqued in the light of broader ethical concerns regarding the appropriateness of collecting sacred objects from living Indigenous Peoples.

¶23:
Reference 16 - 0.20% Coverage

¶35: authority to dig, power to interpret

¶36:
Reference 17 - 0.17% Coverage

¶36: however, focused on nationalisms

Reference 18 - 0.27% Coverage

¶36: the popular political orchestration of archaeology.

Reference 19 - 0.26% Coverage

¶36: a shift in the expression of American nationalism

Reference 20 - 0.38% Coverage

¶36: archaeologists now consult native peoples in the practice of archaeology

Reference 21 - 0.48% Coverage

¶36: Though archaeology remains a politicized science it has become a more broadly negotiated one

Reference 22 - 0.91% Coverage

¶36: the historical and cultural issues it faces may yet find resolution through laws and responsive disciplinary practices that envision a society enhanced by cultural difference.

Reference 23 - 0.52% Coverage

¶38: If a cultural object is of high monetary or identificatory value, states will contest the ownership

Reference 24 - 0.15% Coverage

¶40: cross-cultural communication

Reference 25 - 0.18% Coverage

¶47: the Ngarinyin and their heritage

¶48:
Reference 26 - 0.56% Coverage

¶54: Protecting indigenous peoples and communities in the Philippines: the indigenous peoples rights act of 1997

<Internals\\IJCP 1999 Abstracts> - § 33 references coded [49.87% Coverage]

Reference 1 - 0.34% Coverage

¶3: Indigenous peoples: issues of definition

Reference 2 - 4.53% Coverage

¶4: The progress that has been made by 'indigenous peoples' in international forums has been aided by the political perception that this category of claimants is limited and in some respects unique, and that such claims can properly and safely be treated as a special case. Although the imprecision of the category and the expanding array of groups involved in the 'indigenous peoples movement' could eventually threaten this perception and provoke more sustained demands for precision, such a transformation has not yet occurred.

Reference 3 - 6.45% Coverage

¶6: Indigenous peoples do not make these distinctions. Rather, they tend to regard landscapes as inherently cultural products in which artworks, literature, performances, and scientific-knowledge systems are inextricably embedded. Scientific knowledge must periodically be rehearsed within the landscape in recitations and performances that remember the historical process by which people and their nonhuman kinfolk constructed the landscape. Detaching specific cultural or scientific 'objects' from the landscape and commodifying them, as is contemplated by most current proposals for protecting indigenous peoples' rights, will undermine the indigenous institutions and procedures necessary for perpetuating the quality and validity of local knowledge.

Reference 4 - 0.65% Coverage

¶7: Human rights and the cultural heritage of Indian tribes in the United States

Reference 5 - 0.41% Coverage

¶9: The global effort to protect indigenous heritage

Reference 6 - 2.16% Coverage

¶9: NAGPRA confirms indigenous ownership of cultural items excavated or discovered on federal and tribal lands, criminalizes trafficking in indigenous human remains and cultural items, and establishes a process of repatriation of material to native groups

Reference 7 - 1.64% Coverage

¶9: A case study of the repatriation process highlights issues in implementing NAGPRA and benefits in fostering consultation and collaboration among native groups, museums, and federal agencies.

Reference 8 - 1.55% Coverage

¶10: Protecting Taonga: the cultural heritage of the New Zealand Maori

¶11: New Zealand concerns regarding cultural heritage focus almost exclusively on the indigenous Maori of that country

Reference 9 - 1.12% Coverage

¶11: It examines recent proposals to reform this system, including allowing Maori custom to determine ownership of newly found objects.

Reference 10 - 2.01% Coverage

¶12: Many tribunal decisions have contained lengthy discussions of Maori taonga (cultural treasures) and of alleged past misconduct by former governments and their agents in relation to such objects and Maori cultural heritage in general.

Reference 11 - 0.88% Coverage

¶13: A Maori Heritage Council now acts to ensure that places and sites of Maori interest will be protected.

Reference 12 - 1.44% Coverage

¶13: The council also plays a role in mediating conflicting interests of Maori and others, such as scientists, in relation to the scientific investigation of various sites.

Reference 13 - 0.96% Coverage

¶14: there is evidence of uncertainty about the extent to which protecting indigenous Maori rights can be reconciled

Reference 14 - 0.40% Coverage

¶14: the development of a national cultural identity

Reference 15 - 0.17% Coverage

¶15: The Lapps in Finland

Reference 16 - 4.60% Coverage

¶16: The Lapps of Scandinavia constitute a small indigenous ethnic community divided between four states: Norway, Sweden, Finland and Russia. The Lapps used to depend on reindeer farming and lacked their own schools. Because of their low social status and the lack of governmental understanding for their cultural needs, most of the Finnish Lapps had been assimilated with the majority population. Only in recent years an effort has been made by the government to encourage the preservation of the Lapp language and the Lapp civilization.

Reference 17 - 2.11% Coverage

¶16: It is to be hoped that these measures will bring positive results in a situation where only few Lappish speaking people remain in Finland, many of them having difficulties finding a livelihood in their homeland, the northernmost part of Finland.

Reference 18 - 0.94% Coverage

¶17: The Year Bearer's People: repatriation of ethnographic and sacred knowledge to the Jakaltek Maya of Guatemala

Reference 19 - 1.93% Coverage

¶18: Often carried out in collaboration with the controlling political powers, these ethnographic nonetheless became both instruments of persecution against traditional religious practices and the last records of these practices.

Reference 20 - 3.51% Coverage

¶18: One such ethnography, The Year Bearer's People, recorded by Oliver La Farge in 1927, became the only remaining record of this religious ceremony that commemorated the new year and was central to the life of the Jakaltek Maya in the Kuchumatán highland region of Guatemala. In this article, the author recounts the translation of this ethnography and the return of this sacred knowledge to the Maya community.

Reference 21 - 0.41% Coverage

¶19: Aboriginal rights to cultural property in Canada

Reference 22 - 0.78% Coverage

¶20: the rights of Aboriginal peoples in Canada concerning movable Aboriginal cultural property.

Reference 23 - 1.20% Coverage

¶20: the existing Aboriginal rights regime in Canada and assesses its likely application to claims for the return of Aboriginal cultural property

Reference 24 - 0.59% Coverage

¶20: concerning ownership and possession of Aboriginal cultural property,

References 25-26 - 2.49% Coverage

¶20: Those agreements have often involved ongoing partnerships between Aboriginal peoples and museums concerning such matters as museum management and exhibition curatorship. A recent development has been the resolution of specific repatriation requests as part of modern land claims agreements

Reference 27 - 2.45% Coverage

¶22: The contentious, sometimes even raucous debate over the repatriation and reburial of Native American human remains has been calm compared to the clamor raised over the so-called Kennewick Man. Although the reburial debate has captured substantial worldwide media and public attention,

Reference 28 - 0.66% Coverage

¶22: law providing for the return of human remains and burial artifacts to tribes

Reference 29 - 0.93% Coverage

¶24: the case and this note present significant avenues to understanding and thinking about cultural patrimony.

¶25:
Reference 30 - 0.71% Coverage

¶30: Principles and guidelines for the protection of the heritage of indigenous peoples

Reference 31 - 0.42% Coverage

¶32: The Washington Conference on Holocaust-Era Assets

Reference 32 - 0.37% Coverage

¶34: questions of stewardship and accountability

Reference 33 - 1.06% Coverage

¶40: Who owns culture? The international conference on cultural property and patrimony at the Casa Italiana, Columbia University

<Internals\\IJCP 2000 abstracts> - § 4 references coded [7.22% Coverage]

Reference 1 - 2.17% Coverage

¶6: The uniqueness of the National Archives of Nigeria as the nation's unfailing memory and one of the embodiments of its cultural heritage

Reference 2 - 3.55% Coverage

¶6: Lack of democracy and accountability has been the bane of independent Nigeria. There is obviously a link between this state of affairs and the perilous state of the national and other archival institutions in the country.

Reference 3 - 1.03% Coverage

¶7: hotly contested foreign patrimony issue not reached by the court

Reference 4 - 0.47% Coverage

¶8: Laying claim to long-lost art

<Internals\\IJCP 2001 abstracts> - § 9 references coded [14.87% Coverage]

Reference 1 - 0.74% Coverage

¶6: The meaning of national patrimony is analysed

Reference 2 - 1.13% Coverage

¶8: The Elgin Marbles continue to be one of the more controversial issues

Reference 3 - 1.37% Coverage

¶8: the contemporary debate over cultural property and questions of its moral ownership.

Reference 4 - 4.18% Coverage

¶8: Unfortunately but perhaps inevitably, the pace of discussion is often driven by emotion. In this highly charged atmosphere, misunderstandings and misrepresentations are so often repeated that they gain a reality of their own and are very rarely challenged.

Reference 5 - 1.27% Coverage

¶9: Recently the corpus of disinformation was given sustenance from a new quarter.

Reference 6 - 1.39% Coverage

¶9: this opportunity to correct some of its many misrepresentations and errors of fact.

¶10:
Reference 7 - 2.88% Coverage

¶18: the issues surrounding the appropriation of indigenous culture, in particular art. It discusses the nature and context of Aboriginal and Torres Strait Islander art in Australia

Reference 8 - 1.10% Coverage

¶18: places these issues in the context of indigenous self-determination

Reference 9 - 0.82% Coverage

¶21: Protecting Indigenous Heritage Resources in Canada

<Internals\\IJCP 2002 abstracts> - § 12 references coded [14.04% Coverage]

Reference 1 - 1.07% Coverage

¶4: later even into “a travelling emissary of ancient Indian art and culture.”

Reference 2 - 2.78% Coverage

¶4: On the one hand, the spectrum of travels of this object provides an ideal instance for mapping over the twentieth century the changing colonial, national and international stature of Indian art

Reference 3 - 1.20% Coverage

¶4: On the other hand, its career also pointedly reveals the clash of contending claims

References 4-5 - 1.86% Coverage

¶4: the politics of “return” and “restitution” that have attended the nationalization and artistic consecration of many such objects.

Reference 6 - 3.01% Coverage

¶6: This portrait of a “collector” who felt entitled to anything he could get and who abused his official authority to acquire works of art was recalled and used in debates about “collecting” many centuries later.

Reference 7 - 1.79% Coverage

¶8: the identification of works of art looted by Nazis, and the return of cultural property now residing in British collections.

Reference 8 - 0.26% Coverage

¶12: Cultural Diversity

Reference 9 - 0.27% Coverage

¶20: the representivity

Reference 10 - 0.84% Coverage

¶20: , equitable representation in the World Heritage Committee

Reference 11 - 0.56% Coverage

¶24: Notwithstanding any rights of ownership

Reference 12 - 0.42% Coverage

¶28: “The Own History,” Provenance

<Internals\\IJCP 2005 Abstracts> - § 86 references coded [34.16% Coverage]

Reference 1 - 0.87% Coverage

¶4: as soon as there was cultural property, there likely was dispute, although in a most primitive form. The destruction, supplanting, and taking of another group's cultural creations may not unreasonably be thought of as the earliest form of cultural property debate.

Reference 2 - 0.04% Coverage

¶6: the diverse

Reference 3 - 0.77% Coverage

¶8: Cultural property internationalism is shorthand for the proposition that everyone has an interest in the preservation and enjoyment of cultural property, wherever it is situated, from whatever cultural or geographic source it derives

Reference 4 - 0.43% Coverage

¶8: assesses the ways in which cultural-property world actors support or resist the implications of cultural property internationalism

Reference 5 - 0.12% Coverage

¶10: then removed from the public domain

Reference 6 - 0.11% Coverage

¶10: returned to the exclusive control

Reference 7 - 0.07% Coverage

¶10: its putative creators

Reference 8 - 0.18% Coverage

¶12: over unequivocal demands for return to places of origin

Reference 9 - 0.19% Coverage

¶12: insistence on retention by museums and other institutions.

Reference 10 - 0.50% Coverage

¶12: The Committee favors a nonadversarial and collaborative approach to issues surrounding the return of cultural material to its place or people of origin

Reference 11 - 0.22% Coverage

¶13: Cultural Nationalists, Internationalists, and “Intra-nationalists''

Reference 12 - 0.10% Coverage

¶13: Who's Right and Whose Right?

¶14:

Reference 13 - 0.48% Coverage

¶14: some of the complex issues that relate to the management of “heritage,” primarily as such issues relate to Indigenous populations and communities.

Reference 14 - 0.75% Coverage

¶14: This paper, therefore, does not approach the broader issues of heritage, but instead focuses on the intricacies of relationships between the various populations that attempt to exert control over particular aspects of heritage

Reference 15 - 0.43% Coverage

¶14: While many authors recognize the role of cultural nationalists and cultural internationalists in the debate over heritage issues,

Reference 16 - 0.44% Coverage

¶14: Indigenous populations and other enclaves within nations— cultural “intranationalists”—comprise a new and growing voice in the debate.

Reference 17 - 0.23% Coverage

¶16: that, according to Egyptian law, were owned by the Egyptian government.

Reference 18 - 0.03% Coverage

¶19: Who Owns

Reference 19 - 0.05% Coverage

¶19: Native Culture

Reference 20 - 0.56% Coverage

¶20: Michael Brown has written a book that must be read by all who have a serious concern with heritage, particularly that where the interests of “native” peoples are involved

Reference 21 - 0.18% Coverage

¶22: from a variety of perspectives and interests—indigenous,

Reference 22 - 0.14% Coverage

¶24: the Problem of Memory in Postwar Beirut

¶25:

Reference 23 - 0.09% Coverage

¶25: Despite political problems,

Reference 24 - 1.17% Coverage

¶26: Using heuristics originally employed in archeology and art history, this article addresses psychological aspects of reconstruction by discussing contemporary Lebanese art. If culture is defined not only as what people do but how they make sense of what they have done, the enormity of the political problems of post–civil war reconstruction become clear

Reference 25 - 0.18% Coverage

¶26: National governments hoping to consolidate authority

Reference 26 - 0.06% Coverage

¶27: negative heritage

Reference 27 - 0.59% Coverage

¶29: One reason for the increasing critique of cultural property internationalism is the rise of scholarship that questions traditional art history and its relationship to colonialism

Reference 28 - 0.44% Coverage

¶35: It is about sovereignty (although that word is not uttered once in the decision, aside from reciting a definition of Native Hawaiians)

Reference 29 - 0.07% Coverage

¶35: the clash of cultures

Reference 30 - 0.35% Coverage

¶35: It is less about the standards for decision making and more about who the appropriate decision makers are

Reference 31 - 0.40% Coverage

¶36: Public Heritage, a Desire for a “White” History for America, and Some Impacts of the Kennewick Man/ Ancient One Decision

Reference 32 - 0.22% Coverage

¶37: Ancient One (as many American Indians choose to call the skeleton)

Reference 33 - 0.24% Coverage

¶37: unfortunately resurrects some very old and contentious issues in America.

Reference 34 - 0.42% Coverage

¶37: Indians mostly view the opinion as one more echo of the same old story of Native American property issues raised in the courts

Reference 35 - 0.19% Coverage

¶37: they also understand that some implications may be broader

Reference 36 - 0.21% Coverage

¶37: The most direct impact of the opinion is that the Umatilla people

Reference 37 - 0.06% Coverage

¶37: will not be allowed

Reference 38 - 0.38% Coverage

¶37: but others could be portents of a larger resurgence of anti-Indian sentiment and scientific colonialism in America.

Reference 39 - 0.57% Coverage

¶37: Specifically, though not directly stated as such, the court's opinion supports a notion that archaeological materials are a public heritage, no matter their culture of origin

Reference 40 - 0.55% Coverage

¶37: In addition, by affirming the plaintiffs' position, the court essentially declared archaeologists and associated scientists to be the primary stewards of that heritage

Reference 41 - 0.17% Coverage

¶37: much to the chagrin of many American Indian people

Reference 42 - 0.56% Coverage

¶37: Worse still, the court reflects—and by its decision supports—an idea that there may be a "white" or European history for the Americas that predates the arrival of Indians

Reference 43 - 0.48% Coverage

¶37: The most damaging and long-term impact is that the decision reinforces fundamentally erroneous definitions and stereotypes about Indians as tribes

Reference 44 - 0.19% Coverage

¶37: which has plagued Indian-white relations for generations.

Reference 45 - 0.71% Coverage

¶39: It appears to be a defeat for Native Americans, who view this skeleton as an ancestor and who would prefer to see the remains of this individual returned to the ground to continue the long journey back to the earth.

Reference 46 - 0.58% Coverage

¶39: In fact, this polarized view of the case returns the discourse surrounding repatriation to a previous level in which arguments were made over the question, “who owns the past?”

Reference 47 - 0.66% Coverage

¶39: While this may be a rhetorically satisfying problem to wrestle with, it does not capture the true nature of how archaeology can engage with Native people in the process of understanding ancient lives.

Reference 48 - 0.55% Coverage

¶39: It presumes that the past exists as a form of property. Under this simplistic construction, human remains can exist as property and can be owned by one group or another

Reference 49 - 0.09% Coverage

¶41: War and Cultural Heritage.

Reference 50 - 0.86% Coverage

¶44: The twenty-first century has ushered in new debates and social movements that aim to structure how culture is produced, owned, and distributed. At one side, open-knowledge advocates seek greater freedom for finding, distributing, using, and reusing information

Reference 51 - 0.79% Coverage

¶44: On the other hand, traditional-knowledge rights advocates seek to protect certain forms of knowledge from appropriation and exploitation and seek recognition for communal and culturally situated notions of heritage and intellectual property

References 52-54 - 1.61% Coverage

¶44: Understanding and bridging the tension between these movements represents a vital and significant challenge. This paper explores possible areas of where these seemingly divergent goals may converge, centered on the Creative Commons concept of some rights reserved. We argue that this concept can be extended into areas where scientific disciplines intersect with traditional

knowledge. This model can help build a voluntary framework for negotiating more equitable and open communication

Reference 55 - 0.09% Coverage

¶44: between field researchers

Reference 56 - 0.18% Coverage

¶45: Gone Digital: Aboriginal Remix and the Cultural Commons

Reference 57 - 0.71% Coverage

¶46: This article examines the material and social implications of these debates (and the legal copyright regimes they interact with) in the translation and remix of Warumungu culture onto a set of locally produced DVDs

Reference 58 - 0.38% Coverage

¶46: it also brings with it the possibility of multiple reproductions, knowledge sampling, and unintended mobilizations

Reference 59 - 0.11% Coverage

¶47: The Making of Indigenous Knowledge

Reference 60 - 0.38% Coverage

¶48: The challenge of how to stop the unauthorized use of Indigenous knowledge has been firmly constituted as a problem

Reference 61 - 0.28% Coverage

¶48: the boundaries of Indigenous knowledge.

¶49: The Incorporation of the Native American Past

Reference 62 - 0.46% Coverage

¶50: the U.S. government was seeking to dispossess Native Americans of traditional lands and eradicate native languages and cultural practices.

Reference 63 - 0.50% Coverage

¶50: That the government should safeguard Indian heritage in one way while simultaneously enacting policies of cultural obliteration deserves close scrutiny

Reference 64 - 0.33% Coverage

¶50: provides insight into the ways in which archaeology is drawn into complex sociopolitical developments

References 65-67 - 1.39% Coverage

¶50: Whereas government programs such as boarding schools and missions sought to integrate living indigenous communities, the Antiquities Act served to place the Native American past under the explicit control of the American government and its agents of science. This story of archaeology is vital, because it helps explain the contemporary environment in which debates continue about the ownership and management of heritage

Reference 68 - 0.59% Coverage

¶52: Heritage piety departs ever farther from reality. High-minded admonitions broaden the gulf between what happens to cultural property and what virtuous stewards feel should happen

Reference 69 - 0.34% Coverage

¶52: These evils endure because heritage stewards commonly subscribe to four underlying sacrosanct fictions

Reference 70 - 0.28% Coverage

¶52: Nations and tribes are enduring entities with sacred rights to time-honored legacies

Reference 71 - 1.22% Coverage

¶52: I show why these views are mistaken yet remain embedded in heritage philosophy and protocol. In particular, although heritage is piously declared the legacy of all mankind, chauvinist sentiment continues to impede internationalism, partly because it buttresses the credentials of those in charge, who are forced into moral postures that promise unachievable stewardship.

Reference 72 - 0.40% Coverage

¶52: All that stands in the way of everyone's reunion with all their ancestors and ancestral things is its utter impossibility

Reference 73 - 0.60% Coverage

¶52: Heritage professionals once seen as selfless are now targets of suspicion, often thought backward looking, deluded, self-seeking, or hypocritical. Small wonder that militant reformers

References 74-75 - 0.28% Coverage

¶52: the moral artillery of shame and guilt are viewed with an increasingly cynical eye.

¶53:

Reference 76 - 0.22% Coverage

¶55: The Culture of Property: The Crisis of Liberalism in Modern Britain

Reference 77 - 0.54% Coverage

¶56: The abundance of literature dealing with the Parthenon Marbles, the Benin Bronzes, and NAGPRA has made it seem that conflict over the fate of patrimonial property

Reference 78 - 0.26% Coverage

¶56: is always a story about contemporary society's encounter with its colonial past.

Reference 79 - 0.46% Coverage

¶56: Professor Bailkin's recent book reveals a considerably more varied, complex, and multi-layered history of cultural property controversies.

Reference 80 - 0.11% Coverage

¶66: Imperialism, Art and Restitution

¶67:

Reference 81 - 0.96% Coverage

¶67: conference organizers chose several particularly controversial case studies to generate debate and discussion around the issues of whether Western states and their museums should return major works of art and antiquities, acquired during the Age of Imperialism, to the countries of origin.

Reference 82 - 0.89% Coverage

¶73: Even now in 2006, sixty years after the end of World War II, the subject of cultural assets seized under Nazi persecution (“looted art”) and displaced during the war (“trophy art”), continues to be of interest to politicians, historians, legal experts, and many others.

Reference 83 - 0.44% Coverage

¶73: the return of cultural assets seized as a result of Nazi persecution, particularly those cultural assets removed from Jewish ownership

Reference 84 - 0.48% Coverage

¶73: recommended the return of four paintings presently in the possession of the Federal Republic of Germany to the community of heirs of Julius Freund

Reference 85 - 0.24% Coverage

¶73: in their search for cultural assets seized as a result of Nazi persecution

Reference 86 - 0.72% Coverage

¶73: Furthermore, in February 2005, Franz von Lenbach's painting “Prinzessin zu Sayn-Wittgenstein-Sayn” which had been seized by the Nazis was identified through www.lostart.de and returned to the heirs of Bernhard Altmann.

<Internals\\IJCP 2006 Abstracts> - § 30 references coded [14.86% Coverage]

Reference 1 - 0.12% Coverage

¶3: Dignifying Carnival: The Politics

Reference 2 - 0.69% Coverage

¶4: the working class carnival produced each year in the historic city center of Puebla, México. The author explores the ways in which the intersection of cultural and political practice in this case

Reference 3 - 0.30% Coverage

¶4: but have instead converted them into points of contention among carnival producers.

¶5:

Reference 4 - 0.09% Coverage

¶6: subsequent massive looting

Reference 5 - 0.13% Coverage

¶6: with a particular emphasis on context

Reference 6 - 0.12% Coverage

¶7: in Relation to Cultural Diversity

¶8:

Reference 7 - 0.23% Coverage

¶8: is not sufficiently supportive of diversity in cultural property.

Reference 8 - 1.09% Coverage

¶17: If members see local audiovisual products as a means of communication among their people, or if they do not wish to stifle creativity, free speech, or the progressive development of culture, they may need to support local audiovisual products in a manner that discriminates expressly against foreign products

Reference 9 - 0.15% Coverage

¶18: Who Owns Traditional Medical Knowledge?

¶19:
Reference 10 - 0.08% Coverage

¶19: have asserted ownership

Reference 11 - 0.27% Coverage

¶19: Drawing on a close reading of cultural disputes over a single system of TMK

Reference 12 - 0.54% Coverage

¶19: As the paper shows, state-based heritage protection schemes inspire surprising counterresponses by indigenous groups that challenge important assumptions

Reference 13 - 0.09% Coverage

¶19: about the ownership of TMK

Reference 14 - 0.24% Coverage

¶19: such as locality, community, commensurability, and representation.

¶20:
Reference 15 - 0.13% Coverage

¶26: The Dja Dja Wurrung Bark Etchings Case

Reference 16 - 0.63% Coverage

¶27: So far such claims have involved efforts of heirs of collectors to seize works of art appropriated in another country and temporarily located outside that country for exhibition

Reference 17 - 0.45% Coverage

¶27: This case involved the sensitivity of indigenous people who regard the work in question as part of their cultural heritage.

¶28:
Reference 18 - 1.36% Coverage

¶31: Recently, this lending policy has been severely threatened by third parties trying to attach art objects on loan from foreign countries and claiming to be the rightful owners of these objects, which were expropriated many years ago by the Nazis or stolen, converted, or confiscated abroad. Also, creditors of lending institutions may try to get hold of these objects and liquidate them

Reference 19 - 0.24% Coverage

¶33: History for Sale: The International Art Market and the Nation State

Reference 20 - 0.21% Coverage

¶34: This article focuses on how the sale sparked a heated debate

Reference 21 - 0.42% Coverage

¶34: looks at the different interests involved, from Breton's daughter, who authorised the sale, to the Minister of Culture

Reference 22 - 0.57% Coverage

¶34: Ultimately, the author argues that the state allowed the sale to occur, despite popular protest, in order to improve France's position in the global art market.

¶35:
Reference 23 - 0.47% Coverage

¶36: all demonstrate a strong position held by the United States to recognize and protect ownership rights in cultural heritage property.

Reference 24 - 1.69% Coverage

¶43: I am an outsider to the field. I was asked to write a report with the hope that I might be able to provide a different perspective precisely because I am not a practitioner. I am taking it on faith that my lack of authority is, for the purposes of this essay, authoritative. I will focus on questions that seem important to me and suggest some answers that seem reasonable to me. I leave it in the hands of the readers to decide whether the exercise serves any purpose for them

Reference 25 - 0.87% Coverage

¶47: More surprising, perhaps, is the dealer's willingness to even discuss the issue of provenance and the extent to which the antiquities market is awash with unprovenanced illicit antiquities. Essentially, Simon Mackenzie's work is about provenance.

Reference 26 - 0.19% Coverage

¶64: The Use and Abuse of Archaeology for Indigenous Peoples

Reference 27 - 1.06% Coverage

¶65: The World Archaeological Congress' 2nd Indigenous Intercongress, The Uses and Abuses of Archaeology for Indigenous Peoples, convened between November 8 and 12, 2005, at the University of Auckland and Waipapa Marae to examine issues relating to and concerned with indigenous peoples and their past.

Reference 28 - 0.17% Coverage

¶66: Protocols for Native American Archival Materials

Reference 29 - 2.10% Coverage

¶67: Over the past decade, tribal leaders, archivists, and librarians in the United States and Canada have expressed an interest in improving existing relationships and developing new relationships with nontribal institutions that hold American Indian archival material. In April 2006 a group of 19 Native American and non-Native American archivists, librarians, museum curators, historians, and anthropologists gathered at Northern Arizona University Cline Library in Flagstaff, Arizona. The participants included representatives from 15 Native American, First Nation, and Aboriginal communities.

Reference 30 - 0.14% Coverage

¶67: of American Indian archival materials.

¶68:
<Internals\\IJCP 2007 Abstracts> - § 52 references coded [23.12% Coverage]

Reference 1 - 0.40% Coverage

¶3: Object Lessons: The Politics of Preservation and Museum Building in Western China in the Early Twentieth Century

Reference 2 - 0.47% Coverage

¶4: is never a neutral activity; and the question of who is to possess, care for, and interpret artifacts is highly politically charged

Reference 3 - 0.39% Coverage

¶4: Using the Harvard collection as an example, I explore the contradictions and legacies of early preservation

Reference 4 - 0.20% Coverage

¶6: some of which are said to alienate and patronize people

Reference 5 - 0.79% Coverage

¶6: One of the main issues discussed is therefore whether the management of the cultural heritage should be further decentralized ('entstaatlicht') and made the responsibility of individual citizens and other stake-holders

Reference 6 - 0.16% Coverage

¶6: rather than some complex academic reasoning

Reference 7 - 0.40% Coverage

¶6: The question asked is to what extent heritage management elsewhere too can, and should, be further democratized

Reference 8 - 0.12% Coverage

¶7: Incorporating Restitution Claims

Reference 9 - 0.23% Coverage

¶7: Based on Private Sales Made as a Direct Result of Persecution

¶8:
Reference 10 - 0.18% Coverage

¶8: involving Nazi-looted art in an equitable fashion

Reference 11 - 0.33% Coverage

¶8: museums have made a commitment to purge their collections of artwork tainted by Nazi theft

Reference 12 - 1.95% Coverage

¶8: It remains unclear, however, whether these guidelines govern restitution claims that are based not on Nazi theft but on coerced sales arising from Nazi persecution. This article argues that the scope of the guidelines should be expanded to govern restitution claims arising from coerced sales, and that coerced sales include not only sales in which the Nazis participated but also private sales made by individuals who, as a direct result of Nazi persecution, who were forced to sell their artwork to flee or otherwise survive the Holocaust

Reference 13 - 0.36% Coverage

¶12: The extent to which national ownership declarations can be used in civil disputes remains less clear

Reference 14 - 0.83% Coverage

¶17: Following this, the pervasive Elgin Marbles controversy is shown to resemble a myth (in Roland Barthes's sense of the term) behind which a series of value judgments and support systems are embedded into cultural property argument.

Reference 15 - 0.79% Coverage

¶19: Audi quite persuasively sets forth a disturbing vision of a discourse that functions by its nature not so much to generate meaning and normative force as to suppress them, all so that the status quo remains undisturbed

Reference 16 - 0.71% Coverage

¶19: Just as the fact that the English are unlikely to give up the Elgin Marbles anytime soon “suggests a kind of idle or recreational character to cultural property argument,” so too Audi's critique.

Reference 17 - 1.23% Coverage

¶23: I would equally concur that any discussion on the subject that ignores the colonial past (and I would add, the neocolonial present), and the power inequities associated with it, is not only hypocritical but it also conceals an undeclared interest, effectively taking sides in the ongoing cultural and overtly political global battlegrounds

Reference 18 - 0.74% Coverage

¶23: The issue of the Elgin or Parthenon Marbles is correctly identified by the author as the omnipresent shadow in all debates of restitution, the shadow that haunts museum professionals and politicians alike.

Reference 19 - 0.21% Coverage

¶23: 18 major museums, all located in Europe and North America

Reference 20 - 1.01% Coverage

¶23: Who has the right to represent the universal? Why is it that the exhibition of the global story of humanity, even if such an exercise were possible in supposedly neutral and depoliticized terms, must be staged in London, New York, or Paris, and not in Cairo, Sao Paolo, or Delhi?

Reference 21 - 0.99% Coverage

¶23: As Homi Bhabha reminded us, the desire to “grasp the whole,” to represent and stage the universal, has always been at the core of the colonial imagination; we need only think of the nineteenth-century Grand Fairs and Universal Expositions, and the role of antiquities in them

Reference 22 - 0.59% Coverage

¶25: He is equally insightful that the Elgin Marbles play an inordinate role in these debates, and often set the framework for discussion even when not directly noted.

Reference 23 - 0.14% Coverage

¶28: Television Without Cultural Diversity

¶29:
Reference 24 - 0.39% Coverage

¶29: It is meant to achieve a balance between the free circulation of TV broadcast and new audiovisual media and

Reference 25 - 0.03% Coverage

¶29: diversity

Reference 26 - 1.28% Coverage

¶29: This paper examines whether and how the changes envisaged to the EC audiovisual media regime might influence cultural diversity in Europe. It addresses subseqently the question of whether the new AVMS properly safeguards the balance between competition and the public interest in this regard, or whether cultural diversity remains a mere political banner

Reference 27 - 0.25% Coverage

¶30: From Malibu to Rome: Further Developments on the Return of Antiquities

Reference 28 - 0.08% Coverage

¶42: respect, and civility

Reference 29 - 0.44% Coverage

¶44: where divisive arguments collide over a wide range of issues. Although any study on whaling would play a role in the debate

Reference 30 - 0.22% Coverage

¶45: How Eagle Protection Conflicts With Hopi Cultural Preservation

Reference 31 - 0.82% Coverage

¶46: Proposed changes could end the granting of exemptions to Native American tribes, who use golden eagles and feathers in religious ceremonies, and would destroy the cultural and religious significance of the birds for the tribes.

Reference 32 - 0.13% Coverage

¶46: A study of the Hopi tribe of Arizona

Reference 33 - 0.23% Coverage

¶48: The local people believe they have been fishermen for all time.

Reference 34 - 0.19% Coverage

¶48: It is also part of an ancient fertility ritual which

Reference 35 - 0.35% Coverage

¶48: from the point of view of the local Kebbawa people, is the most important aspect of the occasion

Reference 36 - 0.37% Coverage

¶50: in terms of how, from the perspectives of the supporters of foxhunting, it is experienced as an attack

Reference 37 - 0.05% Coverage

¶51: the Politics

Reference 38 - 0.26% Coverage

¶52: suggests that the lacunae is the result of established academic agendas

Reference 39 - 0.16% Coverage

¶52: which focus on long-term processes of change

Reference 40 - 0.20% Coverage

¶52: are ignored and the modern landscape is depoliticized.

¶53:

Reference 41 - 0.12% Coverage

¶56: the Rights of Indigenous Peoples

Reference 42 - 0.94% Coverage

¶57: Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous

Reference 43 - 0.32% Coverage

¶62: the legacy of indigenous conquest, the legacy of international conquest and colonization

Reference 44 - 0.28% Coverage

¶62: the legacy of commerce, avoidance and resolution of cultural heritage disputes

Reference 45 - 0.21% Coverage

¶62: Repatriation of First Nations' Material Culture in Canada

Reference 46 - 0.16% Coverage

¶62: Recovery of Art Looted During the Holocaust

References 47-48 - 0.40% Coverage

¶62: The Effect of Colonization on the Cultural Property of Libya.

¶63: Conference on Repatriation of Cultural Heritage

Reference 49 - 0.60% Coverage

¶64: From February 12 to 15, 2007, the Greenland National Museum & Archive convened an international and crossdisciplinary conference on repatriation of cultural heritage.

Reference 50 - 0.38% Coverage

¶64: Nearly 90 people attended the conference representing more than 20 different states and indigenous peoples

Reference 51 - 0.52% Coverage

¶64: Based on experiences in relation to the recent return of 35,000 archaeological and ethnographic items from Denmark to the Greenlandic Home rule

Reference 52 - 0.55% Coverage

¶64: the aim of the Greenlandic conference was to facilitate dialog and partnership between relevant stakeholders founded on mutual respect and understanding.

<Internals\\IJCP 2008 Abstracts> - § 67 references coded [19.38% Coverage]

Reference 1 - 0.10% Coverage

¶6: that reflect their multiple stakeholders

Reference 2 - 0.41% Coverage

¶6: The article suggests that to achieve an integrated approach to conservation, national, regional, and international bodies and their professionals must be involved

Reference 3 - 0.05% Coverage

¶7: “Historical Wounds”

Reference 4 - 0.26% Coverage

¶8: The case related to three nineteenth-century bark items made by Aboriginal people in northern Victoria

Reference 5 - 0.28% Coverage

¶8: During the exhibition, an inspector under the Aboriginal and Torres Strait Islander Heritage Protection Act 1984

Reference 6 - 0.46% Coverage

¶8: The effect of these declarations had been to prevent Museum Victoria from fulfilling its contracts to return the three items to the overseas museums who had lent them for exhibition.

Reference 7 - 0.10% Coverage

¶8: The inspector then failed in a request

Reference 8 - 0.12% Coverage

¶8: to the Victorian Minister for Aboriginal Affairs

Reference 9 - 0.26% Coverage

¶8: to make a permanent declaration to keep the objects in Australia, or to acquire the items compulsorily

Reference 10 - 0.11% Coverage

¶8: The objects were then returned to Britain.

¶9:
Reference 11 - 0.26% Coverage

¶9: Etched on Bark 1854: Kulin barks from Northern Victoria, which was held within the Aboriginal Gallery

Reference 12 - 0.51% Coverage

¶10: I then describe how the debates at the time of the emergency declarations largely ignored this historical background, suggest some reasons why this occurred, and draw out some implications for the future

Reference 13 - 0.28% Coverage

¶10: Last, I consider issues arising from the claims of ‘ownership’ that were made before and during the court case

Reference 14 - 0.42% Coverage

¶13: Of Hoffmann-Axthelm's criticisms, the most resonating was the view that heritage management processes in Germany were often patronizing, centralized, and undemocratic

Reference 15 - 0.27% Coverage

¶13: Although his proposed remedies are abundant, some might be interpreted as being divisive, if not contentious

Reference 16 - 0.43% Coverage

¶14: discuss a number of issues, raised by Hoffmann-Axthelm, and questions, particularly the merits associated with the concept of “democratising heritage,” posed by Holtorf

Reference 17 - 0.06% Coverage

¶18: Against Cultural Property

Reference 18 - 0.16% Coverage

¶19: over those of the individual nation state from which it derives

Reference 19 - 0.45% Coverage

¶19: The whole book by Carman is to dispute this approach, challenging the notion of ownership itself, because it is considered to be the problem in our treatment of ancient remains.

¶20:
Reference 20 - 0.35% Coverage

¶21: On February 26, 2001, the Islamic Emirate of Afghanistan ordered the destruction of “all statues and non-Islamic shrines” in the country.

Reference 21 - 0.53% Coverage

¶21: At the end of December 2001, a conference of Islamic legal scholars (‘ulama) was convened on the subject of cultural heritage at Doha, Qatar. In between, of course, came the September 11, 2001, attacks (9/11)

Reference 22 - 0.11% Coverage

¶24: the covetous evocation of national identity

Reference 23 - 0.23% Coverage

¶24: as a baseline for discussion of broader issues around national patrimony and ownership.

¶25:
Reference 24 - 0.32% Coverage

¶26: I discuss the productive potentials of looking at historic photographs of the Purari Delta with indigenous communities today.

Reference 25 - 0.28% Coverage

¶26: I show how engagements with indigenous communities unsettles European preconceptions about what photographs are

Reference 26 - 0.39% Coverage

¶26: Instead of being a discreet entity, cultural property for the I'ai emerges as a network of relationships that envelopes people, environment, and ancestors.

Reference 27 - 0.08% Coverage

¶27: Te Pahitauā: Border Negotiators

Reference 28 - 0.60% Coverage

¶28: Objects were and still are pivotal in configuring intertribal relationships; and equally, they played a crucial role in negotiating the borders between early colonial situations and Māori, the indigenous people of Aotearoa New Zealand.

Reference 29 - 0.12% Coverage

¶28: in this case the entangled agencies of taonga.

¶29:

Reference 30 - 0.08% Coverage

¶30: on appropriation and ownership

Reference 31 - 0.37% Coverage

¶30: is that rapacious museums are merely a final resting point for captive static objects, with repatriation viewed as simply restorative compensation

Reference 32 - 0.35% Coverage

¶30: overriding shifting political and ethnic boundaries and enabling the visitor to see “different parts of the world as indissolubly linked.”

Reference 33 - 0.47% Coverage

¶30: Although many would be in sympathy with the rhetorical position asserted, critics have argued that the declaration is a thinly veiled attempt to bolster immunity to repatriation claims

Reference 34 - 0.23% Coverage

¶30: On both sides of the debate, the hegemonic position of many museums remains unsettling.

¶31:

Reference 35 - 0.65% Coverage

¶32: but more inclusive, that is more directly and democratically involved with their various constituencies such as the people who create and use the objects that museums collect or the audiences who visit museum exhibitions and participate in museum programs

Reference 36 - 0.17% Coverage

¶34: The mounting loss of the traditional knowledge of indigenous peoples

Reference 37 - 0.11% Coverage

¶34: of indigenous societies and their ecosystems

Reference 38 - 0.64% Coverage

¶34: the survival of indigenous societies becomes more problematic. One reason for this is an unresolved conflict between two perspectives. In the modernist view, traditional knowledge is a tool to use (or discard) for the development of indigenous society

References 39-40 - 0.51% Coverage

¶34: and therefore it must be subordinated to Western science. Alternatively, in the postmodernist view, it is harmonious with nature, providing a new paradigm for human ecology, and must be preserved intact

Reference 41 - 0.32% Coverage

¶34: We argue that this encumbering polarization can be allayed by shifting from a dualism of traditional and scientific knowledge

Reference 42 - 0.26% Coverage

¶34: to an assemblage of local knowledge, which is constituted by the interaction of both in a third space

Reference 43 - 0.04% Coverage

¶35: Maori Head case

Reference 44 - 0.65% Coverage

¶36: In October 2007, the mayor of the French city of Rouen agreed to return to New Zealand a preserved tattooed head of a Maori warrior (called toi moko by Maori) from that city's Museum of Natural History, whose collection the head had been part of since 1875.

Reference 45 - 0.08% Coverage

¶36: The decision to return the head

Reference 46 - 0.17% Coverage

¶36: as being part of a French museum collection and thus inalienable.

¶37:
Reference 47 - 1.49% Coverage

¶43: A long-running dispute between the Beaverbrook Art Gallery and its benefactor foundations illustrates the need for documentation of gifts or loans of artwork. At issue in this dispute is ownership of over 200 of the paintings on display at the gallery valued at up to $200 million. None of the parties to the dispute has been able to produce records to establish that the paintings were

either a gift or on loan to the Beaverbrook. Instead the parties have had to rely on newspaper and magazine articles, speeches, gallery catalogues, and export documents to substantiate their positions.

Reference 48 - 0.11% Coverage

¶45: focuses on issues of Māori cultural property

Reference 49 - 0.03% Coverage

¶50: A Māori Head

References 50-51 - 0.13% Coverage

¶50: Public Domain?

¶51: This case arose out of a controversy

Reference 52 - 0.08% Coverage

¶51: over the return of a Māori head

Reference 53 - 0.48% Coverage

¶51: from the collection of a city of Rouen museum to New Zealand. The case raised the issue of whether the head was a French public good that required declassification before it could be returned

Reference 54 - 0.22% Coverage

¶51: that could be immediately returned for appropriate treatment in its place of origin.

¶52:
Reference 55 - 0.29% Coverage

¶59: The AAMD accomplishes this mission by establishing and maintaining the highest standards of professional practice

References 56-57 - 0.51% Coverage

¶62: the Repatriation of Köiwi Tangata (Mäori and Moriori skeletal remains) and Toi Moko (Mummified Maori Tattooed Heads)

¶63: The Karanga Aotearoa Repatriation Programme at Te Papa was established in July 2003

Reference 58 - 0.20% Coverage

¶63: supported by iwi (Mäori and Moriori tribal groups) indigenous to New Zealand.

¶64:
Reference 59 - 0.08% Coverage

¶76: Restitution of Cultural Objects

Reference 60 - 0.08% Coverage

¶78: Sotheby's Restitution Symposium

Reference 61 - 1.15% Coverage

¶79: This symposium on provenance research and the restitution of Nazi-looted art was organized by the auction house Sotheby's and sponsored by the Muggenthaler International Genealogical Research Institute. After prior meetings hosted by Sotheby's on the same topic in London and Vienna, some 90 provenance researchers, art historians, government representatives, lawyers, and academics met in Amsterdam to discuss the Dutch restitution regime in particular

Reference 62 - 0.10% Coverage

¶79: on Nazi-looted art in December 1998.

¶80:
Reference 63 - 0.20% Coverage

¶81: and supporting indigenous languages linked with traditional ecological knowledge

References 64-65 - 0.68% Coverage

¶83: The subject turned out to be topical, originating from the case of the toi moko, the Maori tattooed head belonging to the collection of the Natural History Museum in Rouen, France, since 1875. The restitution of the toi moko to the Papa Museum in Wellington, New Zealand

Reference 66 - 0.41% Coverage

¶83: The head actually belonged to a municipal museum, which was in fact part of the Musées de France, and therefore it was considered part of a public collection.

Reference 67 - 0.08% Coverage

¶88: the Return of Cultural Objects

<Internals\\IJCP 2009 Abstracts> - § 69 references coded [28.72% Coverage]

Reference 1 - 0.39% Coverage

¶10: This tension intensifies when the cultural material to be conserved concerns a traditionally sensitive issue

References 2-3 - 0.49% Coverage

¶10: designated in the South African context as previously disadvantaged.

¶11: The Market Overt Method to Obtain Ownership of Lost or Stolen Goods

Reference 4 - 0.04% Coverage

¶13: to Politics.

Reference 5 - 0.27% Coverage

¶15: The Impact of Cultural Importance on the Ownership of Genetic Information

¶16:
Reference 6 - 0.21% Coverage

¶16: I explore the discrepancy between the legal ability to own

Reference 7 - 0.39% Coverage

¶18: Recent controversies surrounding the Genographic Project, sponsored by the National Geographic Society and IBM

Reference 8 - 0.26% Coverage

¶18: concerns about appropriation and the potential misuse or commodification

Reference 9 - 1.84% Coverage

¶18: have been raised by a number of stakeholders. Misconceptions and apprehensions about the topic also abound. These issues were addressed in a forum, “Decoding Implications of the Genographic Project,” which we convened at the 39th Annual Chacmool Conference in 2006, “Decolonizing Archaeology.” The purpose of the panel was to explore and discuss some of the salient issues from a range of perspectives, in the hope of moving beyond a polarized debate to generate productive dialogue and delineate further questions

Reference 10 - 0.26% Coverage

¶18: permissions for research and analysis, ownership and dissemination of data

Reference 11 - 0.29% Coverage

¶18: potential consequences of archaeological or historical interpretation of results

References 12-13 - 0.34% Coverage

¶20: other concerns relating to indigenous rights, appropriation, and group consent (to name a few)

Reference 14 - 0.15% Coverage

¶20: that led to the demise of its predecessor

Reference 15 - 0.39% Coverage

¶22: The panel began with an acknowledgment that we were assembled in the traditional territory of the Blood Nation

Reference 16 - 0.50% Coverage

¶25: My topic was the Genographic Project, specifically the colonial history and racial narratives that I see as shaping the work of the project

Reference 17 - 0.33% Coverage

¶25: I left IPHG encouraged by my conversations with UW researchers, including native researchers

Reference 18 - 0.36% Coverage

¶25: The individuals I met work in multiple native communities, especially those in the Pacific Northwest.

Reference 19 - 0.85% Coverage

¶27: If Native American communities are exposed to genetic ancestry research largely through the Genographic Project, they are less likely to see that there are multiple ways for Native American communities to interact with genetic researchers

Reference 20 - 0.12% Coverage

¶27: with Native American communities.

¶28:

References 21-22 - 0.73% Coverage

¶31: Geneticists, however, are more prestigious and better funded—and what scientist doesn't aspire to that?

¶32: “Anti-colonial Genomic Practice?” Learning from the Genographic Project and the Chacmool Conference

Reference 23 - 1.91% Coverage

¶33: All too often attempts to discuss the broader social and cultural dimensions of genetic studies of ancient human migrations devolve into simplistic celebrations or condemnations. It is heartening to find here an example of a conference session that managed to avoid these dangerous poles, and to grapple instead with the hard task of discerning the issues raised and not raised by genomic studies of human migrations and history. I would like to devote my commentary to exploring what might be learned from the discussions at Chacmool.

Reference 24 - 0.81% Coverage

¶35: I would like to thank all the panelists for their articulate and highly stimulating discussion, which deftly illustrates the range of cultural, historical, and political complexities that inform not only the Genographic Project

Reference 25 - 0.34% Coverage

¶35: but also research conducted with Indigenous peoples and indigenous communities more generally.

¶36:
References 26-28 - 0.65% Coverage

¶39: Contributions aim specifically at analyzing the tension that exists between, on the one hand, political, legal and economic discourses of Pacific peoples who wish to retain control

Reference 29 - 0.24% Coverage

¶39: with specific attention for the concepts of property and ownership

Reference 30 - 0.24% Coverage

¶39: particularly in relation to cultural heritage and cultural knowledge

References 31-32 - 0.55% Coverage

¶39: the use of intellectual property as either a form of enclosure or as a form of ethnic boundary.

¶40: Hearing Indigenous Voices, Protecting Indigenous Knowledge

Reference 33 - 0.26% Coverage

¶41: In a rapidly globalizing world, indigenous knowledge is in mortal danger

Reference 34 - 0.07% Coverage

¶41: indigenous knowledge

Reference 35 - 0.62% Coverage

¶41: the contexts and needs of indigenous knowledge. This article will review the history of international and regional initiatives to develop protection for indigenous knowledge.

Reference 36 - 0.85% Coverage

¶41: of indigenous peoples, including the recent addition of articulate and impassioned indigenous voices to the conversation. Finally, this article will discuss some of the concerns that have been raised about subjecting indigenous knowledge

Reference 37 - 0.06% Coverage

¶42: The Sawau Project

Reference 38 - 0.37% Coverage

¶43: Pacific Island countries continue to face unauthorized uses of their traditional knowledge and practices.

Reference 39 - 0.20% Coverage

¶43: looks beyond ongoing debates about indigenous collection

Reference 40 - 0.10% Coverage

¶43: of the Sawau people of Beqa

References 41-42 - 0.77% Coverage

¶45: of traditional knowledge. We consider this conflict in relation to contemporary Native American intellectual property issues and tribal responses for the protection of such knowledge and to control research activities

Reference 43 - 0.25% Coverage

¶45: regarding commodification and misappropriation of traditional knowledge

Reference 44 - 0.09% Coverage

¶46: Kava Pirates in Vanuatu?

Reference 45 - 0.33% Coverage

¶47: Cultural property activists have worried about the bioprospecting, or even biopiracy, of kava

Reference 46 - 0.15% Coverage

¶47: while protecting local rights to the plant.

Reference 47 - 1.87% Coverage

¶49: Ownership is often understood merely as a function of social relations, that is, it emerges merely because of the relations between people with respect to the things that they own. Concomitantly ownership is also seen as being dependent upon creativity to bring its force into motion. Far from dismissing such a view of ownership, it is acknowledged that such a view possibly comes from a world that is preoccupied with creativity. This discussion aims to show a particular kind of dialectic between creativity and ownership

References 48-49 - 0.68% Coverage

¶49: this paper aims to show how two trajectories of ownership co-exist in a Papua New Guinea society.

¶50: Who Owns Native Nature? Discourses of Rights to Land, Culture, and Knowledge in New Zealand

References 50-51 - 1.47% Coverage

¶51: Michael Brown famously asked ‘Who owns native culture?’ This paper revisits that question by analyzing what happens to culture when the culturally defined boundary between it and nature becomes salient in the context of disputes between indigenous and settler populations. My case study is the dispute between the New Zealand government and Maori tribal groupings concerning ownership of the foreshore and seabed

Reference 52 - 0.59% Coverage

¶51: Though the reasons for doing so were clearly political, contrasting cultural assumptions appeared to set Maori and Pakeha (New Zealanders of European origin) at odds.

Reference 53 - 0.30% Coverage

¶51: While couching ownership of part of nature as an IPR issue may seem counter-intuitive

Reference 54 - 0.26% Coverage

¶52: Māori Intellectual Property Rights and the Formation of Ethnic Boundaries

Reference 55 - 0.80% Coverage

¶53: in Māori society. It is argued that Māori claims regarding intellectual property function primarily to demarcate ethnic boundaries between Māori and non-Māori. Māori consider the reinforcement of ethnic boundaries necessary

Reference 56 - 0.46% Coverage

¶53: since they experience their society and distinctive way of life as endangered both by the foreign consumption or misappropriation

Reference 57 - 0.18% Coverage

¶53: and by the intrusion of foreign cultural elements.

Reference 58 - 0.54% Coverage

¶53: Following Simon Harrison (1999) it is argued that the first threat is often represented as an undesired form of cultural appropriation, piracy or theft

Reference 59 - 0.23% Coverage

¶53: while the second threat is viewed as a form of cultural pollution

Reference 60 - 1.44% Coverage

¶53: This argument is elaborated with a case-study of each so-called danger, namely a claim regarding native flora and fauna submitted to the Waitangi Tribunal, which is considered as an example of resistance against cultural appropriation, and the increasing hostility of Māori to foreign interest and research in Māori culture and society, which is analysed as an example of opposition to putative pollution.

Reference 61 - 0.25% Coverage

¶54: Epilogue: Anxieties About Culture and Tradition—Property as Reification

Reference 62 - 0.16% Coverage

¶55: document anxieties about culture and tradition

Reference 63 - 0.35% Coverage

¶55: and about the intrusion of ideas of property into previously uncommodified areas of peoples' lives

Reference 64 - 0.13% Coverage

¶55: that migrants in a globalized world

Reference 65 - 0.52% Coverage

¶55: that anthropologists and other scholars will wrongfully appropriate and use aspects of the cultures they study for their own benefit (Van Meijl);

Reference 66 - 0.65% Coverage

¶55: that profits from the commercialization of traditional knowledge, practices, and products will not go to the people who consider themselves their owners and caretakers (Lindstrom).

Reference 67 - 0.34% Coverage

¶55: Finally, Andrew Moutu and Michael Goldsmith describe claims of ownership over aspects of nature

Reference 68 - 0.23% Coverage

¶63: Holocaust (Return of Cultural Objects) Act 2009: 2009 CHAPTER 16

Reference 69 - 0.22% Coverage

¶64: on grounds relating to events occurring during the Nazi era.

<Internals\\IJCP 2010 abstracts> - § 68 references coded [32.52% Coverage]

Reference 1 - 1.13% Coverage

¶3: Alternative Means of Dispute Resolution

¶4: Alternative methods of dispute resolution are an important resource in matters of cultural heritage in addressing the return, restitution, and repatriation of cultural property. The purpose of this article is to analyze the situations in which such methods might be preferred to the classical judicial means and to examine the problems that might arise.

Reference 2 - 0.49% Coverage

¶5: the types of property that lend themselves to alternative dispute resolution techniques and lists the—often original—substantive solutions that have been used in practice.

Reference 3 - 0.61% Coverage

¶6: Alternative methods of dispute resolution enable consideration of nonlegal factors, which might be emotional considerations or a sense of “moral obligation,” and this can help the parties find a path to consensus.

Reference 4 - 0.07% Coverage

¶9: An Equitable Solution?

¶10:
Reference 5 - 0.44% Coverage

¶10: This essay considers the possible application of equitable principles to applications for the return of human remains from museum and other collections.

¶11:
Reference 6 - 0.08% Coverage

¶14: certain Holocaust art cases

Reference 7 - 0.59% Coverage

¶18: that essentially nationalized and declared Russian ownership of the great many works of art, books, and archives that were taken under orders by the Red Army to the Soviet Union at the end of World War II.

References 8-9 - 1.13% Coverage

¶20: governments and others have attempted to justify either their right to keep or to claim the return of the cultural items displaced as a result of the war and its aftermath. Such issues have intensified on the Eastern Front since the collapse of he Soviet Union and the opening of the Soviet secret depositories of long-hidden cultural items brought to Soviet territories at the end of the war.

Reference 10 - 0.06% Coverage

¶21: Plunder, Restitution

Reference 11 - 0.62% Coverage

¶22: Russia claims that the cultural objects seized by the Soviet Union constitute “compensatory restitution” for the hundreds of thousands of cultural and artistic valuables seized or destroyed by the Nazis during the war.

Reference 12 - 0.50% Coverage

¶22: based on prewar ownership: property belonging to private persons and organizations, property belonging to nonenemy states, and property belonging to enemy states (Axis powers)

Reference 13 - 0.29% Coverage

¶24: The focus is on cultural restitution—the return of art, archives, and libraries looted by the Nazis.

Reference 14 - 0.82% Coverage

¶24: The problems with cultural restitution reflected the clash of interests and ideologies. As a result, the four occupying powers had distinct approaches with radically differing results.

¶25: Stalin's Decrees and Soviet Trophy Brigades: Compensation, Restitution in Kind, or “Trophies” of War?

Reference 15 - 0.60% Coverage

¶26: Different trophy brigades sent to the front lines were authorized or ordered to send back home whole collections of German museums and libraries. Only rarely were any of the ‘trophies’ labeled “compensation.”

¶27:
Reference 16 - 0.52% Coverage

¶28: Following the 1990–1991 revelations about the extensive cultural treasures captured by Soviet authorities at the end of the Second World War, there was hope abroad for restitution,

Reference 17 - 0.41% Coverage

¶29: We show the wide-scale Russian support of the law, with its concept of “compensatory restitution” that virtually nationalizes the spoils of war

Reference 18 - 0.32% Coverage

¶29: with only scant provisions for restitution to those who fought against the Nazi regime and those victimized by it

Reference 19 - 0.61% Coverage

¶29: What explanation emerges involves the manipulation of historical memory by the Stalinist regime, as the cultural trophies assume symbolic importance in the “myth and memory” of “victory” in the Great Patriotic War

Reference 20 - 0.62% Coverage

¶29: Restitution to legal owners is to be considered only in exchange for equally substantial compensation for wartime loss and suffering of the population at large.

¶30: Why Can't Private Art “Trophies” Go Home from the War?

References 21-22 - 0.67% Coverage

¶32: Later Baldin became the director of the museum and advocated return of the art to its rightful owners.

¶33: Since the days of Gorbachev's perestroika, these art works have frequently attracted public attention and provoked fierce debates.

Reference 23 - 0.51% Coverage

¶34: The case of the Baldin Collection became the most striking example of the Russian nonrestitution of cultural property looted during World War II.

¶35: Why Do Captured Archives Go Home?

References 24-25 - 1.18% Coverage

¶36: Yet, a decade since the law was signed, there have been five cases of captured archives from the Second World War returned to Western European countries, as explained in the recent book, Returned from Russia. The aim of this article is to examine major factors involved in the restitution of archives from Russia, and why amid the politics of restitution the return of archives has been more successful than art.

Reference 26 - 0.25% Coverage

¶37: successively examines the major factors involved, namely, foreign political pressure;

Reference 27 - 0.35% Coverage

¶37: the circumstances and Soviet aims of archival plunder; the present contrast with Soviet political ideology and alignments

Reference 28 - 1.11% Coverage

¶37: Country by country, first in Western Europe starting with France and now Austria and Greece, archives have been going home, but so far only a few symbolic files from Germany have been returned. A final section of the article briefly singles out the captured records from several other countries remaining in Moscow, including many Jewish records, even some representing Holocaust losses.

Reference 29 - 0.76% Coverage

¶39: Some countries' laws favoring good-faith purchasers over the victims of theft make it difficult to recover stolen artworks. Nonetheless, the loan of such artworks for exhibition abroad may create opportunities to utilize the host country's legal system for recovery

Reference 30 - 1.53% Coverage

¶41: Displaced and nationalized cultural property remains hidden in the vast holdings of museums, libraries, and archives around the world. Some governments holding these “trophies” of war and conquest refuse to return such cultural treasures to their rightful owners even when their provenance has been identified. They assert that the collections were obtained through expropriation and nationalization, and that divestiture of a museum, library, or archive would jeopardize the existence of these institutions and cause societal discord.

References 31-32 - 1.01% Coverage

¶42: This article discusses the struggle of an orthodox Jewish organization to recover from the Russian Federation a collection of sacred, irreplaceable books and manuscripts seized in the aftermath of the Bolshevik Revolution and during World War II. The story of Agudas Chasidei Chabad's efforts to recover these core religious texts of its spiritual leaders

Reference 33 - 0.27% Coverage

¶44: Trophy Art as Ambassadors: Reflections Beyond Diplomatic Deadlock in the German-Russian Dialogue

Reference 34 - 1.32% Coverage

¶45: the search for solutions about looted art of German ownership seized at the end of the Second World War and still held in Russia. So far, while Russia and Germany regard themselves as partners and friends in political and economic realms, they have been unable to find agreement about the looted art. Germany seems no longer to retain Russian cultural goods plundered during the war, whereas Russia still possesses a significant amount of German cultural assets

Reference 35 - 1.23% Coverage

¶45: Nevertheless, not a few citizens of both countries have been returning artworks and books privately, in some cases supported by the governments. A convincing solution for the general problem can only be found if the treasures, which in the past have been understood as trophies, could be transformed into cultural ambassadors, while dialogue and the search for new ways continue within the framework of a policy of reconciliation

Reference 36 - 1.42% Coverage

¶48: The term “displaced” is used here, and may include some cultural property and archives that came to the USSR during the war itself, as well as those removed from Germany and Eastern Europe by Soviet authorities at the end of or immediately after the war. Many items involved were actually twice captured, or “twice saved,” as the saying goes in Russia, having been first captured by the Nazis, mostly from “enemies of the regime,” and then captured a second time and “safeguarded” by the Soviets.

References 37-38 - 0.49% Coverage

¶51: The removals are often seen in an Anglo-French perspective with the result that other voices are erased, both those of the local populations and of other foreign observers

Reference 39 - 0.11% Coverage

¶51: their removals were repeatedly resisted

Reference 40 - 1.83% Coverage

¶51: By introducing testimonies from Swedish observers that were critical of the removals before such critiques became frequent, I also question the stereotype of a common European attitude toward the Ottoman Empire. I discuss how such critique was related to their status as third-party observers from a nation without power or museums. By investigating the arguments of both collectors and critics, I propose that many positions in the debate today were already present at the time of the removals. Following the history of a less famous object serves to highlight aspects of early European collecting and expansion in the Eastern Mediterranean

Reference 41 - 0.22% Coverage

¶51: that are often overlooked in the debate on ownership and restitution claims.

¶52:

Reference 42 - 0.31% Coverage

¶53: cannot succeed without due attention to issues of ownership—cultural, environmental, intellectual, economic

Reference 43 - 0.15% Coverage

¶53: in a wisdom system such as that of the Baul of Bengal

Reference 44 - 0.18% Coverage

¶53: and that “ownership” should be understood on traditional terms.

Reference 45 - 0.26% Coverage

¶53: Within such an integrated continuum, knowledge itself is not limited to it modern meaning.

References 46-47 - 0.44% Coverage

¶54: Is it possible to bring about a true and equitable dialogue between radically antagonistic intellectual property universes—the modern one driven by profit,

Reference 48 - 0.17% Coverage

¶58: the formation and fostering of national identity in Greece

Reference 49 - 0.62% Coverage

¶58: on their close connection with the state, while at the same time criticizing the view that opposes a “cultural internationalist” approach to heritage to the “cultural nationalism” of Greece and other source countries.

Reference 50 - 0.06% Coverage

¶59: IN DEFENSE OF PROPERTY

Reference 51 - 0.29% Coverage

¶60: Culture, Property, and Peoplehood: A Comment on Carpenter, Katyal, and Riley's “In Defense of Property”

Reference 52 - 0.61% Coverage

¶61: compelling case that the venerable concept of property—long defined primarily by such principles as transferability and rights of exclusion and control—should be broadened to encompass a robust ideal of stewardship

Reference 53 - 0.78% Coverage

¶61: In doing so, “In Defense of Property” (henceforth, IDP) renders property more compatible with the indigenous view of things. This significant contribution to ongoing global debates about the protection of indigenous heritage will be of great interest to readers of the IJCP.

Reference 54 - 0.36% Coverage

¶63: Author Stephenie Meyer forever altered the cultural existence of Quileute Indians when she wrote them into her Twilight novels

Reference 55 - 0.54% Coverage

¶63: In reality, the Quileute Tribe consists of approximately 700 Indians, many of whom live on a remote reservation in the pacific Northwest, a tiny parcel of the once vast Quileute territory.

Reference 56 - 0.57% Coverage

¶63: Since Twilight's unprecedented international success, the Quileute have been overwhelmed with fans and entrepreneurs, all grasping, quite literally in some cases, for their own piece of the Quileute.

Reference 57 - 0.57% Coverage

¶71: The progress of countries is measured by their success in keeping hold of their culture and heritage, and I think Egypt is one of the very few countries in the world maintaining her cultural patrimony

Reference 58 - 0.93% Coverage

¶71: We have been able, through a great effort led by Farouk Hosni, the Minister of Culture, to preserve and offer this heritage to the world as evidence of the magnificence of this great country, on whose land the most important civilization in existence was born. This civilization is in the heart of every human being on earth.

Reference 59 - 0.17% Coverage

¶72: To Authorize the Restitution of Maori Heads to New Zealand

Reference 60 - 0.11% Coverage

¶73: To authorize the restitution by France

Reference 61 - 0.07% Coverage

¶73: Maori heads to New Zealand

Reference 62 - 0.27% Coverage

¶74: Maori Heads to New Zealand

¶75: New Zealand claims for the return of preserved tattooed Maori heads

Reference 63 - 0.08% Coverage

¶75: held by foreign institutions

Reference 64 - 0.21% Coverage

¶77: has been “as diverse as this, with people from as many parts of the world,

Reference 65 - 0.10% Coverage

¶78: Heritage in Conflict and Consensus

Reference 66 - 0.42% Coverage

¶79: entitled “Heritage in Conflict and Consensus: New Approaches to the Social, Political, and Religious Impact of Public Heritage in the 21st Century

Reference 67 - 0.02% Coverage

¶79: diaspora

Reference 68 - 0.10% Coverage

¶84: Past Heritage—Future Partnerships,

<Internals\\IJCP 2011 abstracts> - § 53 references coded [23.35% Coverage]

Reference 1 - 0.20% Coverage

¶4: with emphasis to both the state values that they serve

Reference 2 - 0.16% Coverage

¶6: the need to protect the world's diversity.

Reference 3 - 0.15% Coverage

¶6: in relation to the politics of erasure,

Reference 4 - 0.26% Coverage

¶6: further examined against the backdrop of indigenous identity politics

Reference 5 - 0.15% Coverage

¶6: played out in two contested public arenas

Reference 6 - 0.17% Coverage

¶8: indigenous archaeological sites and landscapes

Reference 7 - 1.76% Coverage

¶10: Large-scale resource extraction projects often create obstacles for the protection, maintenance, and inheritance of indigenous cultural heritage. In this article we detail some of the challenges and opportunities arising from our collaborative partnership with the community of the Lihir Islands in Papua New Guinea, which is seeking to establish, inform, and resource a formal cultural heritage management program in the context of a large-scale gold-mining operation

Reference 8 - 1.21% Coverage

¶10: while the mine places greater pressure upon Lihirian cultural heritage, it also presents Lihirians with the opportunity to realize a vision of their cultural future that is beyond the reach of many other indigenous communities.

¶11: Winning Title to Land but Not to Its Past: The Toledo Maya and Sites of pre-Hispanic Heritage

Reference 9 - 0.48% Coverage

¶12: The struggle for indigenous rights to pre-Hispanic cultural heritage parallels the struggle for indigenous land rights in Belize

Reference 10 - 1.01% Coverage

¶12: In 2007 the community of Santa Cruz in southern Belize won customary land tenure over their lands for the first time from the Belizean government. This change in land ownership presents new challenges to the definition of ownership of ancient places in Maya territory

Reference 11 - 0.17% Coverage

¶12: has potential implications for the ownership

Reference 12 - 0.51% Coverage

¶12: that may ultimately serve as a paradigm for the future relationship between Maya peoples and ancestral remains throughout the nation.

¶13:
Reference 13 - 0.29% Coverage

¶14: Art in China has for millennia been used as a vehicle for political criticism

Reference 14 - 0.73% Coverage

¶14: During the revolutionary period prior to 1949, the Communist insurgency encouraged painters like Shi Lu to enliven popular resistance to Japanese imperialism and against China's Goumindang rulers

Reference 15 - 0.06% Coverage

¶16: Power Relations

Reference 16 - 0.49% Coverage

¶17: the International Decade of the World's Indigenous Peoples in 1995 and the declaration of the Second International Decade in 2004.

Reference 17 - 0.38% Coverage

¶17: issues that affect indigenous communities. One such issue is the protection of traditional knowledge

Reference 18 - 0.74% Coverage

¶17: The study found that the multilateral forums' power structures, mandates, and decision-making processes disadvantage indigenous peoples and hinder their full participation in the forums' processes

Reference 19 - 0.34% Coverage

¶17: recommends establishing a forum that would take into account indigenous peoples' worldviews

Reference 20 - 0.36% Coverage

¶17: otherwise policy outcomes from these discussions will probably disadvantage indigenous peoples.

Reference 21 - 0.39% Coverage

¶23: the rights of private property owners to the use of their property without interference, on the one hand

Reference 22 - 1.68% Coverage

¶25: that if completed would have given viewers “training to be an immigrant, training to vote, protest, and revolt, training to loot, training [in] iconoclasm, training to join a political rally, training to be the objects of propaganda, training to be interrogated and detained and to be tried or to judge, training to reconstruct a disaster, training to be in conditions of suspended law, and training various other social and political behaviors.”

Reference 23 - 0.55% Coverage

¶29: If adequately motivated, indigenous people have a key role to play not only in observing change, but also in developing adaptive models to cope.

¶30:

Reference 24 - 0.10% Coverage

¶31: even indigenous autonomies.

Reference 25 - 0.23% Coverage

¶31: answers the question of who currently owns the Bolivian past

References 26-27 - 0.91% Coverage

¶33: The deal ignited immediate international controversy and charges of pillage from some Iraqi officials, archival organizations, scholars, and others who also demanded their immediate return to the Iraq National Library and Archive in Baghdad.

Reference 28 - 0.28% Coverage

¶33: On the surface, these charges of theft and plunder appear plausible enough

Reference 29 - 0.23% Coverage

¶33: on examination, a different and complicated narrative emerges

Reference 30 - 0.28% Coverage

¶34: The Dual-Relationship Concept of Right-Ownership in Akan Musical Tradition

Reference 31 - 1.36% Coverage

¶35: There are apparently two legal systems of “rights ownership” in Ghana, which are (1) the individuals' rights—a system that overemphasizes the exclusive protection of the individual musicians' rights to ownership, and (2) the communal or governmental rights—a system that provides an exclusive protection of the government's (or community's) rights to ownership.

Reference 32 - 0.67% Coverage

¶35: to discuss the Akan “individual-communal” dual-relationship with respect to ownership that embraces these two seemingly unrelated concepts of “rights-ownership.”

¶36: The Repatriation

References 33-34 - 0.35% Coverage

¶37: was welcomed home to Kitimaat on British Columbia's northwest coast by the Haisla First Nation

Reference 35 - 0.33% Coverage

¶37: The event was important not only because it was among the first voluntary repatriations

Reference 36 - 0.23% Coverage

¶37: a cultural artifact to a North American aboriginal community,

Reference 37 - 0.69% Coverage

¶37: also because it marked the end of a negotiation process that had been long and challenging and yet ultimately, according to the parties involved, mutually beneficial and restorative.

Reference 38 - 0.15% Coverage

¶38: on the Exercise of Traditional Religions

Reference 39 - 0.44% Coverage

¶39: as to what constitutes a “substantial burden” on the practice of traditional indigenous religions in the United States

Reference 40 - 0.21% Coverage

¶39: as to discriminate against indigenous religious practices

Reference 41 - 0.36% Coverage

¶39: gives much more latitude for protecting such practices and the landscapes they often involve.

¶40:

Reference 42 - 0.33% Coverage

¶43: “INALIENABLE” ARCHIVES: KOREAN ROYAL ARCHIVES AS FRENCH PROPERTY UNDER INTERNATIONAL LAW

Reference 43 - 0.65% Coverage

¶44: the volumes had resided in the Bibliothèque nationale de France (BnF) ever since. The return is not a legally permanent restitution, but rather a five-year renewable loan.

Reference 44 - 0.18% Coverage

¶44: the imperfect compromise satisfies neither side

Reference 45 - 0.39% Coverage

¶44: The BnF is deprived of custody of items that have formed part of its collections for more than 140 years

Reference 46 - 0.56% Coverage

¶44: South Korea, meanwhile, has physical custody of the archives while suffering the indignity of being denied ownership over its own national heritage.

¶45:

Reference 47 - 0.45% Coverage

¶47: Promoting the Return of Cultural Property to Its Countries of Origin or Its Restitution in Case of Illicit Appropriation

Reference 48 - 0.48% Coverage

¶58: especially with an eye toward their use as a tool to protect indigenous cultural property—hence, the term “cultural protocols.”

Reference 49 - 0.14% Coverage

¶61: on the Return of Cultural Objects.

¶62:
Reference 50 - 0.04% Coverage

¶62: Indigenous

Reference 51 - 0.20% Coverage

¶64: Restitution Applications for Items of Cultural Value

Reference 52 - 0.08% Coverage

¶64: the Second World War

Reference 53 - 0.80% Coverage

¶65: The report informs the public of 16 applications in which the return of art objects have been demanded in 2009. In about 50% of cases, the objects were returned. The applications of the other 50% were rejected.

¶66:
<Internals\\IJCP 2012 abstracts> - § 34 references coded [11.57% Coverage]

Reference 1 - 0.11% Coverage

¶3: Who Has the Right to Control Access

References 2-3 - 0.59% Coverage

¶3: to Traditional Knowledge and Expressions of Culture?

¶4: This article explores some key considerations around determining who should have the right to control access to, and benefit from

Reference 4 - 0.74% Coverage

¶4: It highlights the complexities involved in these considerations by examining in detail the different claims to control by different segments of the population in regard to two case studies: Samoan tattooing and the Vanuatu land dive

Reference 5 - 0.15% Coverage

¶5: The Concept of “Cultural Affiliation” in NAGPRA

Reference 6 - 0.15% Coverage

¶6: In the debate about indigenous cultural property

Reference 7 - 0.36% Coverage

¶6: The act entitles Indian tribes and Native Hawaiian organizations to claim repatriation of their cultural property

Reference 8 - 0.53% Coverage

¶6: cultural affiliation to an object. The concept of cultural affiliation in the act replaces proof of ownership, or proof that an object was stolen or illicitly removed.

Reference 9 - 0.16% Coverage

¶6: indigenous, tangible, movable cultural property.

¶7:
Reference 10 - 0.16% Coverage

¶10: Whereas some groups (such as indigenous peoples)

Reference 11 - 0.31% Coverage

¶16: second, as a form of evidence to support an ownership claim by a country calling for repatriation.

Reference 12 - 0.06% Coverage

¶22: Traditional culture

Reference 13 - 0.06% Coverage

¶32: Property Nationalism

Reference 14 - 0.84% Coverage

¶33: are re-scripted as national intellectual and cultural property in postcolonial nations such as Indonesia. The mixing of intellectual and cultural property paradigms to frame folkloric art practices as national possessions, termed “intangible property nationalism,”

Reference 15 - 0.49% Coverage

¶33: considers how legal assumptions are rebuffed by Indonesian regional artists and artisans who do not view their local knowledge and practices as property

Reference 16 - 0.27% Coverage

¶33: subject to exclusive claims by individuals or corporate groups, including the state.

Reference 17 - 0.33% Coverage

¶33: contrast with Indonesian officials' anxieties over cultural theft by foreigners, especially in Malaysia

Reference 18 - 0.24% Coverage

¶33: suggests new nationalist uses for heritage claims in postcolonial states.

¶34:
Reference 19 - 0.25% Coverage

¶35: which opposes traditional collective knowledge and modern individual innovation

Reference 20 - 0.13% Coverage

¶36: Local Cultural Property Rights Discourse

¶37:
Reference 21 - 0.33% Coverage

¶37: are productive spaces in which local cultural property rights discourses are initiated and articulated

Reference 22 - 0.11% Coverage

¶39: Patents, Biopolitics, and Feminisms

Reference 23 - 0.13% Coverage

¶42: experience of the indigenous communities

Reference 24 - 0.12% Coverage

¶42: misappropriation should be prevented

Reference 25 - 0.18% Coverage

¶42: to fulfill the expectations of indigenous communities.

¶43:

Reference 26 - 0.20% Coverage

¶44: The Detachability of Morality and the Nature of Cultural Labor

Reference 27 - 0.03% Coverage

¶45: property

Reference 28 - 0.59% Coverage

¶45: in relation to conceptions of morality, correct comportment, and their influences on Afro-Bahians subject to late twentieth- and early twenty-first-century cultural heritage initiatives

Reference 29 - 2.08% Coverage

¶45: This data produced in an effort to regulate the historical center has revolved around the state's evaluation of the moral probity and everyday habits of the Pelourinho's overwhelmingly Afro-Brazilian populace. The result is a conceptualization of cultural labor that emanates not from the capacities and struggles of producers, but from a decentered or distributed view of production, which I tie to the existence of this archive. Consumers, or visitors to the historical center, as well as historical archives thus play a critical role in this form of constructing property and understanding the sources and fungibility of labor in a global economy

Reference 30 - 0.09% Coverage

¶45: for multicultural difference

Reference 31 - 0.74% Coverage

¶55: The archaeological heritage is an essential element which defines the oldness and originality of culture, history and traditions of every nation, state or cultural space in relation to other nations, states or ethno-cultural spaces.

Reference 32 - 0.36% Coverage

¶67: This institutional complexity and the ensuing rule fragmentation are indicative of multiple scenes of contestation

Reference 33 - 0.59% Coverage

¶67: denoted by different actors, politics, dynamics, and often strong path dependencies, which make meaningful communication between them and a solution-oriented forward thinking difficult

Reference 34 - 0.08% Coverage

¶67: indigenous peoples' rights

<Internals\\IJCP 2013 abstracts> - § 74 references coded [31.07% Coverage]

Reference 1 - 0.46% Coverage

¶4: This seemingly innocuous case raised a number of issues concerning the rights of different stakeholders to this material

Reference 2 - 0.13% Coverage

¶4: if so, just whose heritage it was

Reference 3 - 0.85% Coverage

¶6: The results of fieldwork undertaken by the author in Byrne's native townland are also discussed, where folk tradition suggests that Byrne wished to be buried foremost at a local site remembered today as “the Giant's Grave.”

Reference 4 - 0.44% Coverage

¶8: the different philosophical views of some of the main protagonists regarding the reclaiming of art by nation-states

Reference 5 - 0.15% Coverage

¶8: The mediation of Native American Graves

Reference 6 - 0.42% Coverage

¶8: claims by conservators is often an important component of the dialogue between museums and native communities

Reference 7 - 0.50% Coverage

¶8: In a modernist sense, points of view are once again open to reevaluation as host nations demand back more originals than ever before

Reference 8 - 0.26% Coverage

¶8: Arguments against the claims of nationalist-retentionist countries

Reference 9 - 0.41% Coverage

¶8: those advanced in favor of the claims of nation-states regarding the repatriation of their art are discussed

Reference 10 - 0.57% Coverage

¶10: relating to the management of indigenous collections, they favor responsible digitization based on consultation with source and diasporic communities

Reference 11 - 0.22% Coverage

¶10: going beyond copyright to respect traditional knowledge.

Reference 12 - 0.41% Coverage

¶14: Indigenous Peoples Council of Experts (WHIPCOE)

¶15: In December 2000, a World Indigenous Peoples Forum was held

Reference 13 - 1.95% Coverage

¶15: Representatives from Australia, Canada, and New Zealand harnessed the momentum of these events and their location to propose the formation of a new committee, the World Heritage Indigenous Peoples Council of Experts (WHIPCOE). The initiative was taken in response to concerns voiced by indigenous peoples to their lack of involvement in the development and implementation of laws, policies, and plans for the protection of their knowledge, traditions, and cultural values, which apply to their ancestral lands,

Reference 14 - 0.52% Coverage

¶15: This article traces the fate of that proposal and underlines the intransigence of sovereign states during those short-lived discussions.

Reference 15 - 0.32% Coverage

¶15: It goes on to suggest alternate routes for indigenous representation and recognition

Reference 16 - 1.86% Coverage

¶17: The seizure of Jewish cultural materials by the Mukhabarat recalled similar looting by the Nazis during World War II. The materials were spirited out of Iraq to the United States with a vague assurance of their return after being restored. Several years after their arrival in the United States for conservation, the Iraqi Jewish archive has become contested cultural property between Jewish groups and the Iraqi Jewish diaspora on the one hand and Iraqi cultural officials on the other

Reference 17 - 0.38% Coverage

¶17: argues that the archive comprises the cultural property and heritage of the Iraqi Jewish diaspora.

¶18:
Reference 18 - 0.31% Coverage

¶19: Recent efforts to ensure the survival of cultural diversity in a globalized world

Reference 19 - 0.14% Coverage

¶19: reinvigorate their ethnic traditions

Reference 20 - 1.58% Coverage

¶24: It suggests that arguments about cultural property are shaped by the discursive structure of the public/private divide. On this basis, the structure of cultural property arguments are critically examined. Then conclusions are drawn about the role of the public/private divide in structuring the tension between culture and property. It is concluded that this tension that defines the concept of cultural property.

Reference 21 - 0.16% Coverage

¶27: Colonial Heritage in Paramaribo, Suriname:

Reference 22 - 0.07% Coverage

¶27: Senses of Ownership

Reference 23 - 0.21% Coverage

¶28: discussed within the perspective of heritage ownership

Reference 24 - 0.18% Coverage

¶28: connected to several heritage ownership issues.

Reference 25 - 0.61% Coverage

¶28: Especially, when it comes to built colonial heritage as an imported alien resource from a colonial past, these issues are particularly interesting and sensitive

Reference 26 - 0.28% Coverage

¶28: A good illustration of these issues is the case of Paramaribo, Suriname.

Reference 27 - 0.37% Coverage

¶28: clearly demonstrates an area of tension and difficulty between and within the interested parties

Reference 28 - 0.25% Coverage

¶28: are strongly affected and determined by concepts such as ownership

Reference 29 - 0.15% Coverage

¶28: in relation to specific ownership issues

Reference 30 - 0.42% Coverage

¶28: Conclusions are drawn widening the argument and contributing to the ongoing debate on heritage ownership issues

Reference 31 - 0.35% Coverage

¶28: especially as it relates to the global issue of managing the relics of now defunct empires.

Reference 32 - 0.87% Coverage

¶29: In recent years an increasing interest can be detected in issues concerning the legal property ownership of heritage. This growth in interest focuses in particular on the legislation in relationship to property ownership issues

References 33-35 - 0.82% Coverage

¶29: it may be viewed as a heritage based on alien resources. In particular the acceptance, recognition, and role of what may be viewed as an imported colonial built environment in a multicultural and multiethnic context

Reference 36 - 0.43% Coverage

¶29: Although the discussion about the roles of heritage within a plural cultural and ethnic society has already begun

Reference 37 - 0.45% Coverage

¶30: proceeds to introduce Suriname as an instructive case study. It describes the existing multiethnic context of Suriname

Reference 38 - 0.27% Coverage

¶31: Ko Aotearoa Tenei: Law and Policy Affecting Maori Culture and Identity

Reference 39 - 2.11% Coverage

¶32: In July 2011 what is commonly known as the Wai 262 Report was released. After a protracted series of hearings, dating back to 1997, the New Zealand Waitangi Tribunal has at last reported on the some of the wide range of issues canvassed in those hearings. Three beautifully illustrated volumes contain a large number of recommendations in what is described as a whole-of-government report. This article notes earlier comments on Wai 262 in this journal and reframes what is often known as the 'Maori renaissance' from which this claim emerged in 1991.

Reference 40 - 0.57% Coverage

¶32: Of great significance for this readership, the Tribunal staunchly refused to entertain any discussion of 'ownership' claims to Maori cultural property

Reference 41 - 0.36% Coverage

¶32: when the nation has moved beyond the grievance mode that has dominated the last quarter century

Reference 42 - 1.39% Coverage

¶32: Very seldom indeed can Maori expect to regain full authority over their treasured properties and resources. The eight major topics of the chapters on intellectual property, genetic and biological resources, the environment, the conservation estate, the Maori language, Maori knowledge systems, Maori medicines and international instruments are briefly summarised.

Reference 43 - 0.16% Coverage

¶32: found in favour of Maori rights to water.

Reference 44 - 0.38% Coverage

¶32: of indigenous people arguing for ownership property rights to frustrate that government's policies.

Reference 45 - 0.26% Coverage

¶34: raises issues about how Maori society views deceased tribal members

Reference 46 - 0.24% Coverage

¶34: as belonging to the extended family and tribal group collective.

Reference 47 - 0.21% Coverage

¶34: This note examines the conflict and suggests a solution

Reference 48 - 0.38% Coverage

¶34: that would be fairer to Maori than that unanimously reached by three of New Zealand's general courts

Reference 49 - 0.07% Coverage

¶38: Cultural Diversity

Reference 50 - 0.32% Coverage

¶39: Convention on the Protection and Promotion of the Diversity of Cultural Expressions

Reference 51 - 0.21% Coverage

¶40: How Participatory is Participatory Heritage Management?

Reference 52 - 0.05% Coverage

¶40: The Politics

Reference 53 - 0.48% Coverage

¶41: inadvertently allows for strengthening the control of the state over the heritage of minorities and other marginalized groups

Reference 54 - 0.18% Coverage

¶41: I first detail how Alevi voices were silenced

Reference 55 - 0.21% Coverage

¶41: that claim Alevis' active engagement and full support.

Reference 56 - 0.56% Coverage

¶41: in what ways the heritage making of Semah plays into the ongoing efforts of the Turkish government to integrate Alevis into dominant Sunni majority

Reference 57 - 0.51% Coverage

¶41: though unintentionally, assists nondemocratic countries in their efforts to force marginalized groups to adopt the mainstream culture.

Reference 58 - 0.10% Coverage

¶42: the Politics of Expertise

¶43:
Reference 59 - 0.18% Coverage

¶43: examines the problematic politics of expertise

Reference 60 - 0.41% Coverage

¶43: shows that, even within this seemingly small and cohesive universe, there is a lot of room for disagreement

Reference 61 - 0.84% Coverage

¶43: as heritage professionals strive to hold on to and expand their self-created professional legitimacy and importance. Heritage professionals, in striving to maintain their relevance, tend to create self-referential regimes

Reference 62 - 0.18% Coverage

¶43: that exclude heritage holders and communities.

References 63-64 - 0.75% Coverage

¶43: lawyers, because of their own professional tendencies, might be in a position to offer a counterpoint to rule by experts in international cultural heritage management.

¶44: The Politics of Preservation

References 65-66 - 0.32% Coverage

¶44: Privileging One Heritage over Another

¶45: Heritage preservation is distinctly political

Reference 67 - 0.28% Coverage

¶45: often presenting a privileged elitist interpretation of historic sites,

Reference 68 - 0.34% Coverage

¶45: considers the politics of heritage related to privileging one type of historic structure

Reference 69 - 0.32% Coverage

¶45: serves as a powerful case study for the loss of a living historic built environment

Reference 70 - 0.23% Coverage

¶45: In highlighting the preferential protection and presentation

Reference 71 - 0.18% Coverage

¶45: ultimate demise of the historic hamlets of Gurna

Reference 72 - 0.11% Coverage

¶46: About Sacred Cultural Property

References 73-74 - 0.41% Coverage

¶47: Relation to Major Land Alteration Projects and Associated Intellectual Property Issues in Cultural Heritage

<Internals\\IJCP 2014 abstracts> - § 35 references coded [16.42% Coverage]

Reference 1 - 0.11% Coverage

¶4: problems of proprietorship

Reference 2 - 0.25% Coverage

¶7: impedes other historical readings of the past in these places

Reference 3 - 0.12% Coverage

¶7: with high public participation

Reference 4 - 0.29% Coverage

¶13: Redressing Historic Wrongs, Returning Objects to Their Rightful Owners

Reference 5 - 0.31% Coverage

¶13: Laundering Tainted Objects? 21st-Century UK Remedies for Nazi-Era Injustices

Reference 6 - 0.52% Coverage

¶14: hears claims for cultural objects held in museum collections of which their original owners lost possession during the Nazi era

References 7-10 - 2.37% Coverage

¶14: The Panel aims to achieve “fair and just” solutions for the parties and was created in response to the strong impetus to return cultural objects lost by Jewish owners during the Nazi era. This article argues that understanding the rationale for this claims process and the choice of remedies is essential for achieving such just and fair solutions, specifically whether the Panel aims to redress the past injustices of Hitler’s tyranny, return objects to their “rightful owners,” or prevent the public’s unjust enrichment from access to objects “tainted” by their Nazi association

Reference 11 - 0.26% Coverage

¶14: If it aims to return cultural objects to their rightful owners

Reference 12 - 0.13% Coverage

¶14: to strip museums of unjust gains

Reference 13 - 0.21% Coverage

¶14: whose cultural objects reside in national museums.

¶15:

Reference 14 - 0.64% Coverage

¶19: Although supported by German court decisions and local public opinion polls, the bridge has been denounced by many as an eyesore and an affront to the ideals

Reference 15 - 0.16% Coverage

¶21: THIRD DISCUSSION WORKSHOP ON THE RETURN

Reference 16 - 0.41% Coverage

¶31: John Henry Merryman’s seminal writings established the twin poles of nationalism and internationalism

Reference 17 - 0.49% Coverage

¶31: Although the tensions between national ownership and universal circulation frequently put countries and museums at odds

Reference 18 - 0.07% Coverage

¶37: indigenous rights)

Reference 19 - 0.17% Coverage

¶38: Collecting “Tribal Art”—Sacred or Secular?

Reference 20 - 0.75% Coverage

¶39: This article explores the history of collecting and dealing in non-Western cultural objects—primarily from the Pacific Islands—from the earliest explorers to the modern auction houses.

Reference 21 - 0.34% Coverage

¶39: indigenous cultural material that might be seen as religious or sacred in character

Reference 22 - 0.72% Coverage

¶40: Indigenous Rights in Latin America: Trends and Challenges

¶41: The recognition of the rights of indigenous peoples has been on the political agenda in Latin America since the 1980s

Reference 23 - 1.07% Coverage

¶41: that grant legal recognition to indigenous communities and have recognized their rights in the national constitutions. However, these rules do not always refer to some particular aspects of the indigenous culture, such as those related to their cultural heritage

References 24-25 - 1.14% Coverage

¶41: the indigenous peoples’ rights and their participation in the decision-making process. As a result of the lack of consistency between the indigenous and cultural heritage laws in most countries, the participation of indigenous peoples in heritage management is still exceptional.

Reference 26 - 0.82% Coverage

¶43: Regardless of the medium, the aesthetic, disciplinary, and cultural biases practiced by the first generation of globe-trotters, diplomats, and commercial photographers to arrive in the Korean peninsula

Reference 27 - 0.59% Coverage

¶43: By analyzing a select number of stock images of architectural landscapes, which have served as the “scenic” backdrop for framing “native types,”

Reference 28 - 0.77% Coverage

¶43: illustrate how such exoticized and romanticized visions of the conquered “Hermit Kingdom” trapped in time and space have continued to impact the trajectory of heritage management policies

Reference 29 - 0.42% Coverage

¶46: From Cultural Property to Cultural Data: The Multiple Dimensions of “Ownership” in a Global Digital Age

Reference 30 - 0.43% Coverage

¶47: it will be suggested, identifies items of cultural significance not only as objects of ownership and sale

Reference 31 - 0.98% Coverage

¶52: Notably, it appears that these problems originate from the fact that most of the holy heritage situated in Italy belongs to the Catholic Church, and at the same time, it constitutes the historical and artistic patrimony of the Italian State

Reference 32 - 0.11% Coverage

¶53: Consultation, Collaboration

Reference 33 - 0.12% Coverage

¶56: controversial, but it is both

Reference 34 - 0.90% Coverage

¶56: The Constitution’s handling of heritage—like its comparable treatment of oil and gas—therefore raises many questions. The answers to these have massive implications, as they not only determine who governs culture in Iraq

Reference 35 - 0.77% Coverage

¶56: This study thus aims to clarify the Constitution’s treatment of antiquities and archaeology, resolving who controls one of Iraq’s most important historic, cultural, and economic resources.

<Internals\\IJCP 2015 abstracts> - § 45 references coded [20.30% Coverage]

Reference 1 - 0.14% Coverage

¶6: The Rape of Kuwait’s National Memory

Reference 2 - 1.20% Coverage

¶7: In the August 1990 invasion of Kuwait, Iraqi forces prosecuted a mass campaign of pillage and destruction. Under the coordinated direction of Iraqi curators who were well acquainted with Kuwait's cultural treasures, occupying Iraqi troops plundered thousands of cultural objects from museums, libraries, and archives

Reference 3 - 0.39% Coverage

¶7: that the archives may have been intentionally destroyed as part of Saddam Hussein's aim to obliterate

Reference 4 - 0.31% Coverage

¶7: Kuwait's national identity and annex the emirate as Iraq's nineteenth province.

¶8:
Reference 5 - 0.58% Coverage

¶9: The development of the urban space of Ground Zero has been a long and difficult process, resulting in the removal of almost all of its material history

Reference 6 - 0.23% Coverage

¶9: in the struggle between different stakeholders of Ground Zero

Reference 7 - 1.53% Coverage

¶9: This force of production asserted itself over possible modes of consumption of the space, each championed and represented by overlapping groups of people. Some wished to see the space redeveloped as a site of mourning, others as a site fit for touristic consumption, as a space for residence, or as a site representing a material past older than 9/11. It shall be argued that for these consumer groups

Reference 8 - 0.19% Coverage

¶9: and its potential power in political performances

Reference 9 - 0.08% Coverage

¶16: Cultural Co-Ownership

Reference 10 - 0.86% Coverage

¶17: In general, though, the original owner seeks to recover what was taken from him, or at least to obtain some form of compensation. The present owner or possessor is as a matter of principle interested in keeping his possession.

Reference 11 - 0.23% Coverage

¶17: These conflicting positions are often seen as irreconcilable

Reference 12 - 0.26% Coverage

¶17: either I am the owner, or you are. There is no in-between solution.

Reference 13 - 0.09% Coverage

¶21: for ideological reasons,

Reference 14 - 0.41% Coverage

¶21: the discriminatory intent inherent in such devastations poses a threat to the entire international community

Reference 15 - 0.19% Coverage

¶23: rather than simply the owners of their collections

Reference 16 - 0.35% Coverage

¶23: to ensure that they obtain valid title, rather than simply strict legal title, to the object

Reference 17 - 1.47% Coverage

¶23: However, one can also see the concept of claimants having moral claims to cultural heritage objects developing in the context of the notion of the “rightful owner” which is a term increasingly deployed to signify the person who has a valid moral, rather than legal, claim to the cultural heritage object (Seventh Report of the Culture Media and Sport Select Committee 1999-2000 [193]).

¶24:
Reference 18 - 0.12% Coverage

¶24: moral claims to cultural objects

Reference 19 - 0.22% Coverage

¶24: of which their owners were dispossessed during the Nazi era

Reference 20 - 0.40% Coverage

¶24: To this end the paper analyses: how far the moral entitlement is linked with the legal title to the object

Reference 21 - 0.41% Coverage

¶24: whether moral title arises from the morally abhorrent dispossession that befell the claimant or his ancestor

Reference 22 - 0.65% Coverage

¶24: whether it results from the recommendation of the Spoliation Advisory Panel. It is argued that the development of the notion of moral title poses challenges for the future

Reference 23 - 0.55% Coverage

¶24: an understanding of its role may also inform the resolution of disputes involving cultural heritage objects outside the context of the Nazi era.

Reference 24 - 0.48% Coverage

¶26: The traditional conception of property right is based on an absolute individual right to the peaceful enjoyment of possessions.

Reference 25 - 0.65% Coverage

¶27: only restricts the ownership, gradually appear to undertake a more thorough analysis of the fair balance between the conflicting interests, notably in favor of the owner.

Reference 26 - 0.47% Coverage

¶32: also exposes similarly-situated actors to the moral dilemma of purchasing looted art with the consent of the original owner

Reference 27 - 0.21% Coverage

¶38: in which the original owner sues the current possessor

Reference 28 - 0.20% Coverage

¶48: yet they still continue to have important political

Reference 29 - 0.44% Coverage

¶48: Since their inception, regional categories have been at the heart of debates over global representation and equity

Reference 30 - 0.74% Coverage

¶48: Specifically, the “Europe and North America” regional group has historically been the most dominant region and, as we demonstrate, continues to be so despite measures such as the Global Strategy.

Reference 31 - 0.39% Coverage

¶48: In the last decade, however, the “Asia and the Pacific” regional group has exhibited a growing presence

Reference 32 - 0.67% Coverage

¶48: in order to look in greater detail at the rising profile of Asia. This leads to a discussion of the different forms and understandings of regionalism, whether for Europe or Asia

Reference 33 - 0.51% Coverage

¶49: Nationalism in Southwestern Nigeria

¶50: The convergence of Yoruba nationals and the intensification of nationalism in southwestern Nigeria

Reference 34 - 0.84% Coverage

¶50: for self-assertion, political brokerage, and power relations in colonial and post-colonial eras were reinforced by the projection of Yoruba cultural heritage and patrimony expressed both in person and literary productions

Reference 35 - 1.00% Coverage

¶50: Using textual analysis and observation, this paper examines some aspects of cultural heritage and Yoruba nationalism and how cultural heritage created patrimony, the sense of a nation, established civic virtue, and formed local (re)publics in southwestern Nigeria

Reference 36 - 0.56% Coverage

¶50: The present discourse further examines how cultural patrimony is used to echo Yoruba sense of marginalization and political superiority in Nigeria.

Reference 37 - 0.48% Coverage

¶50: further argues that most of this cultural heritage addresses a fairly well-defined audience, most especially those sympathetic

Reference 38 - 0.12% Coverage

¶50: Yoruba nationalism and politics

Reference 39 - 0.27% Coverage

¶50: Thus, cultural heritage and patrimony are active agents of nationalism

Reference 40 - 0.10% Coverage

¶50: in southwestern Nigeria.

¶51:
Reference 41 - 0.51% Coverage

¶52: raises wider concerns about the social and economic impact of the subtle erosion or, conversely, the ossification of living heritages.

Reference 42 - 0.19% Coverage

¶54: its rightful owners, Fabiani and the Vollard heirs.

Reference 43 - 0.08% Coverage

¶56: had acquired ownership

Reference 44 - 0.34% Coverage

¶56: the long-running efforts by the heirs of Lilly Cassirer Neubauer to recover the painting

Reference 45 - 0.15% Coverage

¶56: which was wrongfully taken by the Nazis.

<Internals\\IJCP 2016 abstracts> - § 36 references coded [30.91% Coverage]

Reference 1 - 0.68% Coverage

¶5: Strategies to Support the Interests of Aboriginal and Torres Strait Islander Peoples in the Commercial Development of Gourmet Bush Food Products

Reference 2 - 2.88% Coverage

¶6: Indigenous groups and individuals may have different needs and aspirations in relation to their local plant foods (“bush foods”). Interests may reflect totemic relationships, customary rights and duties, social positions, political and economic motivations, and personal capacities. This article uses a systems method to identify strategies to support the diverse interests of Australia’s Aboriginal and Torres Strait Islander peoples in the commercial development of gourmet bush food products. The aim is to identify possibilities for further consideration by Aboriginal and Torres Strait Islander peoples.

Reference 3 - 0.13% Coverage

¶7: Replicating Elite Dominance

Reference 4 - 0.57% Coverage

¶8: By conducting a comparative case study of two provinces, this article aims to identify the role of local elite networks

Reference 5 - 0.56% Coverage

¶8: It finds that the implementation of the Convention has not removed the power asymmetry between elite and popular actors

Reference 6 - 0.61% Coverage

¶8: but, instead, has fostered an elite-driven policy approach shaped by symbiotic, mutually legitimizing government–scholar networks.

Reference 7 - 0.19% Coverage

¶13: Indigenous and Non-Indigenous Cultures

¶14:
Reference 8 - 0.53% Coverage

¶14: it relates to indigenous communities. This article discusses sustainability concepts as understood in indigenous

Reference 9 - 0.63% Coverage

¶14: drawing a number of illustrations from the experiences and practices of the Aboriginal and Torres Strait Islander peoples of Australia

References 10-11 - 0.94% Coverage

¶14: will only be possible if it acknowledges the importance of culture and incorporates the insights that have been accumulated over generations in indigenous knowledge systems.

¶15: The Devil in Nationalism

Reference 12 - 1.27% Coverage

¶15: Indigenous Heritage and the Challenges of Decolonization

¶16: In 2006, Bolivians began living under their first indigenous president and undergoing an explicitly pro-indigenous “process of change,” alongside much rhetoric of indigenous autonomy and state “decolonization.”

References 13-14 - 0.46% Coverage

¶16: hardly mark a departure from mid-twentieth-century mestizo-dominated liberal nationalist projects.

Reference 15 - 0.54% Coverage

¶16: Through the ethnography of disputed cultural claims to folklore, such as those with Peru involving the devil dance

Reference 16 - 0.48% Coverage

¶16: this article examines how proprietary nationalism is experienced and expressed among certain Bolivians

Reference 17 - 0.44% Coverage

¶16: Indeed, it is common to hear propertied language employed when international disputes heat up

Reference 18 - 0.36% Coverage

¶17: Revival, Recognition, Restitution: Indigenous Rights in the Eastern Caribbean

Reference 19 - 3.84% Coverage

¶18: The idea that the indigenous peoples of the Caribbean islands became extinct has until recently dominated scholarly discourse and popular awareness. This “extinction” narrative served to justify the appropriation of indigenous lands during the colonial period, and its legacy continued into post-independence. In recent years, these misconceptions have been put under increasing scrutiny, not only by archaeological, historical, and ethnographic research but also, more importantly, by communities themselves. In Dominica, Saint Vincent, and Trinidad, communities are contesting negative stereotypes, reasserting their presence, and agitating for their human rights in the post-colonial islands states. This article discusses the acquisition of indigenous rights by descendant communities in the eastern Caribbean

Reference 20 - 1.37% Coverage

¶20: On the other hand, it examines China's cultural heritage development in relation to society, arguing that considerations of national heritage, though influenced by the international environment, are still largely determined by its national socio-cultural, economic, and political settings.

Reference 21 - 1.25% Coverage

¶20: The evolutionary approach reveals the way in which China's heritage vision and practice are negotiated according to international forces and societal imperatives, implicating issues such as commodification and reconstruction in the debate of heritage conservation,

Reference 22 - 0.43% Coverage

¶21: Revolt of the Saints: Memory and Redemption in the Twilight of Brazilian Racial Democracy.

Reference 23 - 0.41% Coverage

¶32: The Functioning of Indigenous Cultural Protocols in Australia's Contemporary Art World

Reference 24 - 1.47% Coverage

¶33: of Indigenous cultural heritage. They are meant to protect Indigenous peoples from the misappropriation of their heritage by outsiders and enhance Indigenous peoples' control over their own domain. This article examines the functioning of Indigenous cultural protocols within Australia's contemporary art world

References 25-26 - 1.55% Coverage

¶33: Our analysis of two protocol transgressions shows that protocols do not automatically protect Indigenous individuals equally. Furthermore, although discussions about compliance are infused with rhetoric about the authority of "the Indigenous community," Indigenous people with cultural connections to contested heritage objects

Reference 27 - 0.33% Coverage

¶33: do not always have a clear voice in decisions made about their use.

¶34:

Reference 28 - 0.24% Coverage

¶40: The Politics of Culture and the Culture of Politics

Reference 29 - 0.72% Coverage

¶41: constitutes the first systematic attempt to synthesize the role of politics as an affecting dynamic during the negotiation of cultural property disputes.

Reference 30 - 0.61% Coverage

¶41: limits its scope to disputes concerning the ownership of cultural artifacts between states and museums settled through negotiation

References 31-32 - 4.02% Coverage

¶41: to the subsequent claims for the return of the contested objects. The discussion focuses on four ways in which the negotiation process is affected when states act as claimants, including the discourse and argumentation used, the available means to pressure the other party to negotiate, the possible political interventions, and the international political scene and its effect on the development of the dispute. Through the examination of multiple case studies, it is argued that in such disputes, several elements related to the role of politics are at interplay affecting the evolution of the negotiation process. Finally, it is also argued that the role of politics as an affecting dynamic during the negotiation process is multi-dimensional, consisting of many different interrelated dynamics that can potentially alter the course of the process.

Reference 33 - 0.45% Coverage

¶42: Putting into Place Solutions for Nazi Era Dispossessions of Cultural Objects: The UK Experience

Reference 34 - 0.36% Coverage

¶43: resolving disputes surrounding Nazi era dispossessions of cultural objects.

Reference 35 - 1.82% Coverage

¶45: aims to analyze these two cases and to set out new questions. In the end, there is doubt that the state who finally received these antiquities is necessarily the one from which they have been looted and smuggled. Based on this analysis, the article aims to highlight alternative paths to the discovery of the truth, paths that might have been more effective, if they had been followed.

Reference 36 - 0.76% Coverage

¶49: details a successful case of restitution of important antiquities stolen from the National Museum of Afghanistan in Kabul during the Afghan Civil War (1992–94).

<Internals\\IJCP 2017 ABSTRACTS> - § 43 references coded [23.95% Coverage]

Reference 1 - 0.32% Coverage

¶8: Development and preservation interests illustrate this tension

Reference 2 - 0.51% Coverage

¶8: not only fails to equally valuate non-dominant, unconventional, or alternative iterations of culture

Reference 3 - 0.98% Coverage

¶8: Without diligent inclusive strategies to account for, and consult, the diverse spectrum of groups, cultures, and cultural spaces affected by urban heritage and cultural city planning processes

References 4-5 - 1.10% Coverage

¶8: a city's development initiatives risk counterproductively destroying the precise characteristics they are otherwise seeking to nourish, create, and, even, commodify.

¶9: Rights, Indigeneity, and the Market of Rastafari

Reference 6 - 0.47% Coverage

¶10: concerned with the ways in which discourses of rights serve to destabilize indigenous logics

Reference 7 - 0.35% Coverage

¶10: to challenge what they believe are infringed cultural property rights

Reference 8 - 0.49% Coverage

¶10: As a means of commercially defending these rights, the group employs a discourse of indigeneity.

References 9-10 - 1.08% Coverage

¶10: However, while the basis of indigeneity strongly supports the case of intellectual and cultural property rights, this recognition ultimately further identifies the group, and Rastafari in general, with Jamaica.

¶11:
Reference 11 - 0.55% Coverage

¶12: Changes adopted—in contrast to those proposed, which referred to the issues related to indigenous communities

Reference 12 - 0.28% Coverage

¶12: the protection of collective rights—are also discussed.

Reference 13 - 0.34% Coverage

¶16: Cultural Heritage Institutions and Systems of Intellectual Property

Reference 14 - 0.24% Coverage

¶20: Hunters, Crown, Nobles, and Conservation Elites

Reference 15 - 0.11% Coverage

¶20: Class Antagonism over

Reference 16 - 0.16% Coverage

¶20: the Ownership of Common Fauna

¶21:
Reference 17 - 2.03% Coverage

¶21: In this article, wildlife is seen to be sometimes subject to a shadow ownership by class interests in society. Hunters accuse protected wolves of being the “pets” or “property” of an urban-based conservationist middle class. This phenomenon fragments the common fauna and undermines responsibility taking and policy compliance for wildlife that is seen as being owned by an oppositional social class.

Reference 18 - 1.83% Coverage

¶21: A historical materialist analysis reveals that hunters once experienced ownership of wildlife by the nobility as co-opting state coercive power. Today, however, aristocracy is replaced by a new elite class of conservationists. Noting the hunters’ tendency to evoke quasi-aristocratic virtues of ownership, we advance recommendations for an alternative approach.

Reference 19 - 0.74% Coverage

¶21: We appeal to deliberative democracy to promote the “communing” of wildlife across classes in fora that withstand co-optation by class interests.

¶22:
Reference 20 - 0.25% Coverage

¶24: Will the God Win?: The Case of the Buddhist Mummy

Reference 21 - 0.29% Coverage

¶25: which caught the attention of the international community

Reference 22 - 0.41% Coverage

¶25: The statue of Zhanggong-zushi is the embodiment of God in the eyes of the locals

Reference 23 - 0.16% Coverage

¶25: is controversial and sensitive

References 24-25 - 0.80% Coverage

¶25: in the disputes of stolen cultural property. It is very important for the art world to understand how locals feel about the loss of their culture or religion.

Reference 26 - 0.11% Coverage

¶36: led to heated protests

Reference 27 - 0.11% Coverage

¶36: descendant communities

Reference 28 - 0.30% Coverage

¶36: that the treatment of the archaeological remains was biased.

References 29-30 - 1.09% Coverage

¶36: “Their” graves were destroyed, and the bones reburied in secret, while “our” remains in the same areas were carefully excavated and preserved. Tolerance to “our” heritage at the expense of “theirs” is intolerance.

¶37:

Reference 31 - 0.11% Coverage

¶39: Take the Long Way Home

Reference 32 - 0.77% Coverage

¶40: The rational and efficient recovery of Chinese archaeological objects from market nations is a crucial issue that is confronting the Chinese government

Reference 33 - 0.92% Coverage

¶46: presents the preliminary findings of a scoping study that Geneva Call is conducting to understand the existing dynamics between armed non-state actors (ANSAs) and cultural heritage.

Reference 34 - 0.30% Coverage

¶47: Post-Colonial and Post-Conflict Perspectives from Sri Lanka

Reference 35 - 0.35% Coverage

¶48: Cultural property is related to the evolution of a nation's identity

Reference 36 - 1.28% Coverage

¶48: focuses on the loss of cultural property with reference to two specific modes of loss of particular concern to Sri Lanka—the removal of cultural property during the colonial era and the loss of cultural property during the more recent ethnic conflict.

Reference 37 - 0.35% Coverage

¶49: Caribbean Collections in European Museums and the Question of Returns

Reference 38 - 0.80% Coverage

¶50: Since 2014, when the Caribbean Community officially launched its claim against former European colonial powers for reparations for slavery and native genocide

Reference 39 - 0.38% Coverage

¶50: there has been a renewed interest in the question of cultural reparations

Reference 40 - 0.38% Coverage

¶50: more specifically, Caribbean cultural objects located in European museums.

Reference 41 - 0.87% Coverage

¶50: aims to address these issues. First, we sketch the profile of Caribbean archaeological collections located in European museums to shed light on their nature and provenance

Reference 42 - 0.84% Coverage

¶50: before discussing the broader political and ethical framework of returns and the role of cultural cooperation in reparatory justice for the Caribbean more generally.

Reference 43 - 1.51% Coverage

¶52: This statutory provision may result in the bizarre outcome that goods stolen from a museum or looted from an archaeological site and then purchased from a shop or market in Hong Kong may be

protected from claims for their return; this protection may apply even if the loser is the Chinese state.

¶53:
<Internals\\IJCP 2018 abstracts> - § 45 references coded [28.63% Coverage]

Reference 1 - 0.52% Coverage

¶3: Editorial: The Possibilities and Limitations of Rights-Based Approaches to Heritage Practice

Reference 2 - 0.49% Coverage

¶5: It does so by focusing on two attempts by activists and non-governmental organizations

Reference 3 - 0.12% Coverage

¶5: intervene to save the

References 4-5 - 1.43% Coverage

¶5: Adopting a heritage rights focus, these grassroots initiatives have argued that Hasankeyf's destruction would constitute a violation of human rights because it would deprive people of their right to participate in, and benefit from, cultural heritage

Reference 6 - 0.72% Coverage

¶7: the cultural heritage and human rights of an asylum-seeking group in Glasgow, Scotland, namely, the Glasgow Bajuni campaigners

Reference 7 - 0.19% Coverage

¶7: members of a minority Somali clan

Reference 8 - 0.65% Coverage

¶7: in which other state actors (that is, immigration authorities) are emboldened to advance skepticism over matters

Reference 9 - 0.35% Coverage

¶7: as complicit in the maintenance of hierarchies and the border

References 10-11 - 0.76% Coverage

¶7: might be improved to include migrant and asylum-seeking groups.

¶8: Heritage, Land, Labor, and Competing Claims for Afro-Colombian Rights

Reference 12 - 1.02% Coverage

¶9: I investigate how the language of rights—both communal and individual—operates simultaneously at various registers and is strategically put to work in distinct political spheres.

References 13-14 - 2.83% Coverage

¶9: individual rights, conceived as exclusive prerogatives, serve to mark hierarchical distinctions between community members. I examine the paradoxical coexistence of two contradictory claims: one of cultural cohesion and another of social hierarchy. I conclude by questioning how a more nuanced examination of rights discourses in Palenque might contribute to understanding the multiple meanings of rights, not simply across time or space but also in relation to their perceived strategic purpose.

¶10:
Reference 15 - 0.37% Coverage

¶11: to understand how rights discourse appeared in multiple contexts

Reference 16 - 1.46% Coverage

¶12: While much of the debate and analysis in heritage studies is understandably concerned with formal decision-making processes and position-taking, this work demonstrates the significance of a range of informal dynamics in appreciating future possibilities.

¶13:
Reference 17 - 0.16% Coverage

¶15: Heritage, Culture and Rights

Reference 18 - 0.25% Coverage

¶17: A Change from a Legal to a Moral Paradigm?

¶18:
References 19-20 - 2.29% Coverage

¶18: the constant tension facing several national panels in their consideration of Nazi spoliation claims concerning cultural objects. It will argue that this tension results from a shift in paradigms in dealing with Nazi-related injustices—from a strictly legal paradigm to a new victim groups-oriented paradigm, where addressing and recognizing the suffering caused by the nature of past crimes is central

Reference 21 - 1.21% Coverage

¶18: While these national panels originate from this new paradigm and embody the new venues found for dealing with Nazi-looted art claims, this paradigm change at the same time presents these panels with a predicament

Reference 22 - 0.40% Coverage

¶18: on individual ownership issues and restitution in kind (old paradigm).

Reference 23 - 0.80% Coverage

¶20: when institutions attempt to assign authorship of traditional knowledge and traditional cultural expressions to individuals and communities

Reference 24 - 0.47% Coverage

¶20: spiraling their way into public policies concerning marginalized peoples' rights,

Reference 25 - 0.58% Coverage

¶20: cultural institutions appropriate Afro-Cuban folkloric dance to commodify individuals and communities.

Reference 26 - 2.37% Coverage

¶22: Based on fieldwork conducted in Nepal shortly before and after the earthquake, we ask: can situational crime prevention measures, when imposed in a top-down fashion upon communities by state actors, be corrosive of collective efficacy and, therefore, ultimately self-defeating in crime prevention terms? The case of post-quake Nepal seems to suggest that the answer to this question is, in some circumstances, yes.

¶23:

Reference 27 - 0.33% Coverage

¶25: Consensus Building, Negotiation, and Conflict Resolution

Reference 28 - 0.10% Coverage

¶27: Indigenous Peoples

Reference 29 - 0.07% Coverage

¶27: Human Rights

Reference 30 - 0.90% Coverage

¶28: Indigenous peoples' emphasis on protecting their cultural heritage (including land) through a human rights-based approach reveals the synergies and conflicts

Reference 31 - 0.58% Coverage

¶28: effecting Indigenous peoples, cultures, and territories and how these shortcomings can be addressed.

Reference 32 - 0.63% Coverage

¶28: it examines how the realization of Indigenous peoples' right to self-determination concerning cultural heritage

Reference 33 - 0.14% Coverage

¶33: Politics of Repatriation

Reference 34 - 0.25% Coverage

¶33: Formalizing Indigenous Repatriation Policy

¶34:
Reference 35 - 0.39% Coverage

¶34: By examining ownership paradigms and institutional power structures

Reference 36 - 0.42% Coverage

¶34: it is possible to understand the ramifications of formalizing repatriation

Reference 37 - 0.29% Coverage

¶34: The current binary of cultural property nationalism

References 38-39 - 1.21% Coverage

¶34: cultural property internationalism in relation to Indigenous ownership claims does not represent the full scope of the conflict for Indigenous people within the Western legal interpretations of property ownership

Reference 40 - 0.31% Coverage

¶34: Inclusion of a cultural property indigenism component

Reference 41 - 0.49% Coverage

¶34: into the established cultural property nationalism/internationalism ownership paradigm

Reference 42 - 0.41% Coverage

¶34: will more accurately represent Indigenous concerns for cultural property

Reference 43 - 1.17% Coverage

¶34: will argue that there are consequences to repatriation claims that go beyond the possession of property and that a formalized process (or semi-formalized approach) can aid in addressing Indigenous rights.

¶35:
Reference 44 - 0.68% Coverage

¶36: which, in part, relies on evidence obtained from underwater cultural heritage and the associated maritime archaeology.

Reference 45 - 0.81% Coverage

¶36: this cannot be used to support China's South China Sea claims and is not only misplaced, such as to pose a risk to the archaeological record,

<Internals\\IJHS 1994-6 Abstracts> - § 7 references coded [4.95% Coverage]

Reference 1 - 0.95% Coverage

¶12: museums are the political and cultural institutions entrusted with holding the material evidence, real things, which constitute much modern knowledge.

Reference 2 - 0.11% Coverage

¶12: professional care

Reference 3 - 1.20% Coverage

¶14: Experts can visualise an original location or environment; ordinary museum visitors need the context of people, or place, or familiar activities, to be able to relate to unfamiliar objects.

Reference 4 - 0.19% Coverage

¶27: a more inclusive appreciation

Reference 5 - 0.14% Coverage

¶33: planning professionals

Reference 6 - 0.85% Coverage

¶33: it remains the exception for other professions to take an active role in the protection of spatial elements of the historic townscape.

Reference 7 - 1.51% Coverage

¶77: The promotion of heritage may, more often than not, have been little more than a cynical attempt to exploit and satisfy the public's appetite for reconstructing and fabricating comforting and nostalgic images of, and myths about, the past.

<Internals\\IJHS 1996 Abstracts> - § 38 references coded [20.08% Coverage]

Reference 1 - 0.13% Coverage

¶3: # Contested heritage

Reference 2 - 0.20% Coverage

¶4: The contested interpretation

Reference 3 - 1.95% Coverage

¶5: Because the nature of society is both negotiated and contested, cultural artefacts, including heritage landscapes, will be invested with differing and conflicting meanings by various social groups. This is but one aspect of what might be termed the dissonance of heritage.

Reference 4 - 0.16% Coverage

¶5: in a contested society

Reference 5 - 0.75% Coverage

¶5: the institution's effectiveness in this regard is undermined by the middle-class bias of those consumers

Reference 6 - 0.22% Coverage

¶6: Contested identities in Canada

Reference 7 - 0.55% Coverage

¶8: Conflicting concepts of identity have long exercised the Canadian imagination

Reference 8 - 0.58% Coverage

¶8: the role of institutionalised memory in promoting centralist patriotic sentiments

Reference 9 - 1.45% Coverage

¶8: The association between the development of a consciousness and knowledge of the nation is illustrated by the founding of the Canadian Club, the Champlain Society and the Canadian Geographical Society.

Reference 10 - 0.93% Coverage

¶8: these initiatives demonstrate a dynamic agenda of reconstituting national memory, national self-knowledge, and national identity.

Reference 11 - 0.81% Coverage

¶11: A social construction approach reveals the problematic nature of these symbolic reconstructions, their partiality

Reference 12 - 0.30% Coverage

¶11: the eliding of socio-economic disadvantage

Reference 13 - 1.06% Coverage

¶11: The new post-industrial identity for Newcastle disinherits working people, ignores the local indigenous peoples, and trivialises the role of women.

Reference 14 - 0.50% Coverage

¶11: The rhetoric of post-industrialism conceals poverty and alienation,

Reference 15 - 0.13% Coverage

¶12: Contested heritage

Reference 16 - 0.42% Coverage

¶14: the various contested images of heritage evoked at the site

References 17-19 - 1.19% Coverage

¶14: a nostalgic perception of a harmonious past (by middle-class Capetonians) versus a place of privilege and exclusion (by predominantly black working-class inhabitants)

Reference 20 - 0.23% Coverage

¶15: context of heritage contestation

Reference 21 - 0.68% Coverage

¶17: the ‘Vietnamese heritage only’ of the most narrowly nationalistic of politicians and planners.

Reference 22 - 0.47% Coverage

¶17: a long history of heritage contestation and redefinition in Hanoi

Reference 23 - 0.53% Coverage

¶17: largely reflects the succession of political regimes controlling the city.

Reference 24 - 0.17% Coverage

¶41: sense of Australianness

Reference 25 - 0.12% Coverage

¶41: professional one

Reference 26 - 0.90% Coverage

¶44: Frequently identified with ‘establishment’ values the National Trust has as often been a focus of critique as of celebration.

Reference 27 - 0.19% Coverage

¶44: an emerging politicisation

Reference 28 - 0.37% Coverage

¶44: the shifting resolution of contested cultural values

Reference 29 - 0.23% Coverage

¶58: A fascination with assassination

Reference 30 - 1.51% Coverage

¶59: the phenomenon that the authors have entitled Dark Tourism and to analyse evidence of its existence in the context of sites associated with the life and death of the former US President, John F. Kennedy (JFK).

Reference 31 - 0.94% Coverage

¶59: This paper considers media fascination with this subject and examines exploitation of this interest at three, contrasting sites.

¶60:
Reference 32 - 0.70% Coverage

¶61: the museum's motivation for proceeding into the deep waters of apparently delicate subject matter.

Reference 33 - 0.32% Coverage

¶61: contemporary standards of taste and morality

Reference 34 - 0.19% Coverage

¶63: in the national heritage.

Reference 35 - 0.37% Coverage

¶64: Guided by the dark: From thanatopsis to thanatourism

Reference 36 - 0.33% Coverage

¶65: Death is the one heritage that everyone shares

Reference 37 - 0.34% Coverage

¶65: the Dark Tourism to which this issue is devoted

Reference 38 - 0.17% Coverage

¶72: Nationalism, Politics,

<Internals\\IJHS 1997-8 Abstracts> - § 22 references coded [11.95% Coverage]

Reference 1 - 1.45% Coverage

¶9: The harmony and cohesion which enabled the Dogon to resist the colonial power is being threatened by a new set of historical constructs and priorities indicating that Dogon culture is more fragile when confronted with the 20th century.

Reference 2 - 0.18% Coverage

¶10: Heritage and national identity

Reference 3 - 1.87% Coverage

¶11: Within heritage studies the relationship between national heritage and national identity is frequently taken as axiomatic. The construction of a national heritage is an important part of nation-building, and historic buildings and monuments can be powerful symbols of a nation's aspirations and identity.

Reference 4 - 0.60% Coverage

¶11: This paper reports an exploratory study of the heritage/national identity relationship in Romania

References 5-6 - 3.01% Coverage

¶11: For many Romanians the monument is a powerful symbol of their identity representing Dacian and Roman origins, Latinity, and the continuity of Romanian settlement in Transylvania. The monument was also seen by some as an important symbol of Romania's attempt to construct a post-Communist identity, and to forge closer links with western Europe. However, the meanings of the monument are not shared by all Romanians, and in particular are strongly contested by Romania's Hungarian minority.

Reference 7 - 0.30% Coverage

¶28: Towards more inclusive, vital models of heritage

Reference 8 - 0.25% Coverage

¶29: a prejudicial, narrowly conceived system

Reference 9 - 0.30% Coverage

¶29: it is not readily embraced by the public at large

Reference 10 - 0.42% Coverage

¶29: does not relate well to vigorous public concerns for the environment.

Reference 11 - 0.30% Coverage

¶29: in advance of some of the heritage professionals

Reference 12 - 0.15% Coverage

¶40: in the post-colonial era

Reference 13 - 0.09% Coverage

¶41: Professionalism

Reference 14 - 0.20% Coverage

¶44: The Return of Cultural Property,

Reference 15 - 0.78% Coverage

¶68: British and Allied military cemeteries and memorial sites have been designed within a carefully controlled Imperial aesthetic.

Reference 16 - 0.55% Coverage

¶68: The emotional and historical capital of these sites has made objective judgement difficult

Reference 17 - 0.17% Coverage

¶68: the burden of martial memory

Reference 18 - 0.28% Coverage

¶68: a distinct nationalism in their war memorials

Reference 19 - 0.23% Coverage

¶73: the construction of national identity

Reference 20 - 0.17% Coverage

¶74: Issues of national identity

Reference 21 - 0.25% Coverage

¶74: inextricably linked to national identity.

Reference 22 - 0.39% Coverage

¶74: museums negotiate and construct meanings of national identity.

<Internals\\IJHS 1998 Abstracts> - § 25 references coded [16.03% Coverage]

Reference 1 - 0.58% Coverage

¶4: Notions of the cultural heritage are a key intellectual and political issue for the twenty-first century

Reference 2 - 0.52% Coverage

¶6: a period which recognises the importance of local involvement in the decision making process.

Reference 3 - 0.56% Coverage

¶7: this means reconciling the needs and expectations of local residents, business people, and tourists

Reference 4 - 0.71% Coverage

¶20: Even though Bran Castle appears to form the perfect home for a vampire count, this heritage destination is surrounded by debate

Reference 5 - 0.59% Coverage

¶20: the understanding of heritage sites within a formerly socialist society in transition to a market economy

Reference 6 - 0.84% Coverage

¶24: In the Victorian period memorials proliferated across Europe and were often used to represent civic authority in the guise of monuments to great men.

Reference 7 - 0.87% Coverage

¶24: uncovers the way that civic commemorations have been used to construct rhetorical narratives of power through selective interpretations of municipal memory

Reference 8 - 1.05% Coverage

¶24: a modern commemoration, the sailing of the replica of John Cabot's ship, 'Matthew,' in 1997, is examined and is seen to have a similar rhetorical construction to its Victorian precursors.

Reference 9 - 0.40% Coverage

¶26: Dissonant Heritage: The Management of the Past as a Resource in Conflict

Reference 10 - 0.19% Coverage

¶34: in the current political climate.

Reference 11 - 0.28% Coverage

¶35: Frank mccourt's Limerick: An unwelcome heritage?

¶36:
Reference 12 - 0.70% Coverage

¶36: it has provoked local controversy by revealing the existence of a number of hitherto largely concealed heritage dissonances.

Reference 13 - 1.38% Coverage

¶37: The historical vision of the interwar period that it vividly portrays is a working-class experience of poverty, poor housing, and absence of facilities compounded by an indifference of the local contemporary political and clerical establishment.

Reference 14 - 1.36% Coverage

¶37: Such an image contrasts not only with the tourism image projected externally but more significantly with much of the received interpretation of the post-independence Irish State that was until recently an almost unchallenged dominant ideology.

Reference 15 - 0.40% Coverage

¶38: the management of disagreeable or contradictory elements in a local past

Reference 16 - 0.51% Coverage

¶42: Despite its problematic nature, the term Celtic is often linked with Wales and its history.

Reference 17 - 0.95% Coverage

¶42: The dangers lie in the over-simplification of the contested concept of Celticity and in the shortage of good evaluative assessments of these learning to think approaches.

Reference 18 - 1.68% Coverage

¶44: This framework would provide guidance to establish which economic agents form part of the heritage world and what incentives guide them to join it. With this framework in place., we can evaluate how the tools used by these agents to obtain their own goals affect the provision of historic resources.

Reference 19 - 0.12% Coverage

¶46: of national hertiage.

Reference 20 - 0.36% Coverage

¶46: such films generally holster partial and conservative interests

Reference 21 - 0.30% Coverage

¶46: represent a chronic nostalgia for a make-believe past

Reference 22 - 0.80% Coverage

¶46: Adaptations from historic classic novels are claimed to foist predominantly middle-class tastes and standards upon the broader viewing public.

Reference 23 - 0.15% Coverage

¶49: New Britain, new heritage:

Reference 24 - 0.46% Coverage

¶50: each generation assumes the mantle of caretakership, never that of ownership.

Reference 25 - 0.29% Coverage

¶60: Contested Urban Heritage: Voices from the Periphery

<Internals\\IJHS 1999 Abstracts> - § 29 references coded [15.73% Coverage]

References 1-2 - 0.56% Coverage

¶5: Large questions about globalisation, cultural domination or assimilation, and the survival of cultural diversity

Reference 3 - 0.76% Coverage

¶5: The deterritorialisation of the nation-state challenges the status of national museums, yet it is notable that national museums have never been stronger.

Reference 4 - 0.53% Coverage

¶7: This may occur in nations where museums are still engaged in the uncritical propagation of local ideology,

Reference 5 - 0.09% Coverage

¶9: cultural diversity

Reference 6 - 0.45% Coverage

¶9: the future of museums, relics and memorial sites of former totatlitarian regimes in Europe

Reference 7 - 0.09% Coverage

¶10: Cultural Diversity

Reference 8 - 0.60% Coverage

¶10: In relation to relics and memorial sites the situation after the collapse of totalitarian dictatorships will be discussed

Reference 9 - 0.11% Coverage

¶13: and cultural diversity

Reference 10 - 0.36% Coverage

¶14: Museums now need to recognise contemporary forms of cultural diversity.

Reference 11 - 0.87% Coverage

¶14: a model of interculturality which seeks to comprehend a more internalised, contradictory, even conflictual, set of connections involved in cultural expressions of difference.

Reference 12 - 0.49% Coverage

¶16: For many years, Latin American history and museums tried to promote unifying myths of nationality.

Reference 13 - 0.14% Coverage

¶16: or perhaps ‘multi-cultural).

Reference 14 - 0.32% Coverage

¶17: Cultural franchising, imperialism and globalisation: What's new?

Reference 15 - 0.89% Coverage

¶18: In post-colonial countries such as Australia we know that museums have often been inextricably involved in imperial and international as well as national cultural power struggles.

Reference 16 - 0.15% Coverage

¶38: and potentially critical ways.

Reference 17 - 0.69% Coverage

¶46: The rapid establishment of national parks in Indonesia required staff to be trained in a variety of disciplines including interpretation.

Reference 18 - 0.16% Coverage

¶47: Who were bennelong and Pemulwuy?

Reference 19 - 0.94% Coverage

¶47: eora aboriginal culture

¶48: The Eora Aboriginal People are the original inhabitants of the Sydney region [in NSW, Australia]. There are an estimated 2, 000 Aboriginal rock engravings in Sydney.

Reference 20 - 0.36% Coverage

¶48: Some museums in Sydney now acknowledge the traditional Aboriginal owners

Reference 21 - 2.31% Coverage

¶48: use Eora words to name their exhibitions. These include: Ngaramang bayumi – music & dance (Powerhouse Museum); Merana Eora Nora – first people (Australian National Maritime Museum); Yiribana (Art Gallery of New South Wales); and Cadi Eora Birrung: Under the Sydney Stars (Sydney Observatory). The Aboriginal history of Sydney, however, is only told at the Museum of Sydney with installations, videos and spoken exhibits about Eora, the indigenous peoples of Sydney.

Reference 22 - 0.80% Coverage

¶48: It questions whether visitors to Sydney learn about Bennelong and Pemulwuy, two key Aboriginal figures in the the early European settlement around Sydney Harbour.

Reference 23 - 1.05% Coverage

¶48: of Eora history and culture. The paper suggests the Eora heritage of Sydney should be more widely interpreted in Museums, National Parks and other public venues to rightfully acknowledge this Aboriginal history.

References 24-25 - 1.49% Coverage

¶54: Indigenous occupation of Australia for at least the last 60,000 years, was followed by European settlers in 1788. Christian missions and government reserves established at this time, often removed Aboriginal children from their parents, families and land. These children are ‘the Stolen Generation’.

Reference 26 - 0.64% Coverage

¶54: The Umeewarra Nguraritja wants to establish an Interpretive Centre to tell the Aboriginal and missionary history of the Mission.

Reference 27 - 0.12% Coverage

¶54: sensitively to visitors.

Reference 28 - 0.68% Coverage

¶54: the need for the researchers to be sympathetic to both indigenous and missionary cultures, playing both supportive and leadership roles

Reference 29 - 0.08% Coverage

¶55: White Aborigines

<Internals\\IJHS 2000 Abstracts> - § 30 references coded [13.29% Coverage]

Reference 1 - 0.70% Coverage

¶7: Older modernist models for communication based on the transmission of authoritative subject-based facts to a mass of passive receivers

References 2-3 - 0.40% Coverage

¶7: the complexities of cultural politics. New roles for art museum professionals

Reference 4 - 0.35% Coverage

¶7: the intervention of new voices and the exposition of new narratives

Reference 5 - 0.12% Coverage

¶9: who 'owns' the heritage

Reference 6 - 0.12% Coverage

¶11: Indigenous communities

Reference 7 - 0.21% Coverage

¶11: have much to teach heritage professionals

Reference 8 - 0.47% Coverage

¶11: A holistic approach to cultural heritage has long been promoted by indigenous communities

Reference 9 - 0.33% Coverage

¶11: all have precursors in indigenous concepts of cultural heritage

Reference 10 - 0.51% Coverage

¶11: providing expert advice upon which decisions about the future use of these forests will be made.

Reference 11 - 0.75% Coverage

¶11: indigenous communities appear to be leading the way, with the development of catchment resource management models and co-management strategies.

Reference 12 - 0.21% Coverage

¶15: specific and professional understanding

Reference 13 - 0.08% Coverage

¶23: An Unwanted Past

Reference 14 - 0.20% Coverage

¶23: the heritage of communism in Romania

¶24:

Reference 15 - 1.47% Coverage

¶24: this is a heritage which is defined and constructed entirely outside Romania. Within Romania itself there is understandably little desire to remember the period of communist rule, and the legacy of this period is powerfully dissonant with the country's post-communist aspirations.

Reference 16 - 0.09% Coverage

¶28: sometimes negative

Reference 17 - 0.13% Coverage

¶33: Landscape and Englishness

Reference 18 - 0.31% Coverage

¶42: The Strategic Significance of Workforce Diversity in Museums

Reference 19 - 2.76% Coverage

¶43: increasing international interest, both academic and professional, in the implications and strategic significance of workforce diversity. Drawing on research that has been undertaken principally within the field of human resource management, as well as the experiences of museum sectors internationally, the paper explores the rationale behind, and potential efficacy of, recent initiatives to enhance cultural diversity within the UK museum sector through an approach characterised by the use of positive or affirmative action.

Reference 20 - 0.59% Coverage

¶43: broadening the concept of ?diversity management' (which has emerged from the field of human resource management)

Reference 21 - 0.70% Coverage

¶43: within which the dynamic interrelationships between diversity within a museum's workforce, audiences and programmes can be considered.

Reference 22 - 0.17% Coverage

¶49: the problems of heritage creation

Reference 23 - 0.06% Coverage

¶49: dissonance,

References 24-25 - 0.72% Coverage

¶49: derivatives. The universal relevance of these problems is reiterated, even if less vivid elsewhere than in a perceptually resource-scarce

Reference 26 - 0.22% Coverage

¶49: culturally diverse New World capital city.

Reference 27 - 0.19% Coverage

¶54: including those involving indigeneity

Reference 28 - 0.51% Coverage

¶56: archaeology comes into direct contact and conflict with governments and a range of interest groups

Reference 29 - 0.36% Coverage

¶56: notably the Aboriginal community, with a stake in material culture.

Reference 30 - 0.54% Coverage

¶58: notably between academic archaeologists, developers (the financial/administrative force) and the media.

<Internals\\IJHS 2001 abstracts> - § 28 references coded [12.57% Coverage]

Reference 1 - 0.14% Coverage

¶3: Conserving Colonial Heritage

Reference 2 - 0.18% Coverage

¶4: serving as a tool for nation building

Reference 3 - 0.50% Coverage

¶4: Policies about conservation and use are influenced by these alternative and often contested meanings

Reference 4 - 0.48% Coverage

¶4: Raffles Hotel illustrates the difficulties involved in managing and marketing colonial heritage

Reference 5 - 0.82% Coverage

¶10: Armed conflict destroys people and property but, for obvious reasons, human losses have received most attention, as have the ways in which we have commemorated them.

Reference 6 - 0.53% Coverage

¶11: Collective Amnesia and the Mediation of Painful Pasts: the representation of France in the Second World War

Reference 7 - 0.52% Coverage

¶12: the mediation of this difficult period in French history; a period that many would like to forget . . .

¶13:
Reference 8 - 0.15% Coverage

¶14: Confronting a Troubled History

Reference 9 - 1.49% Coverage

¶15: A major aspect of Ireland's history is the continual problems of a sectarian nature, yet the issue of 'the troubles' gets scant consideration in the permanent exhibitions mounted in Northern Ireland's museums, and is only beginning to emerge in more temporary exhibitions and statements about museums.

Reference 10 - 0.39% Coverage

¶15: the concept of using museums for exploring this history for a positive outcome

Reference 11 - 0.45% Coverage

¶15: It assesses the role that Northern Ireland's museums play in the current political context.

Reference 12 - 0.74% Coverage

¶15: It considers how attitudes are changing and how museum professionals are tentatively beginning to engage with political issues and enter into dialogue

Reference 13 - 0.40% Coverage

¶16: Heritage Noire: truth, history, and colonial anxiety in The Blair Witch Project

¶17:
Reference 14 - 0.04% Coverage

¶17: or nation

Reference 15 - 0.69% Coverage

¶17: The Blair Witch Project takes the same notion and subverts it, giving its chosen audience a dark and unsettling sense of its own history.

¶18:
References 16-20 - 1.99% Coverage

¶25: constructions of the political and religious traditions of the pre-colonial feudal Melakan Sultanate were presented as emblematic of the modern nation. The images of the Sultanate, of colonial rule and of Malaysian nationalism in Melaka's museums are analysed.The emphasis on

ethnic Malay heritage also indigenised that of other Melakan inhabitants, such as the Portuguese Eurasians or the Peranakan

Reference 21 - 0.27% Coverage

¶25: ignored that of the majority, later Chinese immigrants

Reference 22 - 0.70% Coverage

¶27: There are, however, certain potential conflicts of meaning and interpretation amongst the interested parties that have still to be resolved.

Reference 23 - 0.47% Coverage

¶27: The experience of Hong Kong provides an insight into the dynamics of the relationship between

Reference 24 - 0.33% Coverage

¶27: that are especially complex within the context of decolonisation.

Reference 25 - 0.20% Coverage

¶36: power and authority throughout society.

¶37:

Reference 26 - 0.25% Coverage

¶40: from sites associated with aboriginal (Khoi) people

Reference 27 - 0.59% Coverage

¶40: Debates surrounding the future of the island include its position within the multicultural heritage of theWestern Cape

Reference 28 - 0.25% Coverage

¶40: to what extent its message should be politicised.

<Internals\\IJHS 2002 Abstracts> - § 32 references coded [21.20% Coverage]

Reference 1 - 0.91% Coverage

¶6: , memory and heritage. Despite being Britain's leading fishing port in the 20th century, Hull's place-marketing strategy elided this past in favour of a sanitised vision of a modern, post-industrial city.

Reference 2 - 0.31% Coverage

¶6: this was deemed insufficient by local protest groups and politicians

Reference 3 - 0.39% Coverage

¶6: Eventually, the redevelopment proposals were accepted, but not before attendant debates

Reference 4 - 0.23% Coverage

¶6: and also the difficulties of negotiating inclusive

Reference 5 - 0.11% Coverage

¶15: The Contested Landscapes

Reference 6 - 0.61% Coverage

¶16: constitutes a further source of potential conflict which may have a wider relevance to other sites of a similar and indeed diverse nature

Reference 7 - 0.41% Coverage

¶16: the configurations of space and social relations occasioned by the processes of social change

Reference 8 - 0.74% Coverage

¶16: In doing so it elucidates the manner in which these processes are locally mediated in and through contested values over the meaning and purpose of nature conservation

Reference 9 - 0.61% Coverage

¶16: It argues that a sense of the forest as a place of cultural belonging has been marginalised in favour of its intrinsic ecological value.

Reference 10 - 0.82% Coverage

¶18: on the other hand, as the place-bound focus of nation-building projects, where the narratives of 'destiny' of nationalist mythology confront the serendipity of modern state boundaries

Reference 11 - 0.35% Coverage

¶18: one of which is rooted in the ideal of an inclusive democratic world citizenry

References 12-13 - 1.43% Coverage

¶18: whilst the other is tied to more exclusive notions of citizenship attached to membership of specific nation-states and riven by boundaries of ethnicity, religion, state and class. Taking the case of Cyprus, the paper examines the ways in which these discourses of the global and the national, of heritage and citizenship

Reference 14 - 0.42% Coverage

¶18: are mobilised by different groups as symbolic resources in the politics of this divided island.

Reference 15 - 0.16% Coverage

¶20: the promotion of 'national identity'

Reference 16 - 0.28% Coverage

¶20: provides the basis for a critique of the differing perspectives

Reference 17 - 0.33% Coverage

¶20: These various perspectives, on what is a contested 'national' heritage site

Reference 18 - 0.53% Coverage

¶20: In giving a voice to the local, the paper articulates the concerns of a declining but increasingly vocal resident group

Reference 19 - 0.34% Coverage

¶20: the conflicts between the presentation of this city to a greater francophonie

Reference 20 - 0.08% Coverage

¶22: The diversification

Reference 21 - 0.21% Coverage

¶28: ' Invicta Pax ' Monuments, Memorials and Peace:

Reference 22 - 2.71% Coverage

¶29: explores monuments to peace and peacekeeping, as distinct from monuments and memorials that commemorate the war dead. Two principal lines of enquiry are explored: the first examines whether it is possible to create secular monumental sculpture that promotes peace or espouses reconciliation. Secondly, the author asks whether monumental art is able to advocate peace without

relying on the frameworks or discourses of commemoration and remembrance. Through an initial examination of the differences between 'monuments' and 'memorials' the paper explores the iconography and discourses of peace and pacifism.

Reference 23 - 1.41% Coverage

¶29: a monument that was intended to mark forty years of international peacekeeping, but was unveiled in the same year that Canadian troops fought as part of a military coalition in the Middle East and were embroiled in a civil war in Africa. By comparing the Peacekeeping Monument with the nearby Canadian War Memorial

Reference 24 - 0.85% Coverage

¶35: That is, the extent to which the material remains of the past should be considered more as reactive cultural icons or more as proactive normative elements within the European civic tradition.

Reference 25 - 0.17% Coverage

¶37: Corporeal Politics and the Body Politic

Reference 26 - 0.69% Coverage

¶38: The initially simple metanarrative of a conflict between a proto-Métis-nation and an expansive proto-Canadian-state has been loaded with several discourses

Reference 27 - 0.08% Coverage

¶38: Aboriginal rights

Reference 28 - 0.09% Coverage

¶38: Western alienation;

Reference 29 - 0.09% Coverage

¶38: state-nationbuilding

Reference 30 - 0.66% Coverage

¶38: These may be discerned in the tensions permeating the commemoration of Riel's role in Canadian history at various sites throughout Canada over time.

Reference 31 - 0.74% Coverage

¶38: demonstrate the power of 'corporeal politics' as nationalizing-states approach the reconstruction of national eidolons, national chronicles, and national identities.

Reference 32 - 4.43% Coverage

¶42: Academics and practitioners alike know relatively little about the core competencies that are transferable from one heritage-area initiative to another. Often those new to the field have had to look to consultants or peers for advice regarding the essential core competencies needed to make their emerging organisations a success.This research surveyed the executive directors of the known universe of 154 heritage areas in the USA for the purposes of identifying the essential core skills they feel are needed to create and sustain a multi-jurisdictional heritage-tourism initiative. In addition, the importance-performance methodology employed in the survey instrument made it possible to assess their critical needs and priorities for training. Results of this study contributed to the design of the Heritage Development Institute, recently created to serve the executive staff of the nation's heritage areas at the College of Charleston on behalf of the Alliance of National Heritage Areas

<Internals\\IJHS 2003 Abstracts> - § 34 references coded [22.03% Coverage]

Reference 1 - 0.22% Coverage

¶4: the politics of heritage in Hong Kong

¶5:

Reference 2 - 0.47% Coverage

¶5: especially with the self-awareness of indigenous identity among local inhabitants

Reference 3 - 0.61% Coverage

¶5: examine the emergence of Hong Kong Heritage and how its establishment reflects the relationships interwoven

Reference 4 - 0.33% Coverage

¶5: between the indigenous inhabitants of the New Territories

Reference 5 - 0.14% Coverage

¶5: and Hong Kong government

Reference 6 - 0.85% Coverage

¶5: I will focus on several episodes collected in Ping Shan, where Hong Kong's first heritage trail is located, to explore the socio-political meanings

Reference 7 - 0.22% Coverage

¶5: into a political arena of heritage.

¶6:
Reference 8 - 0.29% Coverage

¶7: Singapore's multiculturalism is an important theme

Reference 9 - 0.37% Coverage

¶7: the manner in which ethnicity is depicted in promotional material

Reference 10 - 0.27% Coverage

¶7: the forces shaping the decision-making process.

Reference 11 - 0.48% Coverage

¶7: The nature of Peranakan culture, a unique synthesis of Chinese and Malay influences

Reference 12 - 0.92% Coverage

¶7: State authorities are seen to exercise considerable power, making use of tourism images to reinforce political ideologies through the communication of messages

References 13-14 - 0.72% Coverage

¶7: Insights are thus offered into the relationship between tourism and ethnic heritage in plural societies and its management.

¶8:
Reference 15 - 1.41% Coverage

¶9: Prisons play an important role in the Australian psyche. As places in which the lawless element of society is incarcerated they possess a resonance that harks back to the stereotyped and mythologised convict foundations of the Australian nation.

Reference 16 - 0.32% Coverage

¶9: The role of the historian and archaeologist is examined

Reference 17 - 0.43% Coverage

¶11: the processes of its management and the role of expertise within management

Reference 18 - 0.61% Coverage

¶11: It argues that the development of a management process that is meaningfully inclusive at a community level

Reference 19 - 0.55% Coverage

¶11: are themselves open to management and regulation. Subsequently, an inclusive management process

Reference 20 - 0.48% Coverage

¶11: requires a self-conscious evaluation of the role of heritage managers in the process

Reference 21 - 1.10% Coverage

¶16: Threats can be identified in the forms of functional and image obsolescence1 and are most evident in postcolonial territories where the notion of image obsolescence is particularly contentious

Reference 22 - 1.42% Coverage

¶16: Ongoing empirical studies of postcolonial initiatives described in this paper will also constitute a paradigm for research on the threat of obsolescence to properties and sites in those countries from which the colonial policing heritage emanated.

Reference 23 - 1.53% Coverage

¶18: It thus provides the basis for the emergence of a sense of 'European-ness' that is not a copy of nationalist forms but which allows us to take into account the complexity of historical pasts and the many forms of human interaction involved in the historical process.

Reference 24 - 0.44% Coverage

¶22: increasing the tensions between the history and heritage of British motoring

Reference 25 - 0.40% Coverage

¶25: by considering the interaction between migration, tourism and heritage

Reference 26 - 1.55% Coverage

¶25: Through research in three different locations on the island, it is suggested that, contrary to the common public perception that migrants operate in a destructive way towards the spatial, social and economic environments, they actually contribute to their revitalisation

Reference 27 - 0.21% Coverage

¶26: Heritage Interpretation and Politics

Reference 28 - 2.26% Coverage

¶27: Kfar Etzion is a Kibbutz first established in Palestine in the 1930s. At the end of the British Mandate, in 1948, it became a de facto Israeli military outpost that controlled access to Jerusalem from the south. Kfar Etzion fell to Arab forces in 1948 and the area became Jordanian territory until 1967 when Israeli forces occupied the West Bank. Kfar Etzion was re-established in the same year

Reference 29 - 0.88% Coverage

¶27: to show that Bloc and Israeli perspectives are conflated for political purposes. The battle for the Bloc continues through the interpretation of heritage.

Reference 30 - 0.14% Coverage

¶29: 'heritage and legitimacy'

Reference 31 - 0.55% Coverage

¶29: an object used as a political tool. From its conception as the former Japanese colonial building

Reference 32 - 0.20% Coverage

¶30: A Vision of Progress and Nostalgia

Reference 33 - 0.51% Coverage

¶31: developing senses of nation, and the need to recognise, in monumental forms, a Golden Age

Reference 34 - 1.15% Coverage

¶36: For maritime heritage, it is suggested that this approach may pose difficulties in that it can serve to promote a romanticised and sometimes uncritical perspective of British associations with the sea.

<Internals\\IJHS 2004 Abstracts> - § 24 references coded [12.37% Coverage]

Reference 1 - 1.06% Coverage

¶3: Debates about the socially inclusionary potential of heritage have to date focused principally on heritage sites and museums. Relatively little attention has been paid to the wider Cultural Built Heritage (CBH) that surrounds us in our everyday lives

Reference 2 - 0.08% Coverage

¶5: and social inclusion

Reference 3 - 0.29% Coverage

¶6: the Concept of the Socially Inclusive Museum in Contemporary Britain

Reference 4 - 1.06% Coverage

¶7: It is proposed that recognition of the respective ideological and historical contexts of these different discourses will help us to understand some of the recent confusion and disagreement over the nature and merits of the 'socially inclusive museum'

Reference 5 - 0.07% Coverage

¶8: Social Inclusion

Reference 6 - 0.30% Coverage

¶9: have not addressed the needs and aspirations of ethnic minority groups

Reference 7 - 0.08% Coverage

¶9: thus marginalising

Reference 8 - 0.45% Coverage

¶9: The Bangladeshi (Bengalee) community is the largest minority group in the London Borough of Tower Hamlets,

Reference 9 - 0.23% Coverage

¶11: a more socially inclusive form of cultural institution

Reference 10 - 0.65% Coverage

¶11: in particular the need to involve local communities and make museums more democratic. The ecomuseum has the potential to be a socially inclusive mechanism

Reference 11 - 0.15% Coverage

¶13: Setting Moon and Rising Nationalism

Reference 12 - 0.35% Coverage

¶14: With the opening of Sino-Japanese diplomacy in the 1970s, the Chinese authorities

Reference 13 - 1.23% Coverage

¶14: as a site of Chinese indignation over Japan's perceived refusal to take responsibility for its wartime aggression. This point was driven home most forcefully through the construction of the Anti-Japanese War Memorial Hall in 1985, and the continuing use of the site as a tool of diplomacy

Reference 14 - 0.80% Coverage

¶14: Lugou Bridge, therefore, serves to demonstrate how political authority and cultural nationalism are constructed through the continuing appropriation of monumental artefacts and traditions.

Reference 15 - 0.60% Coverage

¶16: lies in articulating the pastoral image conjured up by the term in a manner that does not belie complex issues of land ownership, varied use,

Reference 16 - 0.43% Coverage

¶20: the tension between the individual autonomy of institutions and a state-imposed umbrella organisation

Reference 17 - 0.59% Coverage

¶23: In all cases heritage constitutes a recessive if not contentious issue among the priorities of base reuse in now post-colonial environments.

Reference 18 - 0.61% Coverage

¶29: The current framework of heritage management also hinders practitioners from exploring, conserving, presenting and challenging these constructs

Reference 19 - 0.35% Coverage

¶29: calls for the development of integrated and inclusive heritage-management practice

Reference 20 - 0.80% Coverage

¶31: relating especially to the period of political imprisonment between 1961 and 1991 when Robben Island was most notorious as a political prison for the leaders of the anti-apartheid struggle.

Reference 21 - 0.18% Coverage

¶42: Privatisation of Italian Cultural Heritage

Reference 22 - 0.51% Coverage

¶43: Currently, this case is not only a source of division in Italian politics but is also the subject of heated public debate

Reference 23 - 0.62% Coverage

¶43: It highlights crucial social and cultural problems relating to global privatisation that the world community will have to face in the coming years.

Reference 24 - 0.86% Coverage

¶53: By tracing the development of the walks and their accompanying interpretive brochures, the article identifies and discusses a number of emergent key issues relating to social class, gender and ethnicity.

<Internals\\IJHS 2005 Abstracts> - § 58 references coded [24.32% Coverage]

Reference 1 - 0.32% Coverage

¶3: the culture of natural heritage—northern perspectives on a contested patrimony

¶4:

Reference 2 - 1.18% Coverage

¶5: Around 1900 an increasing role was played by nationalistic motives. The National Parks were supposed to preserve and display the essential quality of Swedish nature. Biology and geology, the theory of evolution and the glaciation theory played a major role in emphasising these new national symbols.

Reference 3 - 0.36% Coverage

¶6: Regional cultural heritage versus national heritage in Scania's disputed national landscape

Reference 4 - 0.25% Coverage

¶7: that the national ideology during the last century has promoted

Reference 5 - 0.44% Coverage

¶9: The focus on the detailed analysis of the controversies about the ‘Schleswig-Holstein Wadden Sea’ National Park

Reference 6 - 0.24% Coverage

¶9: highlights the political dimension of conservation strategies

Reference 7 - 0.43% Coverage

¶9: Once a form of political organisation and practice in Northern Friesland, the concept of political landscape

Reference 8 - 0.35% Coverage

¶9: offers new perspectives on conflicts between local population and nature conservation.

¶10:
Reference 9 - 0.37% Coverage

¶11: at a national scale. Key questions are how the image of Estonianness creates national heritage

Reference 10 - 0.09% Coverage

¶11: out of diverse legacies

Reference 11 - 0.49% Coverage

¶11: The area encompasses all that is considered non-Estonian, but nevertheless reflects the history and geography of the country

Reference 12 - 0.17% Coverage

¶19: The politics of area conservation in Cairo

Reference 13 - 0.62% Coverage

¶20: In these processes it is the political dimension that is the most influential in the decision-making affecting the proposed urban changes in historic Cairo.

Reference 14 - 1.51% Coverage

¶22: This paper uses the example of the 'transformation' in the South African heritage sector that came with the end of apartheid as a means to raise areas of concern that have resonance for Northern Ireland. It shows that for both Northern Ireland and South Africa it is important to think further about the impact of display, the power dynamics embedded in the construction of heritage

Reference 15 - 0.36% Coverage

¶22: the complexity of building a shared narrative from a contested past.

¶23: Discordant landscapes

Reference 16 - 0.17% Coverage

¶24: their representation of a social consensus

Reference 17 - 0.10% Coverage

¶24: often result from conflict

Reference 18 - 0.16% Coverage

¶24: a concrete expression—of this discordance

Reference 19 - 0.76% Coverage

¶29: This study deals with the case of Singapore’s Asian Civilisations Museum and the manner in which it is used to promote nation building in a multi-ethnic and relatively newly independent state.

Reference 20 - 0.31% Coverage

¶30: Rethinking Ainu Heritage: A Case Study of an Ainu Settlement in Hokkaido, Japan

Reference 21 - 0.89% Coverage

¶31: With the colonisation of Hokkaido since the Meiji era, Western technologies were introduced to Japan, but the indigenous inhabitants'—the Ainu people's—ways of life were negatively affected because of the assimilation policy.

Reference 22 - 0.41% Coverage

¶31: Lake Akan was not exceptional. In this paper, the historic development of an Ainu settlement is explained

Reference 23 - 0.16% Coverage

¶31: the contested meanings of Ainu traditions

Reference 24 - 1.46% Coverage

¶31: With the focus on the Ainu settlement at Lake Akan, the paper looks closely into the changing indigenous living environments and relevant activities held during the last several decades in order to discern how Ainu heritage has been preserved and promoted as well as the social transformation that Ainu people have undergone in the face of globalising Japanese society.

Reference 25 - 0.09% Coverage

¶36: The Politics of the Past

Reference 26 - 0.09% Coverage

¶36: Constructing a National

Reference 27 - 0.32% Coverage

¶37: Modern nation-states use images of a chosen past to construct a national identity

Reference 28 - 0.11% Coverage

¶37: Academics and professionals

Reference 29 - 0.68% Coverage

¶37: and the living society, alarmed at the deteriorating container quality of the city, caused by this Politics of the Past, are coming forward to prevent this disinheritance.

Reference 30 - 0.08% Coverage

¶37: and social disharmony

Reference 31 - 0.34% Coverage

¶37: have turned the Politics of the Past in Vilnius into an instructive heritage discourse

Reference 32 - 0.11% Coverage

¶37: which is further diversified

Reference 33 - 0.66% Coverage

¶42: The research attempts to understand the mechanisms, rationales, internal and external forces, actors, experts, and power networks that privileged a particular discourse

Reference 34 - 0.27% Coverage

¶44: this necessarily entails the exploration of issues such as ownership

Reference 35 - 0.06% Coverage

¶44: power, knowledge

Reference 36 - 0.34% Coverage

¶45: A Polluting Concept of Culture: Native Artefacts Contaminated with Toxic Preservatives

Reference 37 - 0.16% Coverage

¶46: to preserve native artefacts and regalia

Reference 38 - 0.56% Coverage

¶46: These conservation practices, dating to the late 19th and early 20th centuries, were undertaken before the age of museum professionalisation

Reference 39 - 0.20% Coverage

¶46: within a larger context of cultural assimilation.

Reference 40 - 0.55% Coverage

¶46: Many of these chemical preservatives produce the same harmful effects in humans as they do in the organisms they were designed to eradicate.

Reference 41 - 1.00% Coverage

¶46: As these contaminated artefacts are repatriated, members of native communities who attempt to reintegrate them into ceremonial and daily practice are put at significant health risk. Not only do these pollutants undermine the stated goals of repatriation

Reference 42 - 0.71% Coverage

¶46: they also stand as a literal instance of the way in which a hegemonic and interpreting culture has metaphorically contaminated the culture it has purported to preserve and display.

Reference 43 - 0.18% Coverage

¶53: always in dialogue with more official modes,

Reference 44 - 0.15% Coverage

¶55: This account of the everyday politics

Reference 45 - 0.20% Coverage

¶55: the interests and participation of multiple publics

Reference 46 - 0.23% Coverage

¶55: in the production of sites of national cultural identities

Reference 47 - 1.07% Coverage

¶55: For decades, Maya residents in and around Chichén Itzá have been employed in the site's excavation, maintenance, and protection. For these indigenous heritage workers, patrimonial claims to the site are based not on the monuments themselves but on inherited job positions.

Reference 48 - 0.43% Coverage

¶55: The transformation of these workers into a local elite has occasioned contentious broader community politics

Reference 49 - 0.39% Coverage

¶55: other local residents advocate opening the site's benefit stream to a wider group of stakeholders.

Reference 50 - 0.40% Coverage

¶55: This case study thus addresses the role played by heritage workers in the micro-politics of patrimony

Reference 51 - 0.23% Coverage

¶58: Heritage and its Discontents at an Industrial History Site

Reference 52 - 0.86% Coverage

¶59: article suggests that a public interest approach to research at such sites has the potential to capitalise on that porosity in ways that may be able to address anthropology's traditional concerns with social inequality

Reference 53 - 0.14% Coverage

¶59: patterns of exclusion and exoticism

Reference 54 - 0.33% Coverage

¶59: By participating more actively in forums already populated by heritage professionals

Reference 55 - 0.32% Coverage

¶59: convening new and more inclusive meeting grounds for discussion of heritage issues

Reference 56 - 0.14% Coverage

¶60: Writing Culture and Righting Wrongs

Reference 57 - 0.30% Coverage

¶61: growing tensions over whose narrative should predominate at heritage sites,

Reference 58 - 1.05% Coverage

¶61: the complex social dynamics surrounding these sites, but this more engaged approach also offers promise for finding the common ground necessary for constructive dialogue between the varied stakeholders and for ameliorating social inequalities at these heritage sites.

<Internals\\IJHS 2006 Abstracts> - § 36 references coded [11.78% Coverage]

Reference 1 - 0.27% Coverage

¶4: Undesirable Heritage: Fascist Material Culture and Historical Consciousness in Nuremberg

Reference 2 - 1.47% Coverage

¶5: focusing on an empirical case of 'undesirable heritage', that is, a heritage that the majority of the population would prefer not to have. The case is that of the Nazi or fascist past in Germany, with specific reference to the former Nazi Party rally grounds in Nuremberg. By looking at some aspects of the ways in which this vast site of Nazi marching grounds and fascist buildings has been dealt with post-war, the article seeks to show both the struggle with the materiality of the site

Reference 3 - 0.30% Coverage

¶9: provides the mechanism through which participants and visitors mitigate their experience of exclusion

Reference 4 - 0.23% Coverage

¶13: Using a model which separates the poetics from the politics of representation

Reference 5 - 0.52% Coverage

¶16: Centuries of European imperial domination have left a mark on their townscapes and, more so in some cases than in others, on their contemporary political and social cultures

Reference 6 - 0.68% Coverage

¶16: During the colonial period, the integration of these port cities into global trade networks also fostered inter- and intra-regional migration and, thus, the development of complex cultural mixes in their demographic composition

Reference 7 - 0.85% Coverage

¶16: In recent decades, and following the attainment of political independence, this region has experienced spectacular economic growth and the development of a range of nationalisms, both of which have had a considerable impact on the recent transformation of their (capital) cityscapes

Reference 8 - 0.28% Coverage

¶20: This article brings these two concerns together through an examination of two heritage-scapes

Reference 9 - 0.65% Coverage

¶20: . It suggests that the commercial construction of heritage as branding provided a vehicle for a powerful corporate capitalist narrative in the post-apartheid rhetorical contestation over a desired path for the future

References 10-11 - 0.57% Coverage

¶20: It also suggests that dissonance within and between these corporate visitors' centres mirrored a wider uncertainty over the meaning of national identity in early post-apartheid South Africa.

Reference 12 - 0.10% Coverage

¶21: Commemorating 'Struggle Heroes':

Reference 13 - 0.17% Coverage

¶22: especially the heritage of those previously marginalised

Reference 14 - 0.05% Coverage

¶22: and as a nation

Reference 15 - 0.54% Coverage

¶24: The paper concludes by examining the adequacy of Stebbins's P-A-P system for analysing the power relations between museum professionals and volunteers in the museum social world.

¶25:
Reference 16 - 0.30% Coverage

¶26: ‘Working of the Train Gang’: Alienation, Liminality and Communitas in the UK Preserved Railway Sector

Reference 17 - 0.19% Coverage

¶28: The Dissonant Heritage of European Town Walls and Walled Towns

Reference 18 - 0.20% Coverage

¶29: Town walls can be conceptualised as a ‘dissonant’ form of heritage

Reference 19 - 0.10% Coverage

¶29: between different interest groups

Reference 20 - 0.27% Coverage

¶29: the varying attitudes of populations and heritage agencies to walled heritage are reviewed

Reference 21 - 0.16% Coverage

¶29: Areas of commonality and contrast are thus identified.

Reference 22 - 0.14% Coverage

¶31: involves deep political and social processes

Reference 23 - 0.15% Coverage

¶41: That Impulse that Bids a People to Honour its Past

Reference 24 - 0.62% Coverage

¶42: The success of the Great Exhibition prompted other countries to try and replicate it, most notably the USA, which was able to bring together a strong nationalist dimension with an opportunity to make money

Reference 25 - 0.34% Coverage

¶42: in locality, region and nation despite growing competition from the major international sporting championships.

¶43:
Reference 26 - 0.18% Coverage

¶45: They are the fruit of a populist vision of national history

Reference 27 - 0.19% Coverage

¶45: which celebrates white rural settlement as its central theme.

Reference 28 - 0.16% Coverage

¶45: modern professional standards of heritage management

Reference 29 - 0.05% Coverage

¶46: Social Inclusion

¶47:
Reference 30 - 0.20% Coverage

¶47: the paper argues we may reveal competing and conflicting discourses

References 31-32 - 0.32% Coverage

¶47: the power relations that underpin the power/knowledge relations between expertise and community interests

Reference 33 - 0.27% Coverage

¶47: This identification presents an opportunity for the resolution of conflicts and ambiguities

Reference 34 - 0.18% Coverage

¶47: in the pursuit of equitable dialogues and social inclusion.

Reference 35 - 0.61% Coverage

¶61: the author discusses the ways in which dress (in general), and the wearing of kanga fabrics in particular, offers women a means of communication in an image conscious and historically stratified society

Reference 36 - 0.47% Coverage

¶73: and argues that many interesting aspects have been overlooked in an effort to produce a heritage designed to appeal to a relatively privileged constituency.

<Internals\\IJHS 2007 Abstracts> - § 45 references coded [16.18% Coverage]

Reference 1 - 0.82% Coverage

¶6: Invariably, however, the figure of ‘Peace’ had a more modest role in the allegory of commemoration than that of ‘Victory’ or ‘Triumph’. As an ideal, peace and pacifism is more often regarded as a process, a long-term goal that cannot be captured in single static form.

Reference 2 - 0.19% Coverage

¶6: Peace has also been promoted through slow, evolutionary forms

Reference 3 - 0.50% Coverage

¶6: set within the political climate of the Cold War of the 1980s, but both were born out of grand visions for world peace, multilateral disarmament, and global accord

Reference 4 - 0.03% Coverage

¶6: heritage.

¶7:

Reference 5 - 0.21% Coverage

¶8: alongside visitors’ perception that a cathedral is public territory.

Reference 6 - 0.32% Coverage

¶11: War Memorialisation and Public Heritage in Southeast Asia: Some Case Studies and Comparative Reflections

Reference 7 - 0.56% Coverage

¶12: The Second World War has been the object of considerable attention in 2005, with the Western Allies revisiting their experiences and building upon their processes of memorialisation.

Reference 8 - 0.29% Coverage

¶12: to examine the ways in which these countries have sought to commemorate war in the 20th century

Reference 9 - 0.20% Coverage

¶12: The contemporary political driving forces behind these approaches

Reference 10 - 0.37% Coverage

¶12: provided a central role for heritage in the formulation of more complex histories of war and its legacies in the region.

Reference 11 - 0.25% Coverage

¶15: Consequently, the ability of any ecomuseum to be a truly democratic organisation

Reference 12 - 0.38% Coverage

¶17: The mnemonic and didactic potential of monuments is used by elites in order to build a consensual understanding of the past

Reference 13 - 0.15% Coverage

¶17: to legitimate claims to authority and privilege.

Reference 14 - 0.29% Coverage

¶19: These different levels of conservation authority can sometimes lead to conflicting approaches

Reference 15 - 0.37% Coverage

¶19: as well as organised initiatives by the voluntary sector in the light of post-socialism and associated cultural change.

¶20:

Reference 16 - 0.03% Coverage

¶30: Communism,

Reference 17 - 0.20% Coverage

¶31: This study examines the linkages which connect Communism, heritage

Reference 18 - 0.49% Coverage

¶31: which are governed by Communist regimes or have recent experience of Communist rule. Aspects of the heritage of Communism are seen to be of interest to tourists

Reference 19 - 0.25% Coverage

¶31: illustrate how tourism can be employed as a hegemonic tool and propaganda vehicle

Reference 20 - 0.14% Coverage

¶31: Heritage, including that of Communism itself

Reference 21 - 0.38% Coverage

¶31: where the defining characteristics of government give rise to a distinctive relationship between political systems, heritage

Reference 22 - 0.08% Coverage

¶36: Internment in the Desert:

Reference 23 - 0.12% Coverage

¶37: On National Heritage, Grand Narratives

Reference 24 - 0.06% Coverage

¶37: the Story of Canada

¶38:
Reference 25 - 0.36% Coverage

¶41: The Mediterranean is simply treated as the most diverse area of Europe both in terms of natural and cultural heritage.

Reference 26 - 0.45% Coverage

¶49: The development of a nature-conservation culture is seen as a manifestation of certain parts of society who form non-governmental organisations.

Reference 27 - 1.13% Coverage

¶51: The long-standing rift between the biological and social sciences has done much to shape how nature conservation and the conservation of cultural heritage are practised today. In the field of protected areas, fundamental differences in outlook have contributed to an unproductive atmosphere in which seemingly endless rounds of criticisms are traded among disciplines

Reference 28 - 1.01% Coverage

¶51: This will require seeking out common ethical foundations and terms of reference, and calls for a serious commitment to promoting interdisciplinary research and facilitating the work of interdisciplinary teams to perform it. The result—integrated natural and cultural heritage conservation—has the potential to be more effective.

¶52:
Reference 29 - 0.34% Coverage

¶57: Can we ensure an adequate specialist training within a holistic framework which balances science and the arts?

Reference 30 - 0.13% Coverage

¶58: Biological Diversity and Cultural Diversity

Reference 31 - 0.33% Coverage

¶59: Much older in concept is cultural diversity. These two diversities are now meeting each other in many ways

Reference 32 - 0.79% Coverage

¶59: And both diversities are recognised, explicitly and implicitly, as part of the global heritage of humankind, with the attendant responsibilities that flow from that. In this paper we show the extent to which the two diversities are mutually self-supporting

Reference 33 - 0.24% Coverage

¶59: are also now promoting new ways of viewing interaction between the diversities

Reference 34 - 0.26% Coverage

¶66: Symbolic Reparation, Heritage and Political Transition in South Africa's Eastern Cape

Reference 35 - 0.46% Coverage

¶67: first examines the Truth and Reconciliation Commission's recommendation of symbolic reparation for apartheid, and its effect on South African heritage

Reference 36 - 0.31% Coverage

¶67: Second, it considers the relationship between public history and civic nation building in South Africa

Reference 37 - 0.26% Coverage

¶67: as well as problems in trying to develop an inclusive public history through museums

Reference 38 - 0.64% Coverage

¶67: Case studies drawn from Grahamstown and Mthatha in the Eastern Cape are explored as examples of the redevelopment of the old and establishment of the new public history as part of the negotiated transition.

¶68:
Reference 39 - 0.60% Coverage

¶69: In order for all citizens to fully belong to a nation or a community, they must have membership in that society's institutions, systems and social relations on both the formal and everyday levels.

Reference 40 - 0.31% Coverage

¶69: Heritage sites are public institutions of formal cultural presentation and informal social encounters

Reference 41 - 0.38% Coverage

¶69: But in a country such as Canada where global economics and popular culture combine with an unprecedented influx of immigrants

Reference 42 - 0.38% Coverage

¶69: describes how this institution is adapting to changes in imaginings about citizenship, on both the formal and informal level.

Reference 43 - 0.65% Coverage

¶69: It looks at how NHS is expanding the involvement of all citizens in the why, what, how and to whom of heritage presentation, evolving its practices to include ethic minorities in its imaginings of Canadianness.

Reference 44 - 0.37% Coverage

¶69: the paper considers how historic sites, as formal instruments of the state, can be re-tuned as informal sites of discourse

Reference 45 - 0.09% Coverage

¶69: citizenship and belonging.

¶70:
<Internals\\IJHS 2008 Abstracts> - § 44 references coded [18.24% Coverage]

Reference 1 - 1.45% Coverage

¶11: However, a cage is still a cage. There is a fundamental problem in captivity that defies aesthetic transformation. Clarity about captivity is essential to the humane transformation of zoos, and related institutions like museums, too. But can we still see captivity clearly for what it is? The multifaceted deployment of the metaphor of 'the zoo' by the media during the initial stages of the Iraq War suggests that such clarity is difficult to achieve, and perhaps becoming more so.

Reference 2 - 0.55% Coverage

¶13: In conclusion we question whether the rhetoric of conservation is always more than an attempt to jump on the 'Green' bandwagon in order to gain additional public support and legitimacy

References 3-4 - 1.07% Coverage

¶20: provides a unique opportunity to underscore the complex system of interdependence between Africans and Europeans in America. The dominant analysis and public discourse concerning antebellum plantations as national heritage sites, however, provides one perspective—primarily focusing exclusively on life as experienced by plantation owners and their families

Reference 5 - 0.14% Coverage

¶20: majority African communities go unrepresented

Reference 6 - 0.57% Coverage

¶20: This article breaks new ground in giving primacy to the labour, ingenuity, and expertise of enslaved African people and the role they played in construction and preservation of an ecosystem

Reference 7 - 0.17% Coverage

¶44: Managing Urban Ethnic Heritage: Little India in Singapore

Reference 8 - 0.82% Coverage

¶45: Historic urban ethnic enclaves are complex entities that serve multiple purposes and are used in various ways by different groups. This paper deals with the case of Little India in Singapore and examines the relationships, processes and underlying dynamics that are at work

Reference 9 - 0.31% Coverage

¶45: in which citizens, migrant workers, tourists, government agencies and private business all have a stake.

Reference 10 - 0.37% Coverage

¶45: however, generate conflicts and expose fundamental tensions between pressures for change and for preservation and continuity

Reference 11 - 0.08% Coverage

¶46: War Memorials and Memories:

Reference 12 - 1.01% Coverage

¶47: This paper draws from international relations, comparative politics, and Asian Studies in an effort to compare war memorials and memories in the Philippines and South Korea. The analysis begins with a description of how memorials in both countries pursue a conventional narrative of glorious victories, heroic defeats, and sacred ground

References 13-14 - 0.60% Coverage

¶47: The focus then shifts to counter-narratives that have challenged the USA and American General Douglas MacArthur. The comparisons reveal a desire for sovereignty in both the Philippines and South Korea

Reference 15 - 0.53% Coverage

¶47: but also differences in heritage and geopolitical circumstances that shape relations with the USA. South Korea possesses an older and more warlike birthright than the Philippines

Reference 16 - 0.22% Coverage

¶47: has developed a national identity increasingly separate from North Korea

Reference 17 - 0.21% Coverage

¶47: Filipino memories, conversely, are steeped in Catholic spirituality.

¶48:
Reference 18 - 1.27% Coverage

¶49: This attention has been stimulated by the continued importance of local history as a popular cultural activity, in parallel with, paradoxically, a relatively recent decline in academic teaching provision in the subject. The reflection on the characteristics and role of local history has yielded searching consideration of its relationship with the pursuit of history more broadly, most especially in the academic discipline

Reference 19 - 0.08% Coverage

¶55: Selling Conflict Heritage

References 20-21 - 1.48% Coverage

¶55: Transforming Conflict or Exacerbating Difference?

¶56: The paramilitary ceasefires in 1994 and the ensuing peace negotiations brought to a close some three decades of ethno-nationalist violence in Northern Ireland. The conflict, colloquially termed the Troubles, cost almost 3,700 lives, and bequeathed both a tangible and intangible heritage of division and hurt. This paper considers the commodification of physical conflict ‘heritage’ such as military installations, memorials and street murals

Reference 22 - 0.18% Coverage

¶56: as vehicles through which to propagate political perspectives

Reference 23 - 2.16% Coverage

¶57: Tragedy: The Memorial at Belzec, Poland

¶58: In 1942, within in a period of 10 months, 500,000 people were systematically murdered in a specially built death camp at Belzec, Poland. When it had served its purpose the Nazis demolished it, and to hide its existence, grassed the site over, allowing the atrocities performed there to remain virtually hidden from public view for over 60 years. In 2004 an important new Holocaust memorial, covering the whole death camp area, was opened. Visually striking, this conceptual art/architectural artwork affectively elicits strong visitor responses. I explore ways in which the materiality of the reconfigured site makes the invisibility of such horror and collective loss paramount.

Reference 24 - 0.42% Coverage

¶58: This paper locates Belzec within its historical context and includes a related discussion about Polish–Jewish relationships up to the present

Reference 25 - 0.63% Coverage

¶60: Malta is particularly significant in that it both substantially epitomises evolving postcolonial trajectories and uniquely reflects a pan-European historical identity, befitting its recent accession to the EU.

¶61:
Reference 26 - 0.05% Coverage

¶64: Indigenous Places

Reference 27 - 0.06% Coverage

¶64: Colonial Heritage

¶65:
Reference 28 - 0.16% Coverage

¶65: the Musée Gauguin Tahiti as a problematic counterpoint

Reference 29 - 0.21% Coverage

¶65: Considering Gauguin’s complex relationship to French colonial history

Reference 30 - 0.31% Coverage

¶65: has the potential to include indigenous communities in its display practices, programming and management

Reference 31 - 0.11% Coverage

¶65: (especially indigenous) communities.

¶66:
Reference 32 - 0.14% Coverage

¶66: Communal Violence in Post-independence India

¶67:
Reference 33 - 0.23% Coverage

¶67: significantly contributed to communal violence in post-Independence India.

Reference 34 - 0.31% Coverage

¶67: The essay investigates several legacies handed down from the colonial ASI to the post-Independence ASI

Reference 35 - 0.26% Coverage

¶67: with a goal of explaining the contribution of archaeology to the ongoing disturbances

Reference 36 - 0.08% Coverage

¶67: at Ayodhyā in Uttar Pradesh

Reference 37 - 0.18% Coverage

¶67: that privileged specific holy sites in the post-Partition era

References 38-39 - 0.36% Coverage

¶67: sustaining the violent disagreements between Hindu and Islamic populations of India and Pakistan.

¶68: Post-conflict Heritage

Reference 40 - 0.07% Coverage

¶68: The Burden of Angkor

¶69:
Reference 41 - 0.29% Coverage

¶69: The challenges arising from the intense convergence of these two paradoxical and unstable agendas

Reference 42 - 0.97% Coverage

¶69: This paper explores the critical trends that have surfaced at Angkor and why the challenges posed by surging tourism have been inadequately addressed. It argues Angkor's dominant role within Cambodia's post-conflict heritage and tourism industries requires closer, more critical attention given recent events in the country

Reference 43 - 0.07% Coverage

¶69: Post-conflict Heritage

Reference 44 - 0.07% Coverage

¶71: the purposes it serves

<Internals\\IJHS 2009 Abstracts> - § 58 references coded [17.42% Coverage]

Reference 1 - 0.06% Coverage

¶4: an Asia heritage site

Reference 2 - 0.03% Coverage

¶6: diversity

Reference 3 - 0.23% Coverage

¶7: Resonant Materiality and Violent Remembering: Archaeology, Memory and Bombing

Reference 4 - 0.16% Coverage

¶8: As an affective and challenging archaeology-from-below

Reference 5 - 0.09% Coverage

¶8: amidst the violence of warfare

Reference 6 - 0.19% Coverage

¶8: the contrast between bottom-up and top-down views of the world

Reference 7 - 0.37% Coverage

¶8: suggest a valuable application for this technique in the discourses of memory and bombing in contemporary German society.

¶9:

Reference 8 - 0.56% Coverage

¶10: This paper challenges current perspectives on Hong Kong heritage that are based predominantly on a dichotomous juxtaposition of traditional Chineseness vis-à-vis post-colonial romanticism

Reference 9 - 0.13% Coverage

¶10: using a participatory approach is proposed.

Reference 10 - 0.53% Coverage

¶20: This paper starts from the premise that an interest in heritage and the roots of cultural traditions is not the exclusive concern of archaeologists, historians or folklorists.

Reference 11 - 0.15% Coverage

¶20: which may differ from that of professional groups

Reference 12 - 0.28% Coverage

¶20: this cultural criteria needs to come into the mainstream of heritage assessment and discourse.

Reference 13 - 1.04% Coverage

¶28: Drawn into a discussion of emotional environs, this paper offers up an emotional geography of the social and sensory relations that define a group's heritage and traditional homelands. It focuses on the homelands and heritage of the Yanyuwa, the Indigenous owners of land and waters throughout the southwest Gulf of Carpentaria, northern Australia

Reference 14 - 0.34% Coverage

¶34: However, since the change of sovereignty in 1997, heritage conservation has become one of the most popular issues

Reference 15 - 0.21% Coverage

¶36: History in Two Dimensions or Three? Working Class Responses to History

References 16-18 - 1.07% Coverage

¶37: has been underestimated, particularly in the case of the industrial poor. This paper considers reasons for this underestimation, and suggests that these groups may also have higher and more wide-ranging expectations of history than intellectuals do. It suggests these 'emotional' uses of history, rather than being inferior to academic history, may be richer

Reference 19 - 0.25% Coverage

¶37: the two-dimensional historical experience of the researcher or museums professional.

Reference 20 - 0.10% Coverage

¶38: Contested Trans-national Heritage:

Reference 21 - 0.11% Coverage

¶39: in the face of considerable opposition

Reference 22 - 0.40% Coverage

¶39: from the Australian government because of the prison's association with the captivity of prisoners of war during the Second World War

Reference 23 - 0.16% Coverage

¶39: by the lack of a shared history surrounding Changi;

Reference 24 - 0.10% Coverage

¶42: Regulating Ownership and Land Use

Reference 25 - 0.30% Coverage

¶43: Such an analysis illustrates that the listing imposes significant restraints on land use and ownership

Reference 26 - 0.16% Coverage

¶43: There is a consideration of the concept of 'ownership'

Reference 27 - 0.18% Coverage

¶43: in the setting of a post-conflict Southeast Asian nation.

¶44:
Reference 28 - 0.24% Coverage

¶44: Problematising Cultural Representations of Aboriginal Peoples in Banff, Canada

¶45:
Reference 29 - 0.21% Coverage

¶45: Aboriginal peoples at the Buffalo Nations/Luxton Museum in Banff, Canada

Reference 30 - 0.39% Coverage

¶45: Using interviews, newspaper articles and analyses of the exhibits, I problematise the museum's representations of Aboriginal peoples

Reference 31 - 0.40% Coverage

¶45: by focusing on the challenges associated with navigating regional power relations while participating in forms of capitalist exchange

Reference 32 - 0.89% Coverage

¶45: This paper puts cultural representations of Aboriginal peoples into socio-economic, political, cultural and historical contexts in ways that may interest scholars and practitioners from diverse disciplines and specific fields such as museum, recreation, tourism, heritage and Indigenous studies.

¶46:
References 33-34 - 0.39% Coverage

¶48: 'The Birthplace of Australian Multiculturalism?' Retrospective Commemoration, Participatory Memoralisation and Official Heritage

¶49:
Reference 35 - 0.18% Coverage

¶49: It actively engages in creating a contemporary national story

References 36-37 - 1.00% Coverage

¶49: which glosses over the more shameful or distasteful episodes and themes in Australian colonial and post-colonial history which is presented as being by-and-large progressive and benign. While the process of forging national history has become more complex and increasingly fraught, given globalisation and the emergence of new histories

Reference 38 - 0.15% Coverage

¶49: nation and nationalism remain culturally persistent

Reference 39 - 0.13% Coverage

¶49: The turn to multiculturalism from the 1970s

Reference 40 - 0.19% Coverage

¶49: as the principal way of defining Australianness and the nation

Reference 41 - 0.10% Coverage

¶49: lead some conservatives in politics

Reference 42 - 0.33% Coverage

¶49: to appropriate the new social history, using it to present diversity as an indicator of a fair and open society

Reference 43 - 0.10% Coverage

¶50: Communism and Museums in Bulgaria

Reference 44 - 0.10% Coverage

¶51: at a time when Bulgaria has become

Reference 45 - 0.27% Coverage

¶53: within a framework of discussion of animal representation in creating national heritages.

Reference 46 - 0.77% Coverage

¶53: It discusses the reasons for Balto's statue being sited in New York with reference to the competing demands for different heritage commemorations within the park's space. In exploring the role of different interests in promoting this particular commemoration

Reference 47 - 0.27% Coverage

¶54: Pacifying War Heritage: Patterns of Cosmopolitan Nationalism at a Danish Battlefield Site

Reference 48 - 0.68% Coverage

¶55: Former battlefields are often held to be important nodes in national iconographies. This article offers an analysis of a Danish battlefield site which has historically been taken to epitomise fervently ethnic national qualities.

Reference 49 - 0.79% Coverage

¶55: The heritage and commemorative practices conducted here are analysed as an ongoing symbolic struggle between 'civic' and 'ethnic' conceptions of nation. It is argued that a third mode of identification, termed 'cosmopolitan nationalism', seems to be on the rise here

Reference 50 - 0.42% Coverage

¶55: In such an understanding, the war site becomes 'pacified', i.e. symbolically associated with qualities of peace-keeping and humanitarianism.

Reference 51 - 0.75% Coverage

¶57: An effect of this approach is to emphasise that cultural heritage comprises a series of spatially discrete material remains or 'sites', suggesting discrete locations which are somehow disconnected from their broader historical and landscape contexts.

Reference 52 - 0.19% Coverage

¶57: Results from a collaborative cultural heritage research project

Reference 53 - 0.06% Coverage

¶66: civil disobedience

Reference 54 - 0.15% Coverage

¶66: have contested the official definition of monument

Reference 55 - 0.39% Coverage

¶66: Based on this case study, this article also examines the sustainability of civil action in an unfavourable institutional setting,

Reference 56 - 0.26% Coverage

¶67: Two Miao Villages in China

¶68: The paper is concerned with the ways in which ethnic culture

Reference 57 - 0.37% Coverage

¶68: with particular reference to two villages in China inhabited by members of the Miao minority group and popular with visitors

Reference 58 - 0.08% Coverage

¶71: Loving a Sunburnt Country?

<Internals\\IJHS 2010 Abstracts> - § 89 references coded [29.63% Coverage]

References 1-2 - 0.98% Coverage

¶6: that have been taken up within dominant political and academic practice. Such expressions, we argue, are embedded with restrictive assumptions concerned with nostalgia, consensus and homogeneity, all of which help to facilitate the extent to which systemic issues tied up with social justice, recognition and subordinate status are ignored or go unidentified.

Reference 3 - 0.19% Coverage

¶6: Indeed, the net result has seen the virtual disappearance of dissonance

Reference 4 - 0.25% Coverage

¶6: Adopting an argument underpinned by Nancy Fraser's notion of a ‘politics of recognition’,

Reference 5 - 0.10% Coverage

¶7: motivations, authority and control

¶8:
Reference 6 - 0.13% Coverage

¶8: with emphasis on motivations, issues of authority

Reference 7 - 0.07% Coverage

¶8: as a means of control.

¶9:
Reference 8 - 0.12% Coverage

¶10: The application of participatory management

Reference 9 - 0.19% Coverage

¶10: Furthermore, many professionals pay lip-service to the whole concept

Reference 10 - 0.13% Coverage

¶10: those of professionals do not always coincide.

Reference 11 - 0.28% Coverage

¶10: Also, in some situations, the historical and socio-political environments militate against the concept

Reference 12 - 0.60% Coverage

¶10: Therefore, given the varied context and range of management systems, as well as types of cultural heritage on the sub-continent, one cannot be prescriptive; the local situation should determine the nature of participation

Reference 13 - 0.07% Coverage

¶11: Heritage and empowerment

Reference 14 - 0.14% Coverage

¶11: Indigenous cultural heritage in northern Australia

¶12:
Reference 15 - 0.13% Coverage

¶12: one that focused on Indigenous cultural heritage

Reference 16 - 0.22% Coverage

¶12: that emerged from a partnership between researcher and the indigenous community

Reference 17 - 0.20% Coverage

¶12: It challenges the idea that artefacts are only central for archaeologists

Reference 18 - 0.49% Coverage

¶12: presenting a case study illustrating that they can also be important within Indigenous frameworks. These insights emerged from a deeper understanding of Indigenous local heritage

Reference 19 - 0.28% Coverage

¶14: combined with pressure from historically marginalised groups for greater visibility for their histories,

Reference 20 - 0.33% Coverage

¶14: were under pressure to hand over their archives, now the emphasis is on the handing on of knowledge to future generations

Reference 21 - 0.13% Coverage

¶14: the sharing of expertise between organisations

Reference 22 - 0.32% Coverage

¶14: However, working with community archives also presents challenges to dominant professional assumptions and practices

Reference 23 - 0.06% Coverage

¶16: tourism professionals

Reference 24 - 0.19% Coverage

¶16: without community consent, local support cannot be taken for granted.

Reference 25 - 0.22% Coverage

¶17: Decentring the new protectors: transforming Aboriginal heritage in South Australia

References 26-27 - 1.81% Coverage

¶18: Disciplines such as archaeology, anthropology and history exercise a seemingly disproportionate influence on race relations in settler democracies. In South Australia, this influence has complex and unbroken genealogies linked to the beginnings of British settlement and the Protectors of Aborigines. This colonising character survives, and we argue that researchers working in Aboriginal heritage can be positioned as the new Protectors of Aborigines, reinvigorating a colonising network of power relations that remains critical in determining Indigenous interests and futures. In response Ngarrindjeri are theorising and strategising a transformative programme

Reference 28 - 0.09% Coverage

¶18: for decentring the new Protectors

Reference 29 - 0.35% Coverage

¶18: Mapping actor networks revealed in everyday meetings and performances, and understanding local/global cultures of governmentality

Reference 30 - 0.51% Coverage

¶18: have been necessary to safely bring Indigenous interests into Aboriginal heritage research, planning and policy, without activating the colonial archive and recycling Aboriginalist myths.

Reference 31 - 0.12% Coverage

¶19: Beyond the rhetoric: negotiating the politics

Reference 32 - 0.04% Coverage

¶23: Power relations

Reference 33 - 0.23% Coverage

¶24: Collaborative conservation between Aboriginal people and archaeologists in Australia

Reference 34 - 0.11% Coverage

¶24: Indigenous relationships to land and sea

Reference 35 - 0.17% Coverage

¶24: We document the process whereby Aboriginal traditional owners

Reference 36 - 0.30% Coverage

¶24: worked collaboratively with archaeologists to design and implement a method for a cultural heritage assessment

Reference 37 - 0.41% Coverage

¶24: but also Indigenous needs regarding culturally significant landscapes. Our results demonstrate that places of Aboriginal community heritage value exist

Reference 38 - 0.42% Coverage

¶24: In our case study we demonstrate that effective heritage management can be undertaken in accordance with appropriate Aboriginal law and community control.

References 39-40 - 0.35% Coverage

¶25: The future of Indigenous museums: perspectives from the Southwest Pacific

¶26: A fearsome heritage: diverse legacies of the Cold War

Reference 41 - 0.26% Coverage

¶33: to investigate how competing interests and expectations are managed at the state and local level

Reference 42 - 0.19% Coverage

¶33: and to address issues of sovereignty in the context of global heritage

Reference 43 - 0.33% Coverage

¶35: This paper examines the processes involved in a participatory inclusive research project in Liverpool and Merseyside, UK.

Reference 44 - 0.23% Coverage

¶35: providing some initial guidance about how to best include this diverse population.

¶36:
Reference 45 - 0.18% Coverage

¶43: By providing evidence for the creation and continuation of claims

References 46-47 - 0.27% Coverage

¶43: archives facilitate the participation of multiple publics in dominant cultural and political domains

Reference 48 - 0.31% Coverage

¶43: In the context of fluctuating relations between competing and unequal publics in contested narratives and spaces

Reference 49 - 0.41% Coverage

¶43: the means to control representations of documents determines the ways in which groups are able to participate in the present and influence the future.

Reference 50 - 0.23% Coverage

¶43: While government archives have attempted to include and incorporate diverse histories

References 51-52 - 1.23% Coverage

¶43: many social justice organisations and social movements have chosen to operate outside of this framework by preserving the records of their own activities. This article theorises a concept of ‘autonomous archives’ as a crucial component of democratic heritage practices. It develops this notion through an exploration of archives that have emerged within marginalised publics in Vancouver, Canada: the Union of British Columbia Indian Chiefs Archives,

Reference 53 - 0.22% Coverage

¶43: the political stakes of representation within heterogeneous and unequal publics

Reference 54 - 0.25% Coverage

¶45: The scholarship on heritage has been preoccupied with discussions of conflict and discord.

Reference 55 - 0.42% Coverage

¶45: whose recent Jewish-themed development both reflects and extends grassroots Polish–Jewish relationship building in the post-Holocaust, post-Communist era.

Reference 56 - 0.17% Coverage

¶45: rather than top-down memorial schemes or official proclamations

References 57-58 - 0.29% Coverage

¶45: with difficult histories.

¶46: Whatever you say, say something: remembering for the future in Northern Ireland

Reference 59 - 2.97% Coverage

¶47: The question of how to ‘deal’ with the past in post-conflict Northern Ireland preoccupies public conversation precisely because it separates a violent history from a fragile peace and an uncertain future. After a brief examination of contemporary Northern Ireland's culture of remembrance, this article provides some analysis of the potentials and dangers of efforts to confront the legacies of the Troubles. I argue here that the challenge for post-conflict heritage work in Northern Ireland lies in forging practices that permit and facilitate different ways of encountering complex and contradictory histories. These new efforts to remember encourage citizens to incorporate disparate, often conflicting memories into a patchwork of collected memory. Through a presentation of two case studies, this article offers an analysis of this memory work in an effort to show that it is as difficult as it is necessary. By forging a new tradition in memory work that transcends the long history of dual narratives and begins to make space for broader, more complicated engagements with the past

References 60-63 - 1.60% Coverage

¶49: This article explores the relationship among heritage, commensurability, and public formation in liberal political philosophy and social scientific analysis, both of which are products of European modernity. Liberal multiculturalism highlights commensurable forms of difference that are equivalent, comparable, and subordinate to shared humanity and imposes rules such as secularism and rationalism to manage difference publicly. A liberal conception of heritage can therefore help to unite groups and maintain a democratic public sphere, but it can also be homogenising and colonialist

Reference 64 - 0.18% Coverage

¶52: Hon-ouring the past: play-publics and gender at Baltimore's HonFest

Reference 65 - 0.46% Coverage

¶53: Baltimore, Maryland's annual HonFest, has been criticized for its caricatured portrayal of the Baltimore Hon, a white working-class woman from the mid-twentieth century.

Reference 66 - 0.46% Coverage

¶53: However, for a core group of Hon re-enactors a shared definition of working-class femininity allows them to subvert the individualised consumption spurred by the event

Reference 67 - 0.46% Coverage

¶53: while ignoring the racism that insured the homogeneity of such neighbourhoods. As a white icon, the Hon also erases the heritage of Baltimore's African-American majority.

Reference 68 - 0.59% Coverage

¶53: Nonetheless, this research demonstrates how an understanding of the relationship between gender and play can illuminate the subversive possibilities — and limitations— within the post-industrial heritage production.

¶54:
Reference 69 - 0.12% Coverage

¶59: in the pursuit of an inclusive archaeology

¶60:
Reference 70 - 0.18% Coverage

¶61: Tropes of a Texan trauma: monumental Dallas after John F. Kennedy

Reference 71 - 1.06% Coverage

¶62: The assassination of President Kennedy on 22 November 1963 changed Dealey Plaza, the site where the first citizen of Dallas settled in 1841, from a symbol of civic pride into a place of guilt and shame. After the events of 1963, the Dallas community voiced a wish to forget and hence, the exact location where Kennedy was murdered was initially remembered by neither monument nor plaque.

Reference 72 - 0.62% Coverage

¶62: This article offers an analysis of the responses to this Texan trauma in terms of commemorative heritage and describes Dallas' shift from 'amnesia' to 'identification', two contrary responses to traumatic, or mourning, heritage.

Reference 73 - 0.28% Coverage

¶65: ‘Unity, stability, continuity’: heritage and the renovation of Franco’s dictatorship in Spain, 1957–1969

Reference 74 - 0.59% Coverage

¶66: Spain between 1957 and 1969 – the period in the history of the dictatorial regime of General Francisco Franco known as desarrollista (development-guided) – presents a peculiar case of a state-driven heritage industry.

Reference 75 - 0.78% Coverage

¶66: At the same time, ideologically, the models and uses of heritage examined here served the regime’s interest in securing the country’s territorial unity, maintaining the high profile of the Catholic Church, and re-legitimising the Civil War (1936–1939) which had brought Franco to power.

Reference 76 - 0.10% Coverage

¶67: The collision of heritage and economy

Reference 77 - 0.17% Coverage

¶68: The relationship between the Mopan Maya community of Santa Cruz

Reference 78 - 0.25% Coverage

¶68: believe they have an economic right to the ruins that translates loosely into ‘ownership’.

Reference 79 - 0.11% Coverage

¶68: via the power vested in them by the state

Reference 80 - 0.34% Coverage

¶68: For both the UAP and the state-affiliated Institute of Archaeology, Uxbenká belongs not to one village but to all Belizeans

Reference 81 - 0.23% Coverage

¶68: archaeologists, and the state as they interact within the archaeoscape of Uxbenká.

Reference 82 - 0.07% Coverage

¶69: A case of local rejection

Reference 83 - 0.43% Coverage

¶70: this article, based on a case study of a little town in the French Alps, shows that public policy of this type may also be subject to criticism and dispute.

Reference 84 - 0.27% Coverage

¶70: but also a rejection of the alternative solution involving the development of the cultural heritage

Reference 85 - 0.28% Coverage

¶70: During the qualitative survey of the social reactions, three types of arguments have been raised. (1)

Reference 86 - 0.57% Coverage

¶70: In contrast to the ski resort, heritage tourism is only attached to the imagination of old age, immobility and even death, as if seniority of places necessarily corresponds to seniority of public and images.

Reference 87 - 0.34% Coverage

¶72: Ultimately, the revitalisation culture is engaging in 'unethical' behaviour from the perspective of conservation professionals

Reference 88 - 0.16% Coverage

¶72: if the field of heritage conservation is able and willing

Reference 89 - 0.24% Coverage

¶74: For non-residents the Maiensäss are mainly a symbol of shared roots and national identity

<Internals\\IJHS 2011 abstracts> - § 72 references coded [21.36% Coverage]

Reference 1 - 0.18% Coverage

¶3: Border wars: the ongoing temple dispute between Thailand and Cambodia

Reference 2 - 0.21% Coverage

¶4: This article traces the history of the ongoing tension between Thailand and Cambodia

Reference 3 - 0.93% Coverage

¶4: located on the unresolved border between the two countries. The struggle is noteworthy for its transethnic character, the deep and imbricated history of the players, and the fight's intersection with dramatic contemporary politics in both countries. The paper argues that the dispute implicates existential challenges to ancient and contemporary political legitimacy

Reference 4 - 0.25% Coverage

¶4: It emphasizes the significant role iconic sites can play in the construction of national identity

Reference 5 - 0.08% Coverage

¶4: concerning contested nominations

Reference 6 - 0.07% Coverage

¶7: The politics of wetlandscape

Reference 7 - 0.12% Coverage

¶8: the local politics among indigenous communities

Reference 8 - 0.22% Coverage

¶8: conservation groups, the government and developers in post-handover Hong Kong society

Reference 9 - 0.04% Coverage

¶10: and nationhood

Reference 10 - 0.15% Coverage

¶10: in relatively young and rapidly modernising countries.

¶11:

Reference 11 - 0.03% Coverage

¶11: heritage and

Reference 12 - 0.72% Coverage

¶14: Outsiders visiting an indigenous community in Greenland are led through the 'front area' where Inuit in traditional clothing greet them and perform a drum dance for a short time. Unknown to the tourist the drum dancer may be insulting the intruders as he sings in his native language

Reference 13 - 0.36% Coverage

¶14: This may be a form of resistance as the Inuit are suffering from western policies as well as an extremely high level of suicide and alcoholism

Reference 14 - 0.48% Coverage

¶14: comes away with a ‘snapshot’ of what indigenous culture is like. Once tourists leave, the community’s ‘back area’ – those parts that only insiders experience – becomes accessible once again.

Reference 15 - 0.57% Coverage

¶23: They might identify then disrupt pre-existing nostalgic narratives, finally bridging those disruptions through additional, critical nostalgic discourses. New and established narratives can coexist, in harmony and in tension

Reference 16 - 0.08% Coverage

¶23: visitors should be invited into

Reference 17 - 0.12% Coverage

¶25: negotiates between competing notions of heritage

Reference 18 - 0.16% Coverage

¶27: thus reify antiquated ideas regarding gender roles and the home

Reference 19 - 0.45% Coverage

¶27: Showing how everyday materials, like tea wares, were an integral part of Gage’s radical reform work upends traditional beliefs regarding the place of home and women in society

Reference 20 - 0.61% Coverage

¶35: While Twain is best known as a humorist who pointed out satirical situations in everyday life, by the late nineteenth century he wrote extensively about social justice issues, making explicit commentaries on imperialism, labour, and racism

Reference 21 - 0.38% Coverage

¶37: The statue functions not just as a place of memory, but of guerilla art; a complex interplay has emerged between an official piece of government art

Reference 22 - 0.13% Coverage

¶39: This paper examines how the state, social activists

Reference 23 - 0.08% Coverage

¶39: This paper finds both dissonances

Reference 24 - 0.44% Coverage

¶39: The paper finds that both the state and social activists, in different ways, have selectively appropriated the history of leprosy to fit an international heritage discourse.

Reference 25 - 0.29% Coverage

¶39: They reveal that while many residents reject the heritage discourse that seeks to save their homes from demolition

Reference 26 - 0.12% Coverage

¶40: the containment of British collective memory
¶41:
Reference 27 - 0.52% Coverage

¶41: It critically examines how the museum, which is based within the ship itself, allows visitors to 'feel good' about the history of British colonialism by acting as a container for British collective memory.

Reference 28 - 0.94% Coverage

¶41: as an affective journey of hope for a better future based primarily around the journey of British people to Australia in the mid-nineteenth century. It is argued that it is no longer acceptable that public heritage institutions, such as the ss Great Britain, continue to represent British colonial history as a voyage of economic and personal discovery for white settlers

Reference 29 - 0.04% Coverage

¶50: Labour's heritage

Reference 30 - 0.58% Coverage

¶51: the Australian labour movement

¶52: Taking Broken Hill as an exemplar of Australian, indeed global, labour heritage, this article, analyses the survival of labour heritage and union practices in the town that continues to the present

Reference 31 - 0.38% Coverage

¶52: The authors challenge the application of two-dimensional and static models of heritage interpretations too often applied to contested heritage sites.

Reference 32 - 0.40% Coverage

¶54: The Upper Burnett district of southeast Queensland, Australia is a landscape of working class resilience in the face of natural and institutional oppression

Reference 33 - 0.22% Coverage

¶55: industrial relations and community in declining textile and shoe industries in Spain

¶56:
Reference 34 - 0.24% Coverage

¶56: focuses on the way conflict and cooperation in industrial and community relations interrelate

Reference 35 - 0.77% Coverage

¶56: Conflictual industrial relations inside factories were and are linked to cooperative social relations between ‘clashing’ industrialists and workers. This occurs in daily life through a strong industrial paternalism, and with a strong presence of company owners in the social activities of these cities.

Reference 36 - 0.46% Coverage

¶56: From a qualitative approach, this work analyses the dynamics experienced by these cities’ common heritage, and the specific role that workers’ cultural heritage has played in it.

¶57:
Reference 37 - 0.04% Coverage

¶58: Labour heritage

Reference 38 - 0.19% Coverage

¶59: The overarching aim of the paper is to extend the analysis of labour history

Reference 39 - 0.13% Coverage

¶61: in the heart of the most deprived area of the town

Reference 40 - 0.35% Coverage

¶61: The paper explores common preconceptions of working class attitudes to archaeology and heritage and considers how far these were borne out

Reference 41 - 0.17% Coverage

¶62: Germany’s industrial museums and the (re-) presentation of labour

¶63:
Reference 42 - 0.19% Coverage

¶63: It focuses on the representation of labour and the various related aspects

Reference 43 - 0.05% Coverage

¶65: landscape, tolerance

Reference 44 - 0.08% Coverage

¶65: national identity in Istanbul

¶66:
Reference 45 - 0.04% Coverage

¶66: race and power

Reference 46 - 0.25% Coverage

¶74: reveals a conflict of interests where symbolic capital unfolds and makes power relations evident.

Reference 47 - 0.04% Coverage

¶79: managing tensions

Reference 48 - 0.04% Coverage

¶79: between ownership

Reference 49 - 0.12% Coverage

¶80: the ownership of listed buildings in Alexandria

Reference 50 - 0.14% Coverage

¶80: the exclusion of owners in the decision-making process

Reference 51 - 0.03% Coverage

¶84: Unquiet pasts

Reference 52 - 0.44% Coverage

¶87: It suggests the imperative of highlighting and respecting in heritage nominations and inscriptions deep cultural associations of traditional communities with natural sites

Reference 53 - 0.57% Coverage

¶89: Over the past decade the concept of biocultural diversity has emerged in scholarly and policy circles as an acknowledgement that biological and cultural diversity are interconnected and interdependent, and equally threatened

Reference 54 - 0.91% Coverage

¶89: significant portion of the world's biocultural diversity is found within indigenous territories, where indigenous peoples have historically managed a coevolutionary relationship between their communities and their land. This suggests that endogenous processes within indigenous territories are important for a continued nurturing of biocultural diversity.

Reference 55 - 0.63% Coverage

¶89: actively support the well-being and self-determination of indigenous peoples. We use examples from Panama (indigenous Kuna Yala territory) and New Zealand (Mataura Mātaitai Reserve, Southland) to reflect upon the ongoing role of endogenous processes

Reference 56 - 0.50% Coverage

¶89: Through the case studies we illustrate the importance of contextualising our understanding of biocultural diversity as part of endogenous development to recognise wider issues of indigenous rights

Reference 57 - 0.13% Coverage

¶90: Empowering Indigenous peoples' biocultural diversity

Reference 58 - 0.79% Coverage

¶91: Aboriginal people have occupied these forests and shaped the biodiversity for at least 8000 years. The Wet Tropics Regional Agreement in 2005 committed governments and the region's Rainforest Aboriginal peoples to work together for recognition of the Aboriginal cultural heritage associated with these forests

Reference 59 - 0.29% Coverage

¶91: The conditions that enabled this empowerment included: Rainforest Aboriginal peoples' governance of the process;

Reference 60 - 0.55% Coverage

¶91: their control of interaction with their knowledge systems to identify the links that have created the region's biocultural diversity. We recommend further investigation of theory and practice in Indigenous governance

Reference 61 - 0.09% Coverage

¶93: the rights of customary land owners

Reference 62 - 0.45% Coverage

¶93: Dissatisfaction with World Heritage listing expressed by the community of East Rennell is argued to reflect inconsistencies in the requirements for inscription of the property

Reference 63 - 0.18% Coverage

¶94: anti-politics and transformation in the Ashaninka Communal Reserve, Peru

Reference 64 - 0.49% Coverage

¶95: Following a period of confidence within conservation circles that co-management would provide a solution to the social ills of conservation projects, the approach is suffering growing criticism

Reference 65 - 0.24% Coverage

¶95: It has been argued that co-management constitutes an 'anti-political' tool for state expansion

References 66-69 - 0.92% Coverage

¶95: into indigenous lives, recasting people's relationships with their territories and resources in line with dominant precepts for rational resource management. While aspects of the ASCR's management seemingly fit this disempowering paradigm, recently some Ashaninka actors have used co-management as an opportunity to actively transform habitual power asymmetries

Reference 70 - 0.09% Coverage

¶95: for the Ashaninka Communal Reserve

References 71-72 - 0.41% Coverage

¶95: makes a contribution to contemporary theory regarding participatory protected area management.

¶96: Reconstructing Spain: cultural heritage and memory after civil war

<Internals\\IJHS 2012 Abstracts> - § 124 references coded [28.12% Coverage]

Reference 1 - 0.05% Coverage

¶4: for Anglican, Masonic

Reference 2 - 0.06% Coverage

¶4: nation-building narratives.

Reference 3 - 0.09% Coverage

¶7: Interpretation of a sensitive heritage site

Reference 4 - 0.29% Coverage

¶8: explores the way an Australian site associated with a recent tragic event has been interpreted for the family and friends of the victims

Reference 5 - 0.12% Coverage

¶8: established to commemorate the victims of a 1996 massacre.

Reference 6 - 0.08% Coverage

¶8: the site given its sensitive nature.

¶9:

Reference 7 - 0.70% Coverage

¶10: The relationships between archaeologists and metal-detector users are often more complex than is realised, partly because little has been published to date on the dynamics that exist, though there is more about the artefactual information that has been gleaned through these relationships (see e.g. www.finds.org.uk/database

Reference 8 - 0.26% Coverage

¶10: Attendance at a selection of some of the most controversial of metal-detecting events in England, metal-detecting rallies

Reference 9 - 0.56% Coverage

¶10: The ways in which rallies in England and Wales are conducted are the subject of continued debate between different organisations, with the Council for British Archaeology, for example, planning a guidance note for the promotion of archaeologically good practice

Reference 10 - 0.08% Coverage

¶11: Heritage and the post-apartheid city

Reference 11 - 0.23% Coverage

¶12: as a heritage site it attempts to address the divisions that characterise contemporary South African society

Reference 12 - 0.30% Coverage

¶12: by acting as a physical manifestation of the human rights ethos around which much of post-apartheid South African public discourse revolves

Reference 13 - 0.23% Coverage

¶12: tensions regarding the site's different purposes have remained and resulted in its incomplete development.

Reference 14 - 0.17% Coverage

¶19: examines the process of incorporating the Bedouin of Petra and Wadi Rum in Jordan

Reference 15 - 0.16% Coverage

¶19: focuses on the Bedouin tribes around Petra, who were resettled in villages

Reference 16 - 0.35% Coverage

¶21: This proclamation has been part of the broader remit of the international organisation to protect the world's cultural diversity from modernity and globalisation

Reference 17 - 0.26% Coverage

¶21: provide an interesting perspective for examining how global cultural initiatives are negotiated by local constituencies

Reference 18 - 0.09% Coverage

¶23: including both medievalism and nationalism.

Reference 19 - 0.06% Coverage

¶23: which aroused public debate

Reference 20 - 0.17% Coverage

¶24: Hello Sailor! How maritime museums are addressing the experience of gay seafarers

Reference 21 - 0.23% Coverage

¶25: Traditionally, maritime historians and maritime museums have adopted a very narrow view of seafarers' lives

Reference 22 - 0.30% Coverage

¶25: issues of social diversity have been little explored. Whilst some research has been undertaken on women and ethnic minorities in recent years

Reference 23 - 0.22% Coverage

¶25: the experience of lesbian, gay, bisexual and transgendered seafarers has received virtually no attention

Reference 24 - 0.24% Coverage

¶25: and will place it in a context of how maritime museums are beginning to address questions of social diversity

Reference 25 - 0.08% Coverage

¶25: to a wider and more diverse audience.

Reference 26 - 0.20% Coverage

¶26: Examining the memorialscape of occupation and liberation: a case study from the Channel Islands

Reference 27 - 0.25% Coverage

¶27: the difference between the memorialscape of the capital towns of Guernsey and Jersey and the groups they commemorate;

Reference 28 - 0.13% Coverage

¶33: preserving our common dignity through rights-based approaches

Reference 29 - 0.12% Coverage

¶36: Cultural diversity, cultural heritage and human rights

Reference 30 - 0.07% Coverage

¶37: maintaining cultural diversity

Reference 31 - 0.05% Coverage

¶37: enforcing human rights

Reference 32 - 0.45% Coverage

¶37: However, heritage scholars and teachers, too, need to recognise that there can be many motives behind official heritage interventions, that such action is sometimes taken primarily to achieve political goals

Reference 33 - 0.09% Coverage

¶37: that it can undermine rather than strengthen

Reference 34 - 0.04% Coverage

¶37: cultural diversity

Reference 35 - 0.03% Coverage

¶37: human rights

Reference 36 - 0.24% Coverage

¶37: human rights are brought to the foreground as the most significant part of the international heritage of humanity

References 37-38 - 0.14% Coverage

¶38: Heritage interpretation and human rights: documenting diversity

Reference 39 - 0.10% Coverage

¶39: in helping to integrate human rights concerns

Reference 40 - 0.09% Coverage

¶39: the universal value of cultural diversity

Reference 41 - 0.17% Coverage

¶39: may serve to enhance current heritage practice with a concern for human rights.

Reference 42 - 0.08% Coverage

¶40: Indigenous rights: Norwegian examples

¶41:
Reference 43 - 0.06% Coverage

¶41: approaches Indigenous concerns

Reference 44 - 0.10% Coverage

¶41: through the use of three Norwegian Sámi sites.

Reference 45 - 0.58% Coverage

¶41: provides the opportunity for a closer view of exactly how Indigenous rights are relevant. The three Norwegian Sámi cases examined confirm the need to maintain two perspectives of the use of Indigenous rights. Firstly, Indigenous rights are useful as a post-colonial trope

Reference 46 - 0.18% Coverage

¶41: Significant themes in the course of such processes are opportunities of co-management

Reference 47 - 0.46% Coverage

¶41: While Norway, internationally speaking, is recognised for its Indigenous rights initiatives, cases of heritage protection have indicated the existence of several severe blind spots in the Sámi rights implementation.

Reference 48 - 0.04% Coverage

¶42: in times of conflict

Reference 49 - 0.05% Coverage

¶44: rights-based approaches

Reference 50 - 0.15% Coverage

¶45: so that they can affirm their rights and act on their responsibilities

Reference 51 - 0.09% Coverage

¶45: sites overlapping with traditional lands

Reference 52 - 0.05% Coverage

¶45: to pursue partnerships

Reference 53 - 0.17% Coverage

¶45: to include communities as legitimate stakeholders in decision-making processes.

Reference 54 - 0.89% Coverage

¶45: However, there are weaknesses and challenges in achieving this objective. Rights-based approaches can help address such weaknesses, as they enable actors to understand the situation of marginalised communities in a systemic manner and to address the underlying factors of vulnerability, poverty and powerlessness. They can also help attain long-term conservation while supporting local people to live in dignity.

Reference 55 - 0.03% Coverage

¶46: human rights

¶47:

Reference 56 - 0.58% Coverage

¶47: A dominant international perception from the early 1960s onwards has been that China's invasion of Tibet (1951) marginalised Tibetan traditional culture and way of life contravening basic human rights. This brief paper updates this view and shows that cultural continuity

Reference 57 - 0.04% Coverage

¶47: cultural diversity

Reference 58 - 0.12% Coverage

¶47: human rights remain key issues for the current management

Reference 59 - 0.17% Coverage

¶49: and ownership and the privacy rights of those who live here are clearly visible

Reference 60 - 0.62% Coverage

¶49: Applying human rights to the equation may, on the one hand, increase tensions between different stakeholders in so far as, for instance, the conflict between individual rights to property and collective rights to enjoy cultural heritage that exist in Polish law will only be strengthened

Reference 61 - 0.11% Coverage

¶50: human rights and cultural heritage in Palestine

¶51:
Reference 62 - 0.04% Coverage

¶51: and human rights

Reference 63 - 0.32% Coverage

¶51: It considers the struggle to manage cultural heritage in spite of the many challenges posed by the complexity of the Palestinian political struggle.

Reference 64 - 0.30% Coverage

¶51: Human rights issues are central to the clear identification of the mission, goals and implementation of the heritage conservation programmes

Reference 65 - 0.11% Coverage

¶51: is an effective tool in protecting national identity

Reference 66 - 0.32% Coverage

¶51: despite the repressive Israeli measures that touch their everyday life, in sustaining dignity for the people who continue to live in these cities.

¶52:
Reference 67 - 0.31% Coverage

¶53: known for its participatory management approach, initiated by the Timbuktu Cultural Mission. To achieve expanded involvement of local communities

Reference 68 - 0.05% Coverage

¶55: rights and entitlements

Reference 69 - 0.23% Coverage

¶56: Embedding shared heritage: the cultural heritage rights of London’s African and Asian diaspora communities

Reference 70 - 0.25% Coverage

¶57: there is still very little attention paid in the UK to engaging diaspora and immigrant communities in these processes

Reference 71 - 0.35% Coverage

¶57: The presence of such African and Asian communities in the UK dates back more than 500 years and they form a significant and rising proportion of London's population

Reference 72 - 0.98% Coverage

¶57: This case study describes a major initiative undertaken by the office of the mayor of London in 2003–2006 that sought to embed the cultural heritage rights of African and Asian diaspora communities into the management of the city's heritage spaces in a way that aimed to ensure that their heritage is seen as part of the national story. This London case thus provides very valuable lessons for the management of world heritage sites in the UK and Europe.

Reference 73 - 0.11% Coverage

¶61: remembrance and forgetting of 'race' and its legacies

Reference 74 - 0.02% Coverage

¶62: absence

Reference 75 - 0.08% Coverage

¶63: to account for loss of life at sea.

References 76-77 - 0.17% Coverage

¶63: feminist interests in the politics of the everyday.

¶64: The materiality of death

Reference 78 - 0.12% Coverage

¶65: These exhibits, widely perceived as 'national heirlooms'

Reference 79 - 0.31% Coverage

¶65: within the context of the significance of material culture for the preservation of national memory in general and maritime identity in particular

Reference 80 - 0.04% Coverage

¶65: national ideology.

Reference 81 - 0.14% Coverage

¶65: which lies at the heart of nationalist and religious discourses.

¶66:

Reference 82 - 0.21% Coverage

¶67: or potentially problematic, philosophically, aesthetically and politically – than maritime museums

Reference 83 - 0.91% Coverage

¶67: They may ignore or fail to take their cue from a past composed of varied and different sensibilities and experiences to our own in order to compose a comprehensive account of seafaring cultures. Perhaps this is even more likely given the tendency to treat the sea, ships and boats with forgetfulness and nostalgia. However, in Australia, is this romance sustainable given the complexities of the nation's maritime heritage?

Reference 84 - 0.18% Coverage

¶69: The last theme focuses on a discussion on 'ownership' in an international perspective

Reference 85 - 0.18% Coverage

¶69: Exclusiveness will stand in the way of any improvement, as it has done in the past

Reference 86 - 0.09% Coverage

¶72: heritage and power

¶73: The power of knowledge

Reference 87 - 0.14% Coverage

¶75: Constructing a 'monument of national history and culture' in Poland

Reference 88 - 0.26% Coverage

¶76: which from the beginning were involved in an interplay of various political agendas and various conservation ideologies

Reference 89 - 0.57% Coverage

¶76: were shaped through power struggles that were informed by two main sets of values: one referred to the legitimising (or questioning) of the present political order by the reconstructed monument of the past; the other to the legitimising of the monument in question

Reference 90 - 0.10% Coverage

¶76: a ‘monument of national history and culture'

Reference 91 - 0.86% Coverage

¶76: as an example of the way in which a heritage monument is involved in politics at two levels: a ‘macro-scale' and a ‘micro-scale'. The attitudes of subsequent governments and states that decided the fate of the castle, and the institutional and material solutions resulting from these attitudes, are its macro-scale political involvement. The micro-scale political involvement of a heritage monument

Reference 92 - 0.39% Coverage

¶76: results from expert discourse and practices; it could be grasped by an analysis of conservators' discourse and practices in the particular context of the castle's reconstruction.

¶77:
Reference 93 - 0.02% Coverage

¶77: clientelism

Reference 94 - 0.50% Coverage

¶78: In the political organisation of the villages of southern France, the mayor is one of the most important elements of the clientelist system. He builds an affective link with local people, through his knowledge of collective history

Reference 95 - 1.23% Coverage

¶78: In this context, heritage is used by politicians as a legitimate tool of local power, especially during the official speeches of the patron saint festivals. In what way does the heritage discourse contribute to the empowerment of the mayor? How does the political speech link the affective dimension of the mayor–people relationship with the heritage discourse? Based on fieldwork in a border village between France and Italy, I analyse the relations connecting individual political power, public heritage policies and affective patterns of clientelism.

¶79: Land and power

Reference 96 - 0.14% Coverage

¶80: The present article explores Brazilian ethnic heritage policies

Reference 97 - 0.06% Coverage

¶80: in the light of land ownership

Reference 98 - 0.19% Coverage

¶80: While focusing on former Maroon communities – known as the ‘remnants of the Quilombos'

Reference 99 - 0.17% Coverage

¶80: In Brazil, most ethnic policies are accompanied by land restitution procedures

Reference 100 - 0.44% Coverage

¶80: By superimposing ethnic claims and land ownership in a country where land distribution remains dramatically unequal, legislators have opened up a Pandora's Box full of promises, frustrations and conflicts.

Reference 101 - 0.80% Coverage

¶82: However, concrete examples, such as the ones presented in the present article, show a more complex situation. First, already at that time local authorities and local powers played an important role – especially in Great Britain – in the politics of heritage. Second, these politics are impacted by struggles and tensions between local populations and ‘external' agents.

Reference 102 - 0.30% Coverage

¶82: the local populations see these heritage-based development projects as being based on a ‘mythification' of labour and of the workers' culture

Reference 103 - 0.45% Coverage

¶82: Finally, local populations seem to feel that such projects are imposed from ‘the outside', which tends to result in local agents not fully accepting or identifying themselves with such heritage-based projects

Reference 104 - 0.02% Coverage

¶83: nations

Reference 105 - 0.38% Coverage

¶89: The paper will also examine to what degree the Norwegian heritage authorities have managed to implement the emphasis on local participation and the social dimensions of heritage,

Reference 106 - 0.11% Coverage

¶89: The central authorities' focus on professionalism

Reference 107 - 0.12% Coverage

¶89: appears to meet limited resonance in local communities.

Reference 108 - 0.15% Coverage

¶91: avoiding gentrification, and enabling collective urban conservation

Reference 109 - 0.07% Coverage

¶92: Multiculturalism, cosmopolitanism

Reference 110 - 0.04% Coverage

¶93: cultural diversity

Reference 111 - 0.35% Coverage

¶93: asserts the multicultural character of Malaysian society while upholding the peaceful coexistence of its three largest communities (Malays, Chinese and Indians).

Reference 112 - 0.28% Coverage

¶93: of the different ethnic groups that make up the Malaysian nation. Dubbed the 'Rainbow Nation' by the British during the colonial era

Reference 113 - 0.11% Coverage

¶93: We focus on the agency of civil society activists,

Reference 114 - 0.15% Coverage

¶93: that mobilised, in turn, the values of nationalism and internationalism

Reference 115 - 0.08% Coverage

¶93: communitarianism and multiculturalism

Reference 116 - 0.08% Coverage

¶93: universalism and cosmopolitanism.

¶94:
Reference 117 - 0.30% Coverage

¶95: because current heritage processes exclude many groups of people due to the psychological processes that are favoured in current procedures

Reference 118 - 0.07% Coverage

¶96: Cosmopolitics, border crossings

Reference 119 - 0.07% Coverage

¶97: we illustrate the highly political

Reference 120 - 0.24% Coverage

¶97: and how now, in a networked complex world, non-linear interactions are occurring across transnational borders.

Reference 121 - 0.70% Coverage

¶97: The collections became visible mechanisms to confront the complex relations and politics of borders between the museum and everyday life. 'Cosmopolitics', in terms of its political, ethical, cosmological and transnational outlook along with cultural complexity, enables an exploration of the dynamics and the shifting borders

Reference 122 - 0.05% Coverage

¶98: Dynamics of inclusion

Reference 123 - 0.05% Coverage

¶98: exclusion in heritage

Reference 124 - 0.12% Coverage

¶99: The long way home: the meaning and values of repatriation

<Internals\\IJHS 2013 abstracts> - § 60 references coded [17.46% Coverage]

Reference 1 - 0.51% Coverage

¶4: These mechanisms are not in essence negative; they are necessary for the production of the kind of knowledge that is specific for the system or organisation. However, in planning, some form of coordination of interests and types of knowledge is seen as desirable.

Reference 2 - 0.28% Coverage

¶8: The ‘story of Ethiopia’ (which in the present article is given the label ‘heritage meta-narrative’) was carefully nurtured over hundreds of years

References 3-4 - 0.34% Coverage

¶8: in order to stress the ancient Christian Orthodox lineage of the country and an almost divine form of kingship prior to 1974, and was used to provide a strong centralising force

Reference 5 - 0.10% Coverage

¶8: for an ethically and culturally disparate population

Reference 6 - 0.42% Coverage

¶8: In recent years, after a series of complex political events, these disparate Ethiopian populations are agitating for political change, if not outright independence, and in order to stress the legitimacy of these claims

Reference 7 - 0.55% Coverage

¶8: Using sources drawn from official works, academic papers and popular Web-log (blog) posts, the present article charts the fracturing of the old Ethiopian heritage meta-narrative and the creation of new multiple heritage micro-narratives against the background of political change.

Reference 8 - 0.16% Coverage

¶9: ‘More than grass skirts and feathers’: negotiating culture in the Trobriand Islands

Reference 9 - 0.18% Coverage

¶10: it may be used to political ends, as a means of imploring government support or special status

Reference 10 - 0.28% Coverage

¶12: Chitral has two main ethnic-religious groups: the Muslim Kho and the Kalasha, who are the largest non-Muslim minority group in the Hindu Kush.

Reference 11 - 0.31% Coverage

¶12: We also touch on the tensions between a powerful majority and a less powerful minority group, and the impact such an unequal relationship has on heritage.

¶13:

Reference 12 - 0.06% Coverage

¶14: the loss of community diversity

Reference 13 - 0.28% Coverage

¶20: The result is London's Olympic Waterscape, a 20-minute film comprising both 'expert' interview material discussing broad themes and developments

Reference 14 - 0.47% Coverage

¶22: The debates and coaching initiatives that followed these Games challenged some of the fundamental tenets of British sporting heritage but amateurism was so ingrained into the sporting culture that changes were always slow and highly contested.

Reference 15 - 0.23% Coverage

¶23: Cathy Freeman and Australia's Indigenous heritage: a new beginning for an old nation at the Sydney 2000 Olympic Games

Reference 16 - 0.65% Coverage

¶24: explores the interconnections between Australia's most significant sporting event, the Sydney 2000 Olympic Games, and Australia's Indigenous culture and heritage. At this historic moment for the nation, Aboriginal Australian athlete Cathy Freeman came to embody Australia's possible future and represented a vital legacy of the event.

Reference 17 - 0.20% Coverage

¶24: how these images were played out in wider discussions about the future of the Australian nation state.

Reference 18 - 0.74% Coverage

¶24: The choice of Cathy Freeman was widely considered the 'right' choice and served to emphasise the highly considerable indigenous themes throughout the Opening Ceremony. The emphasis on indigenous culture continued during the Games and into the Closing Ceremony in a way that was partly orchestrated and partly developed a life of its own due to the actions of particular individuals

Reference 19 - 0.14% Coverage

¶24: The Sydney Opening Ceremony was a significant moment for all Australians

Reference 20 - 0.08% Coverage

¶25: The marginalisation of Paralympic heritage

Reference 21 - 1.14% Coverage

¶26: The impact of the Paralympic Games and disability sport upon the lives of people with disabilities and the perceptions of non-disabled society regarding people with disabilities has been immense. Yet examples of this disability sport and Paralympic heritage are all but invisible amongst the wider area of sports heritage. This paper will attempt to outline some of the possible reasons why this might be the case and cite some examples of how this apparent marginalisation of Paralympic heritage might be overcome as we move forward beyond the London 2012 Olympic and Paralympic Games.

Reference 22 - 0.09% Coverage

¶38: By examining the components of state Islamism

Reference 23 - 0.67% Coverage

¶38: this paper reveals the analogous relationship between the museum and state ideology. That relationship suggests that the museum embodies fundamental ambiguities and inconsistencies inherent in Iranian state Islamism. Those ambiguities and inconsistencies are only concealed, in the museum as in the ideology, by employing traditionalist rhetoric

Reference 24 - 0.07% Coverage

¶40: Indigenous free prior informed consent

Reference 25 - 0.18% Coverage

¶41: Free prior informed consent is a critical concept in enacting the rights of Indigenous People

Reference 26 - 0.31% Coverage

¶41: examines issues that are problematic when enacting free prior informed consent. Case research was used to analyse current issues in the potential nomination

Reference 27 - 0.18% Coverage

¶41: The outcomes of this research were: preconditions need to be addressed to avoid self-exclusion

Reference 28 - 0.29% Coverage

¶41: by indigenous representative organisations; the nature of consent needs to account for issues of representation and Indigenous ways of decision making

Reference 29 - 0.13% Coverage

¶41: prioritising self-determination within free prior informed consent

Reference 30 - 0.11% Coverage

¶41: contributes to the human rights agenda of Indigenous People

Reference 31 - 0.19% Coverage

¶43: that transforms local cultures into contested heritage as it intensifies an official and civic nexus

References 32-33 - 0.56% Coverage

¶43: Urban heritage representation has been subject to passive dominant official discourse that rests upon orthodox mosaic practices of remote past – a praxis that is not necessarily endorsed by civic Ahl elbalad. The local mosaic heritage has hitherto been transformed into a competing culture

Reference 34 - 0.32% Coverage

¶43: challenges the internal implications of heritage representation with its elevated feelings of alienation, disempowerment, gentrification and socio-cultural exclusion

Reference 35 - 0.12% Coverage

¶43: that allows reconciliation between the official/civic nexus

Reference 36 - 0.10% Coverage

¶48: ‘The breath of the mountain is my heart’: indigenous

Reference 37 - 0.05% Coverage

¶48: the politics of heritage

¶49:

Reference 38 - 0.28% Coverage

¶49: examines the socio-political implications and consequences of heritage practices related to indigenous cultural landscapes in post-settler nations

Reference 39 - 0.18% Coverage

¶49: that narratives surrounding the Gift of Tongariro silence the colonial histories of the Park

Reference 40 - 0.26% Coverage

¶49: in the process, Maori people's complex and multifaceted relationships to the land are reframed as a relationship to the 'natural' world.

Reference 41 - 0.31% Coverage

¶49: to truly decolonise heritage, we must locate and acknowledge how our models, theories and practices of heritage work through systems of power and exclusion.

¶50:
Reference 42 - 0.04% Coverage

¶64: Labour and landscape

Reference 43 - 0.33% Coverage

¶66: Together they also illustrate the most important aspects of the development, similarities and differences of the international labour movement in the industrial period.

Reference 44 - 0.39% Coverage

¶68: It concludes with a consideration of why these buildings are relatively neglected and suggests that the notion 'don't mourn, organise' might contain some clues as to specific reasons for their neglect.

Reference 45 - 1.60% Coverage

¶70: is embedded in the political and historical development of the socialist movement. The first Volkshäuser were constructed when anti-socialist legislation came to an end in 1890. The number and the significance of these houses reached its peak in the first German Republic between 1918 and 1933. The massive political caesura of 1933, resulting from the Nazi seizure of power, put an end to the use of the Volkshäuser as centres of political and cultural activity for workers. After the defeat of fascism in 1945, the Volkshäuser failed to regain their former importance. The assembly halls of the workers played a highly significant role during the first decades of the labour movement, but with the stabilisation of democratic institutions in Germany after 1945, the Volkshäuser, in their previous form, became redundant

Reference 46 - 0.12% Coverage

¶72: but also as manifestations of their ideological convictions.

Reference 47 - 0.39% Coverage

¶80: It suggests much is to be gained from tackling the uneasy relationship that currently exists between social science and humanities-based approaches to heritage and the professional conservation sector

Reference 48 - 0.48% Coverage

¶80: there is a need for heritage studies to account for its relationship to today's regional and global transformations by developing post-western understandings of culture, history and heritage and the socio-political forces that actualise them.

¶81:
Reference 49 - 0.08% Coverage

¶84: to achieve the discipline's political aims.

Reference 50 - 0.40% Coverage

¶84: Thus, while agreeing with the questions posed by the Manifesto, we argue that rather than casting the terms of the debate in a way that positions the professional field as needing renovation from without

Reference 51 - 0.27% Coverage

¶88: relating to victims of the 1965–1966 killings in Bali and how, for those left behind, it might assume the ability to 'presence' a lost one.

Reference 52 - 0.11% Coverage

¶89: New Philadelphia: an archaeology of race in the Heartland

Reference 53 - 0.32% Coverage

¶92: I stress that this field is neither sufficiently differentiated nor problematised, and that cultural heritage relating to degraded towns is often taken for granted.

¶93:
Reference 54 - 0.10% Coverage

¶96: a national story on a collective and personal level.

Reference 55 - 0.11% Coverage

¶98: is a field of social action filled with controversies

Reference 56 - 0.25% Coverage

¶98: whose outcomes are not only determined by the power relation among social actors, but are also a product of structural tendencies.

Reference 57 - 0.45% Coverage

¶98: points out the emergence of a new regime of cultural governance as the structural condition that led to the partial success of the preservation movement. The author then argues that the concept of the regime of cultural governance

Reference 58 - 0.22% Coverage

¶100: its present situation of decline and uncertain future prospects – despite a recent recovery in the mining industry

Reference 59 - 0.07% Coverage

¶102: in relation to other elite discourses

Reference 60 - 0.16% Coverage

¶105: Maintaining the absent other: the re-use of religious heritage sites in conflicts

<Internals\\IJHS 2014 abstracts> - § 88 references coded [19.15% Coverage]

Reference 1 - 0.13% Coverage

¶11: its implications on the local process of memorialisation of armed conflict.

Reference 2 - 0.20% Coverage

¶11: is that it implicitly relies on the nation-state as the carrier and developer of collective cultural memory and identity

Reference 3 - 0.23% Coverage

¶11: overlooking settings where the primary mode of group identification and legitimisation occurs at different (lower) levels, as in BiH.

¶12:

Reference 4 - 0.22% Coverage

¶15: The primary goal is to consider the apparent contradictions and ambiguities inherent in the highly dynamic and contested process of

Reference 5 - 0.21% Coverage

¶15: Internal and external voices compete for influence in determining the local form and further evolution of the bafa zon at CRMD

Reference 6 - 0.10% Coverage

¶15: the first phases of this contested process are charted here

Reference 7 - 0.07% Coverage

¶16: Slavery in Africa: archaeology and memory

Reference 8 - 0.12% Coverage

¶20: Beyond Eurocentrism? Heritage conservation and the politics of difference

Reference 9 - 0.27% Coverage

¶21: There is a long-standing debate concerning the suitability of European or 'western' approaches to the conservation of cultural heritage in other parts of world

Reference 10 - 0.09% Coverage

¶21: These debates are particularly vibrant in Asia today

Reference 11 - 0.14% Coverage

¶21: But as Venice has come to stand as a metonym for a 'western' conservation approach,

Reference 12 - 0.77% Coverage

¶21: intriguing questions arise concerning what is driving these assertions of geographic, national or civilisational difference in Asia. To address such questions, the article moves between a number of explanatory frameworks. It argues declarations about Asia's culture, its landscapes, and its inherited pasts are, in fact, the combined manifestations of post-colonial subjectivities, a desire for prestige on the global stage of cultural heritage governance

Reference 13 - 0.22% Coverage

¶26: Sharing the divisions of the colonial past: an assessment of the Netherlands–Indonesia shared cultural heritage project, 2003–2006

Reference 14 - 0.31% Coverage

¶27: While recognised for advancing historical scholarship on collecting in the colonial Netherlands East Indies, the Netherlands-Indonesia Shared Cultural Heritage Project of 2003–2006

Reference 15 - 0.34% Coverage

¶27: It also reveals that such heritage negotiations can benefit states dealing with the legacy of the colonial past in European museums, when they forgo competition in the interest of a workable consensus

Reference 16 - 0.06% Coverage

¶27: in its relationship to the tangible

Reference 17 - 0.07% Coverage

¶36: legitimacy and social and cultural capital

Reference 18 - 0.06% Coverage

¶40: the power struggles related to it.

Reference 19 - 0.26% Coverage

¶42: One of the basic questions in cultural heritage studies is the relationship between accepted definitions of national cultural heritage and social power.

Reference 20 - 1.16% Coverage

¶42: In the case of Slovene popular music heritage, however, things are more complicated. Namely, the whole field is poorly organised, which means that the most influential work on Slovenian popular music heritage is not done by the institutions that are at least nominally in charge of this segment of the country's cultural heritage, but by different popular music enthusiasts – i.e. the ones that are, for the most part, not related to established positions of power in society. Yet, this does not mean that the work of these enthusiasts is not important. After all, in the context of the lack of institutionalised contributions, it alone defines what Slovenian popular music heritage is.

Reference 21 - 0.40% Coverage

¶46: World Famous in Austria. 50 Years of Austropop) deploys the 'Sound of Music' image of Austria in the construction of Austropop as an essential part of national cultural heritage and hence, national identity for the post-war generation.

Reference 22 - 0.34% Coverage

¶46: My analysis suggests how the claims of rock heritage are, after all, consistent with the cultural ideology of the post-war republic and how they reflect broader contradictions in Austrian society.

¶47:
Reference 23 - 0.18% Coverage

¶48: Beginning with a discussion based around the idea of ‘minority heritage’, as opposed to ‘official heritage’

Reference 24 - 0.02% Coverage

¶52: Maya heritage

Reference 25 - 0.07% Coverage

¶53: explores what is meant by Maya identity

Reference 26 - 0.14% Coverage

¶57: Its aim is to re-think the appropriateness of professionally assessed methodologies

Reference 27 - 0.06% Coverage

¶57: find others which are more inclusive

Reference 28 - 0.12% Coverage

¶61: the wider social-historical context and power relations shaping them.

Reference 29 - 0.60% Coverage

¶61: that materialises the turbulent and traumatic migratory experience of Returned Overseas Chinese, embodies their memories and exposes the contested nature of museumification. By looking at the socially and geographically marginalised dwelling of return migrants, the house draws people’s attention to the often neglected importance of conceptual periphery

Reference 30 - 0.16% Coverage

¶61: It points to the necessity to integrate displaced, diasporic, transnational subjects to heritage

Reference 31 - 0.14% Coverage

¶61: that have been traditionally framed within national and territorial boundaries.

¶62:

Reference 32 - 0.04% Coverage

¶65: Urban heritage and gender

Reference 33 - 0.10% Coverage

¶66: it ignores the heritage/gender nexus, which has implications

References 34-35 - 0.31% Coverage

¶66: and status of women in Delhi, community development and ecological preservation. But twenty women practioners and scholars of development in Delhi referred to heritage as a challenge

Reference 36 - 0.26% Coverage

¶66: must acknowledge the gender/heritage nexus to enable holistic and gender-inclusive urban development for the present and future generations of its citizens

Reference 37 - 0.04% Coverage

¶67: Post-conflict heritage

Reference 38 - 0.03% Coverage

¶68: cultural trauma,

Reference 39 - 0.06% Coverage

¶71: The red line over European colonialism

Reference 40 - 0.28% Coverage

¶72: Hong Kong and Macao were once European colonies. A unique, hybrid culture of East and West now flourishes in these two Special Administrative Regions (SARs) of China

Reference 41 - 0.46% Coverage

¶72: Both cities opened new history museums in 1998, but they adopted remarkably different approaches in their representation of their complicated and politically sensitive history. The Hong Kong Museum of History (HKMH) represents history by closely following the orientation

Reference 42 - 0.05% Coverage

¶72: traditional Chinese nationalism

Reference 43 - 0.59% Coverage

¶72: The postcolonial characteristics adopted by the Macao Museum to reproduce history, in contrast, are likely amongst the richest of all history museums in China. What are the reasons behind the different historical representations by Hong Kong and Macao, which were both promised a ‘One country, Two systems’ policy by the Chinese central authority?

Reference 44 - 0.37% Coverage

¶72: This paper argues that both museums reveal two faces of a rising China; the one in Hong Kong emphasises national dignity, and the people's identification with and loyalty to the nation when it is engaged in state building

Reference 45 - 0.66% Coverage

¶72: The one in Macao emphasises the multiple roles in finding a balanced position to coexist with superpowers, forging friendships with developing countries and building an idealised image of a (re-)rising nation through historical construction. The difference between these two museums indicates the exceptional flexibility of China's postcommunist regime in engaging in soft power diplomacy.

¶73:
Reference 46 - 0.17% Coverage

¶74: in ways that better address the heterogeneous nature of heritage, for both the West and the non-West.

Reference 47 - 0.39% Coverage

¶74: The themes of modernity, cities and international cultural policy provide evidence of why we need to better position the academic study of heritage in relation to the rapid geo-political and geo-cultural shifts now taking place.

¶75:
Reference 48 - 0.10% Coverage

¶79: Renegotiating dissonant heritage: the statue of J.P. Coen

Reference 49 - 0.21% Coverage

¶80: In the late nineteenth century, Coen was seen as a national hero and his statue erected on the central square of his home town

Reference 50 - 0.49% Coverage

¶80: In 2011, a group of citizens petitioned the local authority to have the statue removed because they considered him responsible for genocide. After much discussion, the local authority decided to leave the statue in place and replace the old text on the statue with a new description of Coen

Reference 51 - 0.12% Coverage

¶80: In particular, reference is made to the concept of heritage dissonance

Reference 52 - 0.04% Coverage

¶81: the politics of heritage

Reference 53 - 0.16% Coverage

¶82: I show that the ambiguous marginalisation of Ottoman heritage has been a continuous practice

References 54-55 - 0.24% Coverage

¶82: despite today's reading of communist planning as 'open'. Through a discussion of Yugoslav politics towards religious and national 'minorities'

References 56-58 - 0.81% Coverage

¶82: I show that Ottoman heritage has been preserved only insofar as it fits within the state's definition of power. I specifically detail how the construction of 'European', 'secular' public space has worked as a tool through which state/nation building established new hierarchies of power. I show how this is reflected most clearly in the specific politics of heritage by discussing the creation, regulation and management of 'Čaršija', the 'old Turkish' neighbourhood of Skopje.

¶83:
Reference 59 - 0.16% Coverage

¶84: on the one hand, and envy and competition (and, hence, social atomisation), on the other hand

Reference 60 - 0.24% Coverage

¶86: that we question the application of a late-nineteenth-century modernist approach to culture, and that we seek a better theoretical foundation.

Reference 61 - 0.19% Coverage

¶88: whilst grassroots civil societies and NGOs are, to a great extent regulated, by the prevailing political power

Reference 62 - 0.19% Coverage

¶88: but this has not resulted in power sharing and the state constrains community involvement within certain limits.

Reference 63 - 0.05% Coverage

¶90: The politics of representation

Reference 64 - 0.31% Coverage

¶91: Museums are often sites for the fabrication of hegemonic discourse. They represent the political nature of heritage construction and the instruments used to support these narratives.

Reference 65 - 0.12% Coverage

¶91: traces the appropriation of museums as symbols of national projects and

Reference 66 - 0.09% Coverage

¶91: argues that not all museums achieve this political end.

Reference 67 - 0.25% Coverage

¶91: Écochard's project demonstrates the many challenges that develop between nationalist politics, heritage production and competing centres of power.

¶92:
References 68-69 - 0.22% Coverage

¶99: It is a commonplace that cultural heritage is not only a highly contested concept of modern times, full of nationalistic undertones

Reference 70 - 0.16% Coverage

¶99: cultural stereotypes and essentialist topoi such as past grandeur and enduring cultural purity

Reference 71 - 0.09% Coverage

¶99: without considering their contested formation histories.

Reference 72 - 0.35% Coverage

¶99: by charting the transcultural trajectories of Cambodia's heritage construction through the processes of French colonial reinvention, postcolonial/nationalist essentialisation, and global commodification.

Reference 73 - 0.26% Coverage

¶99: References to similar 'heritagisation' processes in the (post)colonial Dutch East Indies (now Indonesia) will help to anchor this transcultural enquiry.

¶100:
Reference 74 - 0.11% Coverage

¶103: (often in accordance with nationalist aims of current governments

Reference 75 - 0.41% Coverage

¶105: 2011 was a particularly event-ful year for the Show taking place as it did amidst a global financial crisis and the Occupy London Stock Exchange protest movement camped outside St Paul's Cathedral, disrupting the regular processional route

Reference 76 - 0.27% Coverage

¶109: The unsettled, recursive and processual nature of Ea Sola's performances suggest it is necessary to periodically re-encounter the continuing legacies of violence

Reference 77 - 0.08% Coverage

¶109: are cross-border in terms of culture, nationality

Reference 78 - 0.04% Coverage

¶109: political implication.

Reference 79 - 0.60% Coverage

¶111: The emergence of 'gated communities' in the Netherlands is especially interesting because its diffusion is not primarily driven by distinct urban segregation and the gap between rich and poor. 'Gated communities' in the sense of exclusive communities with rigid boundaries are basically seen as 'un-Dutch' by the planning community and the public media

Reference 80 - 0.17% Coverage

¶111: secondly, the reasons why 'gated communities' were nevertheless embraced by middle-income households

References 81-82 - 0.26% Coverage

¶111: use them for purposes of social distinction. Moreover, they perceive historical as a symbolic marker for like-minded fellow residents.

¶112: Tainted heritage?

Reference 83 - 0.09% Coverage

¶113: may be tainted through the history of its collections

Reference 84 - 0.14% Coverage

¶113: as well as the political imperatives that brought it into existence in the Chirac era

Reference 85 - 0.49% Coverage

¶113: Through an examination of the predominant themes of some of the temporary exhibitions created since its inception, the paper argues that curators at the musée du quai Branly are conscious of the ethnological 'malaise' and have attempted, in novel and politically sensitive ways to break with

Reference 86 - 0.21% Coverage

¶113: what Tony Bennett described as the 'stigmatic othering', symptomatic of nineteenth and early twentieth century museums.

¶114:
Reference 87 - 0.23% Coverage

¶115: However, it has silenced, ignored and even denied many aspects of this tradition when dealing with its own heritage in recent decades

Reference 88 - 0.12% Coverage

¶115: to achieve a morally and spiritually enriched heritage experience.

<Internals\\IJHS 2015 abstracts> - § 116 references coded [21.15% Coverage]

Reference 1 - 0.03% Coverage

¶8: Experiencing differences

Reference 2 - 0.06% Coverage

¶11: privileges expert knowledge over local voices

Reference 3 - 0.12% Coverage

¶11: it empowers government by ignoring local residents' capability within heritage conservation

Reference 4 - 0.22% Coverage

¶11: Moreover, the harmony discourse frames, articulates and constitutes non-heritage practices such as public health and moral norms, to legitimise the governmental power

Reference 5 - 0.20% Coverage

¶11: As a result, the harmony discourse, supposedly aiming at maintaining a harmonious society, has created profound dissonance among the inhabitants.

¶12:
Reference 6 - 0.11% Coverage

¶13: In order to meet the increasing critique of official heritage as elitist and hegemonic

Reference 7 - 0.11% Coverage

¶13: several attempts have been made to become more inclusive, participatory and democratic

Reference 8 - 0.24% Coverage

¶13: An assumption is that such an approach could represent a particular challenge for heritage experts by broadening the perspective on what to include and exclude in their appraisals.

Reference 9 - 0.28% Coverage

¶13: It discusses how the textual construction of the bus shelter's relation to its locality, a small mining community, tends to bolster and reinforce the impression of a masculinist society and a dominant company

Reference 10 - 0.16% Coverage

¶13: thereby forecloses alternative visions, in contrast with the initial intentions of the everyday perspective on heritage.

¶14:

Reference 11 - 0.09% Coverage

¶15: we draw attention to the right of groups to manage their culture

Reference 12 - 0.18% Coverage

¶19: To this end, I analyse the development of indigenous concepts of cultural heritage on Baluan Island, in Manus Province, Papua New Guinea

Reference 13 - 0.33% Coverage

¶22: as both an instrument of statecraft and a tool for the assertion of grass-roots political and economic agency. We conclude that heritage in the context of the festival is a form of cultural practice involving relationships of power and inequality

Reference 14 - 0.06% Coverage

¶22: expressed in transactions of ownership and

Reference 15 - 0.04% Coverage

¶22: and the concept of property.

¶23:
Reference 16 - 0.03% Coverage

¶24: for Nalik communities

Reference 17 - 0.18% Coverage

¶26: seeks to contribute to the discourse surrounding the repatriation of historical field recordings through the presentation of findings

Reference 18 - 0.19% Coverage

¶28: the processes of nomination and the rights of customary landowners in the inscription and management of World Heritage properties in the region.

Reference 19 - 0.05% Coverage

¶30: Cultural heritage politics in China

Reference 20 - 0.04% Coverage

¶31: Exhibiting madness in museums

Reference 21 - 0.13% Coverage

¶35: we analyse how businesses, governments and researchers constitute a specific heritage entrepreneur.

Reference 22 - 0.15% Coverage

¶35: We then look at the specific political, economic and scientific value of such a difference and its uses in Spain.

Reference 23 - 0.10% Coverage

¶37: The early 1990s saw a move against European-dominated discourses of heritage

Reference 24 - 0.12% Coverage

¶37: recognising the ways and means to preserve cultural heritage with community participation

Reference 25 - 0.08% Coverage

¶37: meant that the Indonesian authorities followed European ideas

Reference 26 - 0.10% Coverage

¶40: changing national narratives in revolutionary Cuba between 1959 and 1990

¶41:
Reference 27 - 0.30% Coverage

¶41: Drawing on a variety of hitherto unexplored archives and interviews with bureaucrats of the Cuban heritage field, the paper argues that there is a close relation between museum production, the prevailing narration of nation

Reference 28 - 0.34% Coverage

¶41: internal power struggles within the regime and the changing relation with the USSR. Museums were considered primary tools for historical production and politico-ideological socialisation. These were two fundamental issues for communist regimes, concerned

Reference 29 - 0.05% Coverage

¶41: and affirming historical continuity

Reference 30 - 0.10% Coverage

¶41: In the first, humanist and Universalist phase, museums served to expand culture

Reference 31 - 0.07% Coverage

¶41: spread a nationalist-revolutionary narrative of nation

Reference 32 - 0.52% Coverage

¶41: The second period after 1975 witnessed the institutionalisation and Sovietisation of Cuban museums. This involved their transformation into a device to instil a nationwide homogeneous class-based Marxist–Leninist narrative adapted to Cuba from the Soviet model. This ideological closure of museum production contributed to the ideological and identity-building objectives of the regime.

¶42:
Reference 33 - 0.09% Coverage

¶45: Heritage that hurts: tourists in the memoryscapes of September 11

¶46:
Reference 34 - 0.03% Coverage

¶46: Buddhism, imperialism

Reference 35 - 0.05% Coverage

¶47: Cultural heritage politics in China

Reference 36 - 0.10% Coverage

¶51: Collected sites are commonly seen as places requiring expert intervention

Reference 37 - 0.14% Coverage

¶51: Professional archaeologists often position their engagement with site destruction as heritage 'salvage'

Reference 38 - 0.08% Coverage

¶51: regard collecting as lacking any value in contemporary society

Reference 39 - 0.36% Coverage

¶51: in failing to understand legal or illegal collecting as significant to heritage, have archaeologists contributed to the erasure of acts that aim to work out identities, memories and senses of place, and contribute to an individual's or group's sense of ontological security?

Reference 40 - 0.22% Coverage

¶51: This question is explored through a case study from the New England region of North America where archaeologists have allied with Native American and other stakeholders

Reference 41 - 0.22% Coverage

¶54: Analysing in what way destruction of the Zeugma mosaics is problematised, this paper also considers the political aspects of presenting the destruction of heritage

Reference 42 - 0.12% Coverage

¶60: which was the centre of the 2011 uprising in Bahrain as part of the so-called Arab Spring.

Reference 43 - 0.18% Coverage

¶65: become such a volatile arena for the performance of international tensions, new political alliances and challenges to global cooperation?

Reference 44 - 0.25% Coverage

¶65: The process by which evaluations are formulated by these experts is also being questioned, opening up larger debates about the validity and transparency of the evaluation criteria and process

Reference 45 - 0.46% Coverage

¶65: While once considered the realm of European States Parties and their particular style of properties, our analysis reveals that the demographics of the Committee in the last decade have gradually shifted. Finally, this leads us to question whether the older style polarisation of 'the West and the Rest' remains the most salient divide today.

¶66:
Reference 46 - 0.55% Coverage

¶67: The study, which incorporates and critiques the discourse of neoliberalism within urban heritage development studies, seeks to analyse the World Bank projects and, more specifically, how they have defined, approached and produced outcomes in the Jerash plaza and its context. In so doing, the study triangulates the analysis with accounts by local respondents that identify major drawbacks in the World Bank approach

Reference 47 - 0.09% Coverage

¶67: while neglecting and marginalising local values and understandings

Reference 48 - 0.23% Coverage

¶67: The challenge is to break with the neoliberal paradigm that dominates urban heritage development programmes (and their associated West–East dualisms and top-down approaches)

Reference 49 - 0.05% Coverage

¶68: the ontological politics of heritage

Reference 50 - 0.14% Coverage

¶75: How did colonial transfers of knowledge, expertise and political considerations influence these systems?

Reference 51 - 0.14% Coverage

¶75: This framework has been used to show the transitional role of the colonial influence at different stages

Reference 52 - 0.12% Coverage

¶75: how they are transferred and/or transformed at different levels of institutional governance.

Reference 53 - 0.08% Coverage

¶78: Heritage and corruption: the two faces of the nation-state

Reference 54 - 0.21% Coverage

¶79: Nation-states' investment in heritage supports Benedict Anderson's thesis that nationalism offers collective immortality in the face of individual mortality

Reference 55 - 0.68% Coverage

¶79: Both these aspects of social reality represent the 'cultural intimacy' that governments seek to deny or suppress but on which their citizens' loyalty often depends. It thus becomes imperative for scholars of heritage to recognise that heritage and corruption represent two closely interrelated dimensions of the management of the past in the present, and that theories of heritage therefore cannot afford to ignore the concomitant implications of local ideas about corruption and the practices on which they rest.

Reference 56 - 0.28% Coverage

¶81: These sites are locations where industrial accidents or public disasters resulting in injury or loss of life have initiated changes to politics, infrastructure and public welfare provisions in the metropolis.

Reference 57 - 0.09% Coverage

¶81: Forgetting illustrates processes of authority, control and resistance

Reference 58 - 0.10% Coverage

¶82: 'The Pathos of Conservation': Raphael Samuel and the politics of heritage

Reference 59 - 0.25% Coverage

¶83: With the central tenets of Samuel's argument essentially being a case for the democratisation of heritage; the validity of what we might today call 'unofficial' narratives and discourses

Reference 60 - 0.31% Coverage

¶85: While such work has had critical impact within prescribed scalar boundaries, we need to build a theoretical understanding of what an emergent relationship between heritage and scale does within the context of dynamic power relations.

Reference 61 - 0.20% Coverage

¶85: Drawing on the work of Doreen Massey and others, the paper considers how the heritage–scale relationship can be articulated as a process of openness

References 62-63 - 0.13% Coverage

¶86: contested heritage practices in China

¶87: In this study, I analyse how the Chinese Government imposes

Reference 64 - 0.13% Coverage

¶87: on local heritage practices in the process of heritage nomination, conservation and management.

Reference 65 - 0.06% Coverage

¶87: namely spatial separation, emotional banishment

Reference 66 - 0.06% Coverage

¶87: rather, they consume, contest and negotiate

Reference 67 - 0.11% Coverage

¶94: this paper discusses the relationship between heritage practices and colonialism

Reference 68 - 0.39% Coverage

¶94: Drawing on recent work in ethnomusicology, the article argues for considerations of the holistic space of the performing arts and the facilitation of participatory practices to address concerns of cultural demise and to reframe approaches to music and dance as cultural heritage in the Pacific

Reference 69 - 0.04% Coverage

¶96: inclusive conservation approach

Reference 70 - 0.17% Coverage

¶100: National heritage formed one of the main targets of ethnic cleansing, literally removing the symbolic markers of ethnic groups.

Reference 71 - 0.62% Coverage

¶100: Discussions about the interpretation of the past, let alone of a shared past, are largely avoided. The reconciliatory function of heritage that the two European actors aspire to is still hard to find. By taking Serbia as a case study, this article presents some of the typical difficulties that one can expect to encounter when heritage is used as an instrument for reconciliation in an area where reconciliation is still seen as a challenging and threatening process.

¶101:
Reference 72 - 0.14% Coverage

¶103: when it can be shown to function as a societal mirror that reflects political climates and protest activities

Reference 73 - 0.13% Coverage

¶103: and emerging inclusive models such that view these works as relevant layers of a site's history

Reference 74 - 0.09% Coverage

¶103: Within this context, we explore the case of the political graffiti

Reference 75 - 0.06% Coverage

¶105: which celebrates masculinity and social elites

Reference 76 - 0.65% Coverage

¶106: in quest of a synaesthetic approach to 'dark memorials'

¶107: Although relatively recent, the concepts of 'dark tourism', 'difficult heritage tourism' and 'Holocaust tourism' have already been approached from historical, cultural, sociological, anthropological and managerial perspectives. The article offers a philosophical inquiry of 'dark attractions', inspired by Deleuze and Guattari's work on aesthetics, with an aim of divorcing the term 'dark tourism' from its typically negative valance

Reference 77 - 0.46% Coverage

¶107: especially because it provides an explanation to a situation (common at many Holocaust memorials) when visitors are pleased, or positively affected, with representation/image/expression of sadness/atrocity. The synaesthetic operations of 'dark attractions' will be briefly illustrated with an example of the Holocaust memory site in Bełżec, Poland.

Reference 78 - 0.06% Coverage

¶108: Mixed world heritage in Scandinavian countries

Reference 79 - 0.15% Coverage

¶109: the article discusses the challenges of local involvement and democratic participation in national decision-making

Reference 80 - 0.12% Coverage

¶109: create conflict between local stakeholders and the national governments of Norway and Sweden?

Reference 81 - 0.03% Coverage

¶110: contested prison history

Reference 82 - 0.78% Coverage

¶111: is one of the primary sites associated with the 'White Terror', which took place during the imposition of Martial Law in Taiwan (1949–1987), by the authoritarian post-war regime of Chiang Kai-shek. Taiwan's intelligence agencies violated civil rights and liberties. Suspects suffered arrest, interrogation, torture, trial, and imprisonment. The former detention centre has become Jing-Mei Human Rights Memorial and Cultural Park, which is one of two penal facilities dealing with the processing of political prisoners and for the suppression of activists who struggled for human rights

Reference 83 - 0.12% Coverage

¶111: The roles of the relevant parties were identified through interviews with former prisoners.

Reference 84 - 0.06% Coverage

¶111: to represent a contested history, were examined

Reference 85 - 0.08% Coverage

¶117: They have diverse socio-economic origins and political views

Reference 86 - 0.20% Coverage

¶117: However, as this paper argues, they share a common ground in their activities; one that maintains an ambivalent and critical relationship with the state

Reference 87 - 0.12% Coverage

¶117: which is reflected in their embracing of diversity and the notion of historical continuity

Reference 88 - 0.14% Coverage

¶119: However, these encounters have increasingly been seen to shape and negatively influence local culture.

Reference 89 - 0.10% Coverage

¶119: While much of his account revolves around the covert resistance of locals

Reference 90 - 0.07% Coverage

¶123: While much heritage studies research concerns dissonance

Reference 91 - 0.17% Coverage

¶123: Contestation among the site's administrators and interpretative staff regarding representations of time and place in the village

Reference 92 - 0.31% Coverage

¶123: While the village is located within a state park and therefore has a clear hierarchical power structure, this case illustrates how dissent manifests in the actual communication of the village's narrative. Thus, this paper contributes to

Reference 93 - 0.03% Coverage

¶123: , contestation and

Reference 94 - 0.97% Coverage

¶125: From the eighteenth-century Macassan traders from the Indonesian Island of Sulawesi made regular visits to northern Australia, where with the help of Yolŋu, Indigenous Australians living in north-east Arnhem Land, they collected trepang (sea cucumber) for trade. Along with sharing language, technology and culture, the Macassans and Yolŋu involved built relationships that are celebrated today in Yolŋu art, songs and stories. While the trepang trade had officially stopped by 1906, resonances of this complex relationship continued and still continue today. This paper shares a number of stories told by one particular Yolŋu family about this heritage and reflects on the ways in which for Yolŋu, the tangible heritage (artefacts)

Reference 95 - 0.11% Coverage

¶127: This formed a space in which to challenge aspects of the region's contested past

Reference 96 - 0.12% Coverage

¶128: Treasured possessions: indigenous interventions into cultural and intellecutual property

Reference 97 - 0.05% Coverage

¶130: Slavery and the British country house

Reference 98 - 0.02% Coverage

¶132: nationalism

Reference 99 - 0.14% Coverage

¶133: This article examines nationalistic approaches to intangible heritage as a major obstacle in this situation

Reference 100 - 0.11% Coverage

¶133: it inadvertently fosters nationalist claims on cultural traditions on the ground.

References 101-102 - 0.25% Coverage

¶133: use its lists to register shared traditions as their own national heritage. Their listing on behalf of a single State Party generates conflicts among countries over their origin and ownership

Reference 103 - 0.05% Coverage

¶135: Aboriginal segregation and assimilation

Reference 104 - 0.07% Coverage

¶139: This paper explores the concept of heritage diplomacy.

Reference 105 - 0.15% Coverage

¶139: To date much of the analysis regarding the politics of heritage has focused on contestation, dissonance and conflict

Reference 106 - 0.96% Coverage

¶139: Heritage diplomacy seeks to address this imbalance by critically examining themes such as cooperation, cultural aid and hard power, and the ascendency of intergovernmental and non-governmental actors as mediators of the dance between nationalism and internationalism. The paper situates heritage diplomacy within broader histories of international governance and diplomacy itself. These are offered to interpret the interplay between the shifting forces and structures, which, together, have shaped the production, governance and international mobilisation of heritage in the modern era. A distinction between heritage as diplomacy and in diplomacy is outlined in order to reframe some of the ways in which heritage has acted

Reference 107 - 0.05% Coverage

¶139: a constituent of cultural nationalisms

Reference 108 - 0.56% Coverage

¶139: international relations and globalisation. In mapping out directions for further enquiry, I argue the complexities of the international ordering of heritage governance have yet to be teased out. A framework of heritage diplomacy is thus offered in the hope that it can do some important analytical work in the field of critical heritage theory, opening up some important but under theorised aspects of heritage analysis.

Reference 109 - 0.05% Coverage

¶141: in an ethnic Miao village in China

Reference 110 - 0.12% Coverage

¶141: Tracing the conflicting discourses of ritual in different stages of the past and the present

Reference 111 - 0.12% Coverage

¶142: Crafting heritage: artisans and the making of Indigenous heritage in contemporary Taiwan

Reference 112 - 0.56% Coverage

¶143: Since the 1990s, Indigenous groups in Taiwan have been increasingly engaged in retrieving and reviving cultural practices that are considered 'traditional' and markers of Indigenous identities. This article takes such recent and ongoing revival of cultural practices and connected material culture amongst Taiwanese Indigenous groups as the departure point to argue that the idea of a 'contemporary Indigenous heritage'

Reference 113 - 0.02% Coverage

¶143: 'indigeneity'

Reference 114 - 0.25% Coverage

¶143: To this end, I identify and illustrate a set of strategies and discourses through which Indigenous artists and artisans in Taiwan construct their work as both 'Indigenous' and 'heritage'

Reference 115 - 0.04% Coverage

¶143: Indigenous cultural research

Reference 116 - 0.03% Coverage

¶143: 'Indigenous heritage'.

¶144:
<Internals\\IJHS 2016 abstracts> - § 172 references coded [38.12% Coverage]

Reference 1 - 0.06% Coverage

¶3: the politics on heritage management in China

¶4:
Reference 2 - 0.14% Coverage

¶4: Under strict government control, however, local community-led initiatives are difficult to find in China

Reference 3 - 0.13% Coverage

¶4: The study offers insight into the nature and politics of heritage management in contemporary China.

Reference 4 - 0.31% Coverage

¶6: It explores the way the Ise Shrine came to be represented as an iconic example of an 'Eastern approach' to heritage to become central in the paradigm shift within global heritage discourse towards acknowledging cultural diversity

Reference 5 - 0.22% Coverage

¶6: I argue that the presentation and understanding of the Ise Shrine has perpetuated a number of misconceptions about an Eastern approach to heritage conservation.

Reference 6 - 0.08% Coverage

¶6: recognition of cultural diversity would remain limited.

¶7:
Reference 7 - 0.30% Coverage

¶8: The culture of the Qiang ethnic minority in Western China has been threatened by assimilation with the majority culture, and many Qiang no longer take part in traditional ceremonies or use their cultural skills and knowledge.

References 8-9 - 0.12% Coverage

¶8: over which A'er villagers explicitly maintained copyright.

¶9: Participation in the reuse

Reference 10 - 0.13% Coverage

¶10: However, the question of how participation takes place in practice has received little attention.

Reference 11 - 0.12% Coverage

¶10: Nevertheless, this participation has been limited and is in some respects problematic

Reference 12 - 0.11% Coverage

¶11: Remembering Lee Kuan Yew: politics, heritage and political heritage in Singapore

Reference 13 - 0.46% Coverage

¶12: discusses issues of political heritage and the commemoration of notable figures within the context of the small city state of Singapore, a former British colony which celebrated 50 years of full independence in 2015. Particular reference is made to Mr Lee Kuan Yew, hailed as the founding father of the modern republic, who also died that year

Reference 14 - 0.12% Coverage

¶12: Heritage overall is shown to occupy an important place in official nation building efforts

Reference 15 - 0.40% Coverage

¶12: including political heritage dominated by the narrative of the success of the government formed by the party created and led by Mr Lee. Approaches to remembering the man and his legacy are considered, focusing on debate about turning his home into a memorial and possibly a national monument.

Reference 16 - 0.22% Coverage

¶12: It also reveals the particular challenges of heritage management in Singapore arising from its history and official endeavours to shape public and private memories.

¶13:
Reference 17 - 0.35% Coverage

¶14: Utilising interviews conducted within 14 authorised and DIY museums devoted to popular music, the researchers demonstrate a distinct contrast between current academic critiques of music use in these museums and the attitudes of the people who create them.

Reference 18 - 0.03% Coverage

¶15: classicism and dissonance

Reference 19 - 0.07% Coverage

¶18: Whom does heritage empower, and whom does it silence?

Reference 20 - 0.27% Coverage

¶19: where practitioners are ‘bearers’ of reified, bounded heritage practices – neglects the lived realities of practitioners, ultimately safeguarding little and potentially exacerbating existing inequalities

Reference 21 - 0.17% Coverage

¶19: its actual execution can in fact disempower many, merely replicating existing inequalities in the new context of ICH management

Reference 22 - 0.30% Coverage

¶19: Using this case study, I discuss ways in which the issues of power inherent in the ICH paradigm have real consequences for those affected and implications for the success of the projects developed under its umbrella.

¶20:
Reference 23 - 0.19% Coverage

¶21: explores the politicisation of cultural heritage during the aftermath of the 1980 earthquake in Naples and the 2009 earthquake in L’Aquila

Reference 24 - 0.30% Coverage

¶21: It begins by critically addressing the positions of Tomaso Montanari and Salvatore Settis, two prominent heritage intellectuals at the forefront of national campaigns to restore the damaged historic centre of L’Aquila

Reference 25 - 0.26% Coverage

¶21: Reflecting upon observations in L’Aquila, where locals involved in protests at government inaction have been scolded by fellow inhabitants for their lack of obeisance to cultural heritage,

Reference 26 - 0.40% Coverage

¶21: but also, as a result of its attempts to legislate the boundaries of heritage citizenship and its disavowal of philologically incorrect relationships with historic centres, it ultimately provides tacit support to the very same neoliberal urban processes against which it claims to take a stand.

¶22:
Reference 27 - 0.09% Coverage

¶22: the politics of heritage in low-income neighbourhoods of Marseille

Reference 28 - 0.15% Coverage

¶23: Recent scholarship addressing efforts to celebrate heritage in low-income neighbourhoods and housing estates

Reference 29 - 0.06% Coverage

¶23: describe points of convergence and conflict

Reference 30 - 0.18% Coverage

¶23: describe the political implications of these performances as a tool for promoting solidarity across time and space in Marseille.

¶24:
Reference 31 - 0.06% Coverage

¶27: the struggle over Tel Aviv's concert hall

¶28:
Reference 32 - 0.04% Coverage

¶28: examines conflict associated with

Reference 33 - 0.14% Coverage

¶28: which became contentious owing to its impact on the interior and exterior features of the building.

Reference 34 - 0.19% Coverage

¶28: particularly: (1) the role of cultural elites in shaping historic places and in determining the 'functional threshold' of modern buildings

Reference 35 - 0.05% Coverage

¶28: the failure of public participation

Reference 36 - 0.22% Coverage

¶28: Overall, the analysis suggests that participatory avenues can be pursued in order to bridge the gap between opponents and proponents of structural modifications.

Reference 37 - 0.18% Coverage

¶28: When collaboration fails, however, the opinion of the professionals using the modern building should be given greater consideration

Reference 38 - 0.13% Coverage

¶30: Before colonialism, heritage sites such as Khami were considered resting places for ancestors,

Reference 39 - 0.19% Coverage

¶30: focusing on the disjuncture between indigenous and local concepts of heritage, concerned with access and preserving the spirit of ancestors

Reference 40 - 0.12% Coverage

¶30: While the reconstructions interfered with an acceptable physical context of local beliefs

Reference 41 - 0.02% Coverage

¶33: the politics

Reference 42 - 0.27% Coverage

¶34: The 'digital revolution' created new opportunities for private persons to participate in the public discourse on architecture and architectural heritage. But has this new 'participatory culture' also

Reference 43 - 0.04% Coverage

¶34: triggered democratic polyphony

Reference 44 - 0.08% Coverage

¶34: a questioning of dominant (expert) values and knowledge?

Reference 45 - 0.14% Coverage

¶34: And when considering official Internet representations – is there a proactive policy involving citizens?

Reference 46 - 0.09% Coverage

¶34: foster the expression of different viewpoints only to a limited extent

Reference 47 - 0.07% Coverage

¶34: Although residents use the Internet to voice criticism

Reference 48 - 0.05% Coverage

¶34: actors situated outside expert culture

Reference 49 - 0.22% Coverage

¶34: act as co-producers of the dominant discourse. Focusing on official heritage, this paper not only provides evidence for the perpetuating function of new digital tools

Reference 50 - 0.11% Coverage

¶34: but also reveals the power relations that underpin paternalistic cultural mediation

Reference 51 - 0.35% Coverage

¶34: Given the technological possibilities of involvement, it criticises official web representations for the exclusion of 'the public' and raises the fundamental question of what the digital mediation of cultural heritage in democratic societies should look like.

¶35:
Reference 52 - 0.36% Coverage

¶36: The Anthracite Heritage Project was founded to uncover one of the most tragic incidents in US labour history, the Lattimer Massacre. Initially, this work complemented the existing commemorative practices found in the anthracite coal region of Northeastern Pennsylvania

References 53-54 - 0.25% Coverage

¶36: Recently, a new immigrant population has entered the region, and they are facing many of the prejudices and xenophobic fears that the European immigrants faced several generations ago

Reference 55 - 0.13% Coverage

¶37: Caught between nationalism and internationalism: replicating histories of Antarctica in Hobart

Reference 56 - 0.05% Coverage

¶38: of nationalism and internationalism

Reference 57 - 0.20% Coverage

¶38: reproduces and prioritises domestic readings of exploration and colonisation over a reading of Antarctic engagement as a transnational endeavour.

Reference 58 - 0.11% Coverage

¶39: The reproduction of heritage in a Chinese village: whose heritage, whose pasts?

Reference 59 - 0.26% Coverage

¶40: investigates heritage practices in a Chinese village, by describing the tensions that have played out among different voices, meanings and understandings centred on the village's heritage.

Reference 60 - 0.10% Coverage

¶40: to weave and frame a narrative of nation-building around a Memorial Park.

Reference 61 - 0.16% Coverage

¶40: In between are a medley of heritage sites and artefacts existing in a state of flux and struggle over their conservation

Reference 62 - 0.34% Coverage

¶40: The authors contend that, no matter how mundane, grand or hybrid, assemblages of rich and locally meaningful heritage, such as depicted in this article, should be cherished and utilised for the present agenda of cultural construction in rural China.

¶41:
References 63-64 - 0.66% Coverage

¶42: the spatial politics of heritage designation comes into focus through attention to those configurations of size, level and relation that are invoked and enabled in heritage processes; and researchers choice to analyse or ignore particular scales and scalar politics are political decisions. Utilising scale as size, level and relation enables analyses that move beyond heritage to the spatial politics through which all heritage is constituted.

¶43: Competing discourses of built heritage

Reference 65 - 0.06% Coverage

¶44: has traditionally been shaped by professionals

References 66-67 - 0.51% Coverage

¶44: it takes place in the presence, and on behalf, of a wider public whose values and priorities may differ starkly from those of heritage power-players. Drawing on the perspectives of a range of built heritage actors in three small towns in Ireland, this paper contributes to these debates, exploring the competing values and priorities embedded within lay discourses of heritage

References 68-69 - 0.35% Coverage

¶44: concludes on the implications for policy and practice and, in particular, the need to more effectively take account of non-expert values and priorities in heritage and conservation decision-making.

¶45: Displaced heritage: responses to disaster, trauma and loss

Reference 70 - 0.14% Coverage

¶48: The transnational memories increasingly promoted in Scotland act as a means of re-energising nationhood

Reference 71 - 0.84% Coverage

¶50: Societies today face multiple challenges stemming from the conflict between 'market efficiency' and 'social welfare' that are, in turn, the result of neoliberal policies affecting institutional legitimacy. Complex institutional logics associated with organisational responses are part of the early sociological debate about how organisations cope with established institutionalism in order to maintain legitimacy and survive. By employing an institutional framework and historical event sequencing approach, we aim to understand whether normative pressures can be understood to exert an influence of embeddedness and change

Reference 72 - 0.11% Coverage

¶54: I argue that the crisis of common collective heritage in Bosnia and Herzegovina

Reference 73 - 0.33% Coverage

¶54: Without a state-level ministry of culture, heritage that attests to a common cultural past uniting the three major ethno-religious groups in the country has suffered immeasurably, especially in comparison to ethnically specific cultural heritage.

Reference 74 - 0.22% Coverage

¶54: that in Sarajevo, the decay and neglect of such institutions not only mirror the splintering dynamics of ethno-religious nationalism, but also perpetuate them.

¶55:
Reference 75 - 0.26% Coverage

¶56: In recent years, there have been many political and economic debates in Hong Kong, and heritage conservation has been used as a political and economic weapon by some members of the community

Reference 76 - 0.52% Coverage

¶56: In this context, heritage was used to obtain political rights and to express anger against the increasing gap between the rich and poor of Hong Kong. Though the immediate objectives of this group were not achieved, the protest process empowered a group of local residents, and has marked the commencement of a politicalized heritage conservation movement in post-colonial Hong Kong.

¶57:
Reference 77 - 0.16% Coverage

¶59: Reflecting on heritage and power: dynamics, strategies and appropriations in the Catalan Pyrenees and the French Alps

Reference 78 - 0.59% Coverage

¶60: we will explore the way in which different agents appropriate and use heritage to compete in specific power scenarios. We approach heritage discourses and practices as defining specific political arenas within which power relations are reconfigured. The protection of spaces and places as well as the processes of patrimonialisation that take place inside specific localities give rise to the emergence of new ways of exercising power.

Reference 79 - 0.58% Coverage

¶60: We examine the dynamics that heritage and heritage policies produce in each context as well as the interest they promote. Heritage both organises different fields of forces and is appropriated by politicians, experts, and economic actors. We will discuss the entanglements, forces and dynamics that are activated and played out as a result of heritage processes in the larger process of contemporary political transformations.

Reference 80 - 0.06% Coverage

¶61: The diplomacy of extra-territorial heritage

Reference 81 - 0.19% Coverage

¶62: The global interest in the memory of war in recent decades has brought challenges in managing and conserving extra-territorial war heritage

Reference 82 - 0.10% Coverage

¶62: a site of central importance in the Australian national memory of war.

Reference 83 - 0.35% Coverage

¶62: throws new light on the practice of heritage diplomacy. Working mostly outside the more commonly explored arena of global heritage governance, the Australian and New Guinean governments employed bilateral diplomacy to manage domestic stakeholder expectations

Reference 84 - 0.19% Coverage

¶62: They have also encouraged the construction of a narrative of the events of World War II that in some respects might be described as shared

Reference 85 - 0.25% Coverage

¶64: Attention is paid to these ‘communicative’ explorers, whose documentation renders abandoned places visible, opening further debates about a more inclusive preservation and memorialisation

Reference 86 - 0.07% Coverage

¶68: The move has been surprising, even controversial

Reference 87 - 0.06% Coverage

¶68: has been used as a symbol of Guadeloupean

Reference 88 - 0.19% Coverage

¶68: and resistance against French colonialism since the late 1960s. Moreover, Cotellon has had a long association with separatist activism.

Reference 89 - 0.05% Coverage

¶68: had to be sponsored by the French state

References 90-92 - 0.58% Coverage

¶68: as well as my own involvement in the committee that drafted Guadeloupe’s application to trace the complex network of individuals, who are shaping gwoka’s transformation from weapon of national resistance to symbol of humanity’s cultural diversity. I argue that these individuals shape and operate within a ‘zone of awkward engagement’ that allows for the emergence and expression of a postnationalist political subjectivity.

Reference 93 - 0.18% Coverage

¶71: ‘My Country is like my Mother…’: respect, care, interaction and closeness as principles for undertaking cultural heritage assessments

Reference 94 - 0.07% Coverage

¶72: particularly in Indigenous cultural heritage management

Reference 95 - 0.67% Coverage

¶72: Qualitative research methods have considerable potential in this space, yet few have systematically applied them to understanding Indigenous peoples’ relationships with place. This paper reports on a qualitative study with Alngith people from north-eastern Australia. It begins by exploring the embodied, experiential nature of Alngith peoples’ conception of Country and their

emphasis on four interrelated themes: Respect, Care, Interaction and Closeness when describing relationships to Country

Reference 96 - 0.11% Coverage

¶72: are central to local expectations for respectful, inclusive heritage practices

Reference 97 - 0.14% Coverage

¶72: The results also reveal new perspectives and pathways for Aboriginal communities, and heritage managers

Reference 98 - 0.33% Coverage

¶72: The paper further demonstrates how qualitative research methodologies can assist heritage managers to move beyond the limitations of surveys and quantitative studies and develop a deeper understanding of Indigenous values, concepts and aspirations

Reference 99 - 0.10% Coverage

¶73: Heritage and separatism in Barcelona: the case of El Born Cultural Centre

Reference 100 - 0.45% Coverage

¶74: explores the ways in which heritage sites at the crux of neighbourhood renewal and redevelopment initiatives in Barcelona have been manipulated to advance Catalan separatist agendas. We focus specifically on El Born Cultural Centre which was officially opened in September 2013 amid heightened calls for Catalan independence from Spain

References 101-102 - 0.39% Coverage

¶74: A former market site, the centre's key attraction is its archaeology which has been re-imagined and presented to communicate the horrors of war inflicted on the citizens of Barcelona following the War of Succession in 1714. Narratives that emphasise the historical degradation of Catalan

References 103-104 - 0.56% Coverage

¶74: and/or work to reaffirm the distinct and separate nature of Catalan nationalism resonated strongly with the political reawakening of Catalonians in the run up to the 2014 November referendum on independence. The referendum which was subsequently deemed illegal by the Spanish government, and subsequent regional elections were held in 2015. In considering the negotiation of El Born during this drive for independence

References 105-106 - 0.23% Coverage

¶74: can offer insights into the complexity of separatist campaigns in ethno-nationalist societies.

¶75: Issues of mutuality and sharing in the transnational spaces of heritage

Reference 107 - 0.28% Coverage

¶75: contesting diaspora and homeland experiences in Palestine

¶76: Wars, colonialism and other forms of violent conflict often result in ethnic cleansing, forced dispersion, exile and the destruction of societies.

Reference 108 - 0.26% Coverage

¶76: through which they claim mutual ambitions for the restoration of their national identity. What happens when diaspora communities 'return' and join homeland communities in reconstruction efforts?

Reference 109 - 0.18% Coverage

¶76: Conflicts at these two sites often become intensified when heritage experts overlook the 'emotional' and 'transnational' relationships

Reference 110 - 0.10% Coverage

¶76: power that revolve around the diverging narratives of both communities

Reference 111 - 0.20% Coverage

¶76: . Such engagement can help explore the contentious nature of heritage and the resonances it may have for reconciliation in post-violent conflict times.

Reference 112 - 0.29% Coverage

¶78: Without downplaying the necessity of diverse participation in assessing significance, the framework is designed to identify aspects of weakness and preference in cases where adequate consultation is not possible.

¶79:
Reference 113 - 0.07% Coverage

¶82: Wiyohpiyata: Lakota Images of the Contested West

Reference 114 - 0.04% Coverage

¶84: Introduction: Heritage-Outside-In

References 115-116 - 0.50% Coverage

¶86: It asks which outsider narratives are privileged and which are contained, and what the management of these boundaries inadvertently tells us about the politics and anxieties of the 'inside'. It offers reasons for the pervasiveness of the border despite various initiatives to invite the outside in.

¶87: Negotiating German colonial heritage in Berlin's Afrikanisches Viertel

Reference 117 - 0.73% Coverage

¶88: analyses the ongoing dispute over street names in Berlin's Afrikanisches Viertel. In 1899, Berlin named two of its newly-built streets Togo Street and Cameroon Street. Togo and Cameroon had been proclaimed the first German colonies in 1884. By 1958, 22 Berlin streets had been named after African regions that had been colonised by the German Empire or after German colonial protagonists. In 2004, several NGOs called for the renaming of some of these streets, igniting a fierce dispute over the heritage status of the German colonial past

Reference 118 - 0.23% Coverage

¶88: Drawing on guided interviews and document analyses, we analyse this debate on three levels, showing how the NGOs and their claims have been marginalised on each level

Reference 119 - 0.40% Coverage

¶88: While the level of agency can be traced back to the different positioning of the actors in the political field, the levels of temporality and spatiality belong to the realm of ideas about the world and one's place in it. By exploring the authoritative power of traditional notions of permanence

Reference 120 - 0.44% Coverage

¶90: embedded in his life experience as a migrant, his encounter with (British) colonialism in Malaya, and integrated with his desire and despair about the Chinese Communist Party's nation-building project in the 1950s. Rather than a sign of devotion to the socialist motherland as simplistically depicted in China's discourse,

Reference 121 - 0.18% Coverage

¶90: where he simultaneously engaged with soul-searching as a returned Overseas Chinese and alternative diasporic imagining of Chinese

Reference 122 - 0.02% Coverage

¶90: and nation.

Reference 123 - 0.27% Coverage

¶90: offers an invaluable analytical lens to disentangle the contested and ever shifting relationship between diasporic subjects, cultural heritage and nation-(re)building in the Chinese context and beyond.

Reference 124 - 0.39% Coverage

¶92: which, while based on ancestry, also intersects with ideas of race and class. Representations of their Icelandic heritage allow the members of the Brazil Iceland Association to emphasise their 'Europeanness' and thus their associations with whiteness in contemporary post-colonial Brazil.

Reference 125 - 0.10% Coverage

¶95: Our land is our voice: First Nation heritage-making in the Tr'ondëk/Klondike

Reference 126 - 0.81% Coverage

¶96: The subsistence lifeways of the Tr'ondëk Hwëch'in, a First Nation in northwestern Canada, were radically challenged by the arrival of settler colonialism during the Klondike Gold Rush (1896–98). This Yukon First Nation has subsequently faced down a powerful array of Western heritage activities and commemorations, both local and national, designed to absorb them into modernity. Through a conscious and continuous programme of heritage-making, the citizens of the First Nation have re-asserted their territorial sovereignty and maintained and adapted their cultural identity to changing circumstances

Reference 127 - 0.14% Coverage

¶96: through a review of their call for a treaty, the creation of new instruments for carrying and expressing

Reference 128 - 0.16% Coverage

¶96: and their more recent programme of support for the survivors of the Canadian Government's Indian Residential Schools.

¶97:
Reference 129 - 0.61% Coverage

¶101: incorporates methodologies for sharing representational and interpretive authority, collaborative programme development, mutually constructed modes of presentation and stakeholder participation in policy-making. While recognising that heritage interventions inevitably involve power asymmetries, public folklore seeks to mitigate and diminish these imbalances as it develops approaches to enable communities to present their culture on their own terms

Reference 130 - 0.49% Coverage

¶101: It provides examples of the integration of multiple roles of public folklorists as scholars, administrators, producers of folklore presentations and government heritage officers. Public folklore

praxis achieved through the integration of these roles is seen as a potential model for critical heritage studies praxis for scholars who are advisors and researchers

Reference 131 - 0.28% Coverage

¶103: Discussed within the context of US public folklore, the process is understood as a co-intervention, representing an active partnership between the Bands' community and public folklorists (including the authors)

Reference 132 - 0.09% Coverage

¶103: through the dialogue-driven, collaborative intervention process.

Reference 133 - 0.13% Coverage

¶105: Folklore research in the United States typically is completed either through academic departments

Reference 134 - 0.51% Coverage

¶105: . These two approaches are termed 'academic folklore' and 'public folklore'. The intellectual history of both approaches has recently been critiqued. One result of this deconstruction is an ambivalence over the historical legacy of key concepts in the study of folklore. Assessing elements of the critical study of folklore's history – in both academe and the public sector

Reference 135 - 0.17% Coverage

¶105: suggests opportunities for reconstituting the study of traditional culture to establish a more socially responsive approach

Reference 136 - 0.18% Coverage

¶107: This disappearance, partly a function of reductionist, dualistic thinking, also signals a persistent colonialist myth of emptiness

References 137-138 - 0.59% Coverage

¶107: argue that the embodied, participatory field methods of public folklorists are particularly well-suited to the study and accreditation of land-based commons as heritage. Building on the idea of 'deep ecology', the notion of 'deep commoning' espouses our implication in worlds we bring into dialogue through the practice of public folklore as critical heritage work.

¶108: Memory and post-war memorials. Confronting the violence of the past

References 139-140 - 1.38% Coverage

¶110: Communism and cultural heritage: the quest for continuity

¶111: The purpose of this paper is to discuss the theoretical genealogy and main uses of heritage in actually existing communist countries. This is performed by carrying out a critical review of Èleazar Aleksandrovič Baller's Communism and Cultural Heritage, (1984, Progress, Moscow). The analysis of Baller's work reveals that the logics of heritage in communist countries differed in various ways from capitalist countries, mainly because of the almost total state control over the heritage apparatus and the subordination of heritage policies to Marxist–Leninist ideology. Heritage was fundamental in dealing with the problem of change and continuity with the traditions, narratives and identities of previous society, and in the process of transforming citizens into 'new men' through the cultural revolution and the inculcation of ideology through museums and monuments.

¶112: Political imprisonment and the sanctity of death: performing heritage in 'Troubled' Ireland

Reference 141 - 1.08% Coverage

¶113: The 'Troubles' is a euphemism associated with sectarian conflict in Northern Ireland from the late 1960s until the late 1990s. Similarly, that term also is used to depict turmoil in all of Ireland between 1916 through 1924. During both eras, political imprisonment coupled with various forms of political violence (e.g. bombings, executions, and prisoner abuse) marred Irish society in ways that invoke socio-religious meaning. In particular, the sanctity of death captures the intense semiotics of those events and points to further theorising along lines of the Durkheimian tradition. As we shall examine herein, violations of the sanctity of death compound social conflict and the resistance it creates. Fieldwork was undertaken in Dublin and Belfast where official landmarks were explored in-depth

Reference 142 - 0.25% Coverage

¶113: Whereas Durkeimian theory remains at the forefront of the analysis, insights also are informed by heritage studies, in particular notions of cultural performance in contested societies.

¶114:
Reference 143 - 0.18% Coverage

¶115: HSIBJ is inextricably tied to regional Blackfoot and settler-colonial histories, as well as the tensions that emerge between the two

Reference 144 - 0.13% Coverage

¶115: Proprioceptive grounding emplaces a body within an expanded and 'ancient' narratology of nation

Reference 145 - 0.16% Coverage

¶117: This is an archaeologically rich site with the histories of diverse peoples having left impressions on the landscape

Reference 146 - 0.11% Coverage

¶117: It is a relevant microcosm of South Africa's past fraught with contending histories.

Reference 147 - 0.13% Coverage

¶117: that show both the progress in decolonising the museum space as well as setbacks to that process.

Reference 148 - 1.35% Coverage

¶118: Taboo and sensitive heritage: labour camps, burials and the role of activism in the Channel Islands

¶119: In this article we propose the concept of taboo heritage as a way to describe a legacy of war so sensitive that it never undergoes heritage creation. Attempts at creation, such as heritage listing, renovation or excavation, are blocked by local authorities. We also examine the transition from taboo heritage to sensitive heritage, the next step along the 'heritage continuum', which we propose can only occur through the combined efforts of the passage of time, the role of activists and official authorisation. We take as our case study two of the British Channel Islands of Jersey and Alderney, occupied by German forces from 1940 to 1945. Labour camps were built in both islands, where the dead were also buried locally. We explore how the existing legacy of these events is still taboo heritage in Alderney, but has achieved partial progress in the transition to sensitive heritage in Jersey.

Reference 149 - 0.14% Coverage

¶120: Essentializing 'Black Pete': competing narratives surrounding the Sinterklaas tradition in the Netherlands

Reference 150 - 0.06% Coverage

¶121: has become subject to nation-wide contestation

Reference 151 - 0.17% Coverage

¶121: As Dutch society has become more multicultural, partly due to the immigration from the former Dutch colonies in the West-Indies,

Reference 152 - 0.26% Coverage

¶121: new sensitivities have arisen about this institutionalised heritage practice. At the core of the controversy is the figure of Black Pete (Zwarte Piet), Saint Nicholas' black-faced companion

Reference 153 - 0.12% Coverage

¶121: Some communities within Dutch society perceive this figure as highly menacing and insulting

Reference 154 - 0.40% Coverage

¶121: The ensuing controversy can be understood as a matter of heritage narratives conflicting. These narratives do not just give meaning to the tradition, but are also instrumentalized by actors in the debate to achieve their goals. They are used to justify or reject the appearance of Zwarte Piet,

Reference 155 - 0.36% Coverage

¶121: In this article we reconstruct the Zwarte Piet narratives, and explain why these are so incommensurable. Naturally, we also pay attention to what is at stake for the activists on all sides.

¶122: Heritage conservation and advocacy coalitions: the state-society conflict

Reference 156 - 0.09% Coverage

¶124: Tourism and national identity heritage and nationhood in Scotland

Reference 157 - 0.03% Coverage

¶128: Politics of tangibility

Reference 158 - 0.15% Coverage

¶129: crucial elements in the policy through which the EU seeks to govern both the actors and the meanings of heritage.

Reference 159 - 0.07% Coverage

¶129: discusses the EU's political intents included in

Reference 160 - 0.06% Coverage

¶133: critically examines the nationalistic uses

Reference 161 - 0.30% Coverage

¶133: is put in Western Asia by looking at the conflicts it initiated amongst the countries in the region over the ownership of shared culinary traditions. I first detail the conflict that has arisen between Armenia and Turkey

Reference 162 - 0.05% Coverage

¶133: over the ownership of keşkek dish

Reference 163 - 0.18% Coverage

¶133: Then I discuss the ownership conflicts over tolma dish and lavash bread that ensued in the region following the listing of keşkek.

Reference 164 - 0.10% Coverage

¶133: The Convention rather functions as a source of nationalism in the region

References 165-166 - 0.29% Coverage

¶133: to identify and legitimate transnational food traditions as national heritage and to prevent other countries from laying claims over them.

¶134: From bricks and mortar to social heritage: planning space for diversities

References 167-168 - 0.15% Coverage

¶135: by 'experts'. Set within the context of wider international trends towards more inclusive heritage practices

Reference 169 - 0.22% Coverage

¶135: Using local heritage designation as an investigatory platform, a thesis is developed to explain professional representations of heritage operating in this setting

Reference 170 - 0.13% Coverage

¶139: This is held in contrast to the homogenised identity normally presented by government narratives.

Reference 171 - 0.01% Coverage

¶141: Holocaust

Reference 172 - 0.10% Coverage

¶142: An archaeology of the troubles: the dark heritage of Long Kesh/Maze prison

<Internals\\IJHS 2017 abstracts> - § 155 references coded [28.54% Coverage]

Reference 1 - 0.07% Coverage

¶3: Civil War heritage as American diplomacy, 1957–1965

Reference 2 - 1.25% Coverage

¶4: explores the role of Civil War heritage in U.S. public diplomacy during the Cold War era. Especially during the celebration of the Civil War's centennial, between 1961 and 1965, the Americans endeavoured to harness the conflict's heritage to promote U.S. interests in Europe. How they intended to do this is demonstrated primarily through an examination of Colonel Sidney Morgan's mission to Europe to find how the commemoration of the Civil War could be used for public diplomacy. Additionally, by exploring how Civil War heritage was spread and used in the British public sphere, the paper examines and underlines the key role saved to unofficial cultural agents, such as Civil War re-enactment clubs and private people, in heritage diplomacy. The focus on unofficial agents and networks enable this study to show how heritage diplomacy works at the un-institutionalised level and to explore the interaction between the official and unofficial level in heritage diplomacy.

Reference 3 - 0.29% Coverage

¶4: historical memory and heritage for diplomatic ends and introduces both historians and heritage scholars with new avenues to explore, such as the role of memory and historical consciousness in shaping international relations.

Reference 4 - 0.12% Coverage

¶6: The Civil War heritage presents cultural, political and practical challenges for the museum

Reference 5 - 0.12% Coverage

¶7: Folklore without a folk: questions in the preservation of the Marinduque Moriones heritage

¶8:
Reference 6 - 0.03% Coverage

¶8: political intervention

Reference 7 - 0.07% Coverage

¶8: increasing detachment from the Marinduque community

Reference 8 - 0.01% Coverage

¶9: The Hopi

Reference 9 - 0.02% Coverage

¶9: the repatriation

Reference 10 - 0.04% Coverage

¶9: Indigenous cultural heritage

Reference 11 - 0.13% Coverage

¶10: central to the religion of the Hopi people of northern Arizona in the United States. Since 2013 the Hopi

Reference 12 - 0.09% Coverage

¶10: have sought the return of katsinam being sold in French auction houses

References 13-14 - 0.32% Coverage

¶10: This paper treats the case of the katsinam as a cautionary lesson in cultural heritage studies, with the goal of drawing insights that can inform other situations involving the repatriation of Indigenous cultural heritage

¶11: Incidental heritage: difficult

Reference 15 - 0.03% Coverage

¶12: the context of 'negative'

Reference 16 - 0.09% Coverage

¶12: explores Burström and Gelderblom's proposition of 'difficult heritage,'

Reference 17 - 0.06% Coverage

¶12: the site of the Third Reich Harvest Festival

Reference 18 - 0.08% Coverage

¶12: as a site where collective moments of cultural shame occur.

Reference 19 - 0.23% Coverage

¶12: then considers homelessness within this theoretical framework to ask whether those aspects of our inherited and contemporary culture, which are difficult and culturally shameful,

Reference 20 - 0.04% Coverage

¶19: Social divisions carved in stone

Reference 21 - 0.15% Coverage

¶20: Popular protests in 2015 in South Africa around statues and memorials, sparked off by the #RhodesMustFall campaign

Reference 22 - 0.18% Coverage

¶20: The protests and commentary in social and other media revealed the extent of polarisation along racial fault lines in South African society

Reference 23 - 0.14% Coverage

¶20: It argues that many of the heritage practices and policies in South Africa are rooted in the apartheid past

Reference 24 - 0.19% Coverage

¶20: that failure, especially by decision-makers, to critically interrogate these has led to the stunted transformation of society and the current ferment.

Reference 25 - 0.09% Coverage

¶21: locating the punitive state in the historical penal landscape of Taipei

¶22:

Reference 26 - 0.02% Coverage

¶22: prison heritage

Reference 27 - 0.44% Coverage

¶22: discusses the punitive state in the context of the historical penal landscape of Taipei through an exploration of how an historical prison was designed, built, partially demolished, preserved and redeveloped under three political regimes. It draws attention to the neglected relationships between punishment, colonial modernity and heritage

Reference 28 - 0.29% Coverage

¶22: Drawing on the literature of dissonant heritage and dark tourism it argues that the way in which the government erased the heritage and evicted squatters without regard for colonial histories and large-scale, post-war migration

Reference 29 - 0.11% Coverage

¶22: is yet another way of writing imprisonment into the landscape and ‘othering’ the punished

Reference 30 - 0.07% Coverage

¶27: the construction of ‘under-represented’ faith heritage

Reference 31 - 0.06% Coverage

¶27: in a multicultural and post-Christian setting

¶28:
References 32-33 - 0.15% Coverage

¶28: overlooked buildings of minority faith traditions. Little has been written about this ‘under-represented’ heritage.

Reference 34 - 0.10% Coverage

¶28: we examine the ways in which Buddhist heritage is beginning to be incorporated

Reference 35 - 0.14% Coverage

¶28: helps us think through the dynamics of modern religious belief in a multicultural and post-Christian setting.

¶29:
Reference 36 - 0.11% Coverage

¶34: Returning home: heritage work among the Stl’atl’imx of the Lower Lillooet River Valley

Reference 37 - 0.79% Coverage

¶35: This article focusses on heritage practices in the tensioned landscape of the Stl’atl’imx (pronounced Stat-lee-um) people of the Lower Lillooet River Valley, British Columbia, Canada. Displaced from their traditional territories and cultural traditions through the colonial encounter, they are enacting, challenging and remaking their heritage as part of their long term goal to reclaim their land and return ‘home’. I draw on three examples of their heritage work: graveyard cleaning, the shifting ‘official’/‘unofficial’ heritage of a wagon road, and marshalling of the mountain named Nsvq’ts (pronounced In-SHUCK-ch)

Reference 38 - 0.39% Coverage

¶35: in order to illustrate how the past is strategically mobilised in order to substantiate positions in the present. While this paper focusses on heritage in an Indigenous and postcolonial context, I contend that the dynamics of heritage practices outlined here are applicable to all heritage practices.

¶36:
Reference 39 - 0.26% Coverage

¶37: By examining the implications of this cultural practices in contemporary society, this paper ultimately raises the question of who constitutes the true legatee of traditional culture of Pamsŏm village.

Reference 40 - 0.23% Coverage

¶37: The cultural practice of the Pamsŏm Pugundang kut carried out by the villagers of Pamsŏm can be interpreted not merely as a critique of the dynamics of political and cultural heritage

Reference 41 - 0.04% Coverage

¶38: and changes of political values:

Reference 42 - 0.07% Coverage

¶39: have been extensively criticised for being Eurocentric

Reference 43 - 0.11% Coverage

¶39: Asia is a region of extraordinary levels of cultural, religious and ethnic diversity

Reference 44 - 0.14% Coverage

¶39: Asian nations tend to utilise assessments and management ideologies that derive from a European viewpoint.

Reference 45 - 0.06% Coverage

¶39: tensions between governments' understanding

Reference 46 - 0.30% Coverage

¶39: In this paper, I argue that both national and local governments are quite cynical about the listing process, in that they not only recognise they are playing a game, but that the game is 'played' under Eurocentric rules and terms.

Reference 47 - 0.02% Coverage

¶39: to Western experts,

Reference 48 - 0.01% Coverage

¶39: expertise

Reference 49 - 0.11% Coverage

¶41: These are, first, a turn towards crowdsourcing as a means of democratising representation

References 50-51 - 0.35% Coverage

¶41: White noise displaces and silences its Others. The white ‘listening ear’, to borrow Jennifer Stoever-Ackerman's terminology, is either deaf to, or appalled by, the sounds those Others make.

¶42: Heritage under attack: motives for targeting cultural property during armed conflict

Reference 52 - 1.34% Coverage

¶43: In particular, little research has been directed towards exploring the motivations for such attacks. Therefore, we ask: What are the motives for attacking sites, buildings or objects representing cultural heritage? By combining insights from peace and conflict research with findings from heritage studies we present a typology of motivations for attacking cultural property. We identify four, not mutually exclusive, broad groups of motives: (i) attacks related to conflict goals, in which cultural property is targeted because it is connected to the issue the warring parties are fighting over (ii), military-strategic attacks, in which the main motivation is to win tactical advantages in the conflict (iii), signalling attacks, in which cultural property is targeted as a low-risk target that signals the commitment of the aggressor, and (iv) economic incentives where cultural property provides funding for warring parties. Our typology offers a theoretical structure for research about why, when, and by whom, cultural property is targeted.

Reference 53 - 0.21% Coverage

¶45: A participant commented that ‘it is not possible to punish the State Party if a disaster or a war occurred’, but ‘there was no further exchange on this aspect’.

Reference 54 - 0.19% Coverage

¶47: Debates surrounding heritage are indeed a part of the wider picture of Hong Kong’s cultural and identity politics and the Hong Kong-China relationship

Reference 55 - 0.08% Coverage

¶47: By examining various contested cases of heritage conservation

Reference 56 - 0.32% Coverage

¶47: by linking those debates back to the government’s responses within the context of cultural governance, we suggest that heritage management has become a hot stove for cultural politics in post-colonial Hong Kong with deep repercussions in the political,

Reference 57 - 0.07% Coverage

¶47: the various government attempts to address these debates.

Reference 58 - 0.04% Coverage

¶47: to better accommodate diverse

Reference 59 - 0.08% Coverage

¶49: The politics and practices of cultural heritage in the Middle East

Reference 60 - 0.03% Coverage

¶50: Issues of participation,

Reference 61 - 0.01% Coverage

¶50: diversity

¶51:
Reference 62 - 0.05% Coverage

¶51: the politics of representation after Mao

Reference 63 - 0.13% Coverage

¶58: if not accompanied by participatory practices considerate of the specific social reality of China.

¶59:
Reference 64 - 0.07% Coverage

¶60: In the small Peruvian, Quechua-speaking town of Chinchero

Reference 65 - 0.03% Coverage

¶60: encouraged by the State

Reference 66 - 0.17% Coverage

¶60: have been trying to create among the population an obligation of historical and emotional identification with their Inca ancestors.

Reference 67 - 0.22% Coverage

¶60: The operation has left out other histories grounded in grassroots events, like the struggle for the land against the abusive landowners that took place during colonial times

Reference 68 - 0.17% Coverage

¶60: In light of these developments, the author explores how the people of Chinchero are contesting official versions of heritage and history

Reference 69 - 0.02% Coverage

¶67: co-production

¶68:
Reference 70 - 0.11% Coverage

¶75: is increasingly impinging on the relationship between the professionals and the public

Reference 71 - 0.14% Coverage

¶79: can disrupt official narratives of The Troubles and challenge a regional identity based on conflict and division

Reference 72 - 0.10% Coverage

¶79: in which diverse, unofficial and personal narratives can be presented together.

¶80:
References 73-74 - 0.15% Coverage

¶81: in balance with the objective art/historical values of conventional experts.

¶82: The racialisation of local heritage

Reference 75 - 0.92% Coverage

¶83: The region of Camden, located on the outskirts of Sydney, is a growing area set to morph from a country town to a thriving suburban district. In 2007, a Sydney Islamic charity sought to build an Islamic school in the region. Local opponents protested the application in ways that expressed contemporary forms of anti-Muslim racisms in Australia. This article pays close attention to the narratives of heritage within these voices of opposition, as a sizeable number of protesters claimed the school would violate the local settler heritage in Camden. In uncovering these discourses, it was evident that a narrative of white peaceful settlement informed the ways locals mobilised local heritage in relation to the school

Reference 76 - 0.29% Coverage

¶83: The racialisation and whiteness of local heritage negated the Aboriginal presence and history in Camden, and provided a template for the maintenance of white colonial hegemony and the construction of many racialised discourses.

Reference 77 - 0.17% Coverage

¶83: Further, these racialisations underpinned the popular anti-Muslim sentiment expressed in ways that positioned local heritage as that

Reference 78 - 0.20% Coverage

¶91: would not traditionally be the subject of intense media scrutiny, but the case of Sekhemka was widely reported in local, national and international press

Reference 79 - 0.03% Coverage

¶92: Contested heritages

Reference 80 - 0.19% Coverage

¶93: the rediscovery of sites and places of past conflict and all accompanied with uneasy narratives about what they mean and how they should be consumed.

Reference 81 - 0.11% Coverage

¶93: The 17thC walled city, the city of violence and the post-conflict renaissance city

Reference 82 - 0.09% Coverage

¶93: critically, the problematized and reified narratives they each project.

¶94:

Reference 83 - 0.03% Coverage

¶95: whose voices are silenced

Reference 84 - 0.26% Coverage

¶97: Many such acts are not collateral damage, but rather are deliberate and ideologically driven assaults intended to eradicate the adversary's identity and collective memory. They represent 'urbicide' and

Reference 85 - 0.20% Coverage

¶97: Reconstruction, however, is itself an ideological act and a destructive activity, since it erases memories of the violence and removes physical evidence.

Reference 86 - 0.52% Coverage

¶97: Beyond commemoration, a desired outcome is reconciliation. True reconciliation requires the release of anger and pain, so that memories of the violence may be retained without a desire for retribution. This article looks at a selection of acts intended at destroying cultural heritage, including some that did not occur during war, and examines means and motives for achieving mitigation and reconciliation

Reference 87 - 0.09% Coverage

¶100: Truth as historical recapitulation: the dead of Cape Town's District One

Reference 88 - 0.24% Coverage

¶101: how their agency forces us to consider what it means to live in the city during post-apartheid urban renewal. I argue that the agency of the District One dead hinges on their exposure

Reference 89 - 0.04% Coverage

¶101: This story ends ambiguously.

Reference 90 - 0.44% Coverage

¶101: the gaze on Cape Town was redirected away from the city's past and towards its future; I explore how their reinterment foreclosed a series of discussions regarding the reconciliation of past events with the present realities of Cape Town. I argue, finally, that truth at District One can be understood as a form of historical recapitulation

Reference 91 - 0.07% Coverage

¶108: Britain's history and memory of transatlantic slavery

Reference 92 - 0.09% Coverage

¶111: 'Nostalgia for the future': memory, nostalgia and the politics of class

Reference 93 - 0.43% Coverage

¶112: we argue that a useful distinction can be made between 'reactionary nostalgia' and 'progressive nostalgia', and that a 'nostalgia for the future' can emerge from memories and memorialisations. Drawing on the past can help mould the sentiments and nurture the emotional commitment to social justice issues the Left so desperately needs.

¶113:
Reference 94 - 0.09% Coverage

¶115: The nostalgic native? The politics and terms of heritage and remembrance

Reference 95 - 0.29% Coverage

¶116: Indigenous peoples in settler societies are one group that is often associated with having a deep reflection of the past. It is therefore curious that the term 'nostalgia' is rarely applied to 'Native' reflection on the past.

Reference 96 - 0.55% Coverage

¶116: It then uses a systematic analysis to observe how nostalgia appears in articles in two prominent journals on Native Americans. The findings of this analysis are that 'nostalgia' as a term is rarely used and, when it is, it is mostly applied to non-Native fantasies about a national past. Next the essay attempts to show that not only does nostalgia exist in a Native community, but that multiple forms of nostalgia are present.

Reference 97 - 0.42% Coverage

¶118: It uses nostalgia in this mode to highlight the differences in how progressive the western world is in treating LGBTQIA+ youth: through their own decisions, the player gets to know two young women as they come to terms with their sexuality and identities against a backdrop that is even less welcoming to difference than today

Reference 98 - 0.03% Coverage

¶119: Commemoration as conflict

Reference 99 - 0.02% Coverage

¶119: peace processes

¶120:

Reference 100 - 0.05% Coverage

¶122: Stones standing. Archaeology, colonialism

References 101-102 - 0.09% Coverage

¶127: however, it becomes even more so in urban environments where conflicts

Reference 103 - 0.09% Coverage

¶127: and culture are pivotal, as in Israel's mixed Israeli-Palestinian cities

Reference 104 - 0.32% Coverage

¶127: I argue that while efforts have been made to conserve the waterfront's heritage, the redevelopment has resulted in an artificial space that does not speak to the local culture of Jaffa as it is interpreted by the port community, including the fishermen

Reference 105 - 0.13% Coverage

¶127: in a politically and culturally contested environment.

¶128: Commemorative events at destination memorials

Reference 106 - 0.14% Coverage

¶129: The term ‘dark’ was added with the aim of recognising heritage sites closely related to death and suffering

Reference 107 - 0.70% Coverage

¶129: Public commemorations, especially those that mark particularly disturbing occurrences, such as ‘The Great School Hour’ – an event which is presented in the artistic form of a ‘school class’ – are unique form of tourist activity that has not been thoroughly investigated previously. Thus, the aim of the study is to explore the influence of the main motivators on revisit intention and willingness to recommend for those who attended the commemorative event ‘The Great School Hour’ in Kragujevac, Serbia, with a particular focus on younger people.

Reference 108 - 0.26% Coverage

¶131: The ethos of a European cultural heritage in the videos is based on a paradox: the history of the several sites is in various ways intertwined with extreme agony, violence, hatred, oppression, and injustice

Reference 109 - 0.11% Coverage

¶131: The affectivity of the videos prepares the receivers to adopt their political aim:

Reference 110 - 0.04% Coverage

¶134: during the Greek economic crisis

¶135:
Reference 111 - 0.19% Coverage

¶135: constituted a powerful, political medium for dis-orientating the wider Greek public from issues related to the severe economic crisis of the country

Reference 112 - 0.02% Coverage

¶135: power imbalances

Reference 113 - 0.22% Coverage

¶135: practical implications regarding the role of archaeologists and heritage practitioners towards political ‘abuse’ of heritage in times of socio-economic and political crises.

¶136:
Reference 114 - 0.05% Coverage

¶136: desacralisation of a fascist relic

¶137:
Reference 115 - 0.59% Coverage

¶137: was contested from the moment of its installation in 1928. The German-speaking inhabitants of Bolzano were offended by its expression of Italian patriotism and the monument continued to symbolise the antagonism between the Italian- and the German-speaking population in the period following the end of Second World War. The monument's explicit fascist propaganda attracted strong polemical reactions and some political groups even asked for it to be demolished

Reference 116 - 0.22% Coverage

¶137: Its historicisation offers a new interpretation of the monument – not one based on a schism between the populations of Bolzano, but rather one proposing reconciliation.

Reference 117 - 0.24% Coverage

¶137: , an efficient tool for the 'desacrilisation' of politically charged buildings; by exposing the detested ideology that they represent, they are stripped of their original 'sacred' character

Reference 118 - 0.20% Coverage

¶137: This process also shows that it is possible for controversial, politically significant structures to become legitimate parts of a country's modern heritage.

¶138:
Reference 119 - 0.04% Coverage

¶139: heritage, democracy, and inclusion

References 120-121 - 0.08% Coverage

¶140: decolonizing practice

¶141: Museums, equality and social justice

Reference 122 - 0.34% Coverage

¶146: A series of seven statues commissioned by the mayor of the Canton of Colta in 2007 represent an emerging aspect of public art in the Andes: municipal statuary sponsored by Indigenous communities. The figures chosen for these statues represent Colta to the world

Reference 123 - 0.32% Coverage

¶146: embody a postcolonial heritage in which figures from Juan de Velasco's eighteenth century Historia del Reino de Quito mix with local twentieth century heroes, in a medium directly descended from the Andean urbanism of the Liberal nineteenth century.

Reference 124 - 0.07% Coverage

¶147: Action heritage: research, communities, social justice

References 125-126 - 1.73% Coverage

¶148: Societies are unequal and unjust to varying degrees and heritage practitioners unavoidably work with, perpetuate and have the potential to change these inequalities. This article proposes a new framework for undertaking heritage research that can be applied widely and purposefully to achieve social justice, and which we refer to as action heritage. Our primary sources are semi-structured conversations we held with some of the participants in three heritage projects in South Yorkshire, UK: members of a hostel for homeless young people, a primary school, and a local history group. We examine 'disruptions' in the projects to understand the repositioning of the participants as researchers. The disruptions include introducing a scrapbook for personal stories in the homeless youth project and giving the school children opportunities to excavate alongside professional archaeologists. These disruptions reveal material and social inequalities through perceptible changes in how the projects were oriented and how the participants thought about the research. We draw on this empirical research and theorisations of social justice to develop a new framework for undertaking co-produced research. Action heritage is 'undisciplinary' research that privileges process over outcomes, and which achieves parity of participation between academic and

Reference 127 - 0.22% Coverage

¶152: often creates a range of unintended consequences, this article reveals the many 'awkward engagements' that have emerged 'on the ground' in Bali as local agencies of government

Reference 128 - 0.06% Coverage

¶153: Is cultural democracy possible in a museum?

Reference 129 - 0.08% Coverage

¶153: Critical reflections on Indigenous engagement in the development

Reference 130 - 0.19% Coverage

¶154: Recent museological scholarship emphasises visitor participation and democratic access to cultural heritage as key to securing the ongoing relevance

Reference 131 - 0.21% Coverage

¶154: But do legacies of colonialist collecting practices and hierarchical conventions of representation in museums afford the possibility of genuine cultural democracy?

Reference 132 - 0.13% Coverage

¶154: promoted as an unprecedented partnership between the institutions and Indigenous Australian communities.

Reference 133 - 0.04% Coverage

¶154: participation and democracy,

Reference 134 - 0.28% Coverage

¶154: in tandem with analysis of public critiques and Indigenous responses to the exhibition, the paper suggests that the extent of Indigenous agency within the collaboration fell short of the articulated goals of the project

Reference 135 - 0.21% Coverage

¶154: It concludes that the concept of maximal participation and release of agency to communities of interest may be difficult to achieve within existing museum frameworks.

Reference 136 - 0.13% Coverage

¶157: Feeling implicated in unfinished business: a response to “Is cultural democracy possible in a museum?”

Reference 137 - 0.06% Coverage

¶160: “Is cultural democracy possible in a museum?”

Reference 138 - 0.10% Coverage

¶161: Encountering complexity: debates around cultural democracy and participation

Reference 139 - 0.14% Coverage

¶162: Tranquebar – whose history? Transnational cultural heritage in a former Danish trading colony in South India

Reference 140 - 0.10% Coverage

¶165: Balancing written history with oral tradition: the legacy of the Songhoy people

Reference 141 - 0.23% Coverage

¶168: Globalisation is creating new perceptions of social and cultural spaces as well as complex and diverse pictures of migration flows. This leads to changes in expressions of culture,

Reference 142 - 0.18% Coverage

¶170: from 2015–2016. Such feelings are needed after a war resulting in geographical displacement as occurred during the breakup of Yugoslavia.

References 143-144 - 0.24% Coverage

¶170: Alternative narratives to those of ethnic separation are taken into consideration, and it is argued that a sole focus on division may further enforce it rather than lead to its reduction.

Reference 145 - 0.34% Coverage

¶170: A sense of disassociation to the current city of Mostar and its narratives has led to the construction of narratives of home within a different time-period (pre-war Mostar). In turn, this may cause nostalgia, passivity, and an 'othering' of the newcomers to Mostar

Reference 146 - 0.35% Coverage

¶170: However, there are also cases of employing such a narrative actively in order to envision an alternative future beyond ethnic separation. So far, the institutions working with the heritage of Mostar have not addressed these issues, thus possible ways forward are suggested.

¶171:
Reference 147 - 0.15% Coverage

¶173: Preserving 'the Enemy's' architecture: preservation and gentrification in a formerly Palestinian Jerusalem neighbourhood

Reference 148 - 0.09% Coverage

¶174: bearing in mind the context of a difficult past and an on-going conflict?

Reference 149 - 0.10% Coverage

¶174: comes with the 'risk' of them being used as memory sites for subaltern groups.

Reference 150 - 0.18% Coverage

¶174: focuses on one formerly Palestinian West Jerusalem neighbourhood, Baka, where gentrification was triggered by historic Palestinian homes

Reference 151 - 0.21% Coverage

¶176: by discussing the debate series of Imagine IC and the Reinwardt Academy and zooming in on the commemoration of slavery and imagery of 'Black Pete' in the Netherlands.

Reference 152 - 0.10% Coverage

¶179: Re-assembling the memorial landscape: the politics of walking tours in Taipei

Reference 153 - 0.22% Coverage

¶180: Based on three case studies in Taipei, Taiwan, we discuss how memorial landscapes featuring the urban underclass and civil resistance might be strategically re-assembled.

Reference 154 - 0.07% Coverage

¶182: Nation building: craft and contemporary American culture

Reference 155 - 0.11% Coverage

¶183: The right to protect sites: indigenous heritage management in the era of native title

<Internals\\IJHS 2018 abstracts> - § 196 references coded [33.91% Coverage]

Reference 1 - 0.14% Coverage

¶3: Layers of religious and political iconoclasm under the Islamic State: symbolic sectarianism and pre-monotheistic iconoclasm

Reference 2 - 1.10% Coverage

¶4: To date, their iconoclasm has been mostly characterised either as acts of wanton barbarism devoid of religious or political justification, or as a cynical performance designed as a mass media spectacle. Drawing on a systematic analysis of two key IS propaganda outlets – their on-line magazine, Dabiq, and the various slick films released by Al-Hayat – this article argues that the heritage destruction perpetrated by the IS are not only situated within a carefully articulated theological framework and key to the creation of a new and ideologically pure 'Islamic State', but that they are also constituted by several complex layers of religious and political iconoclasm. To demonstrate, this article documents the iconoclasm undertaken by the IS along two key axes: Symbolic Sectarianism (Shia and Sufi mosques and shrines); and Pre-Monotheistic Iconoclasm (ancient polytheistic sites). Attacks on key sites within these categories

Reference 3 - 0.22% Coverage

¶4: not only adhere to their religious and political framework but also serve broader geo-political agendas and are attacked as proxy targets for their physical and ideological opponents.

¶5:
Reference 4 - 0.12% Coverage

¶6: Three themes are in focus: (1) bringing out the history of a subaltern and marginalised group of people

Reference 5 - 0.20% Coverage

¶8: This article brings a new perspective on the heritagization of spontaneous memorials, seen as important in determining how a traumatic event such is a terrorist attack

Reference 6 - 0.03% Coverage

¶10: the ‘expert’ designated

Reference 7 - 0.03% Coverage

¶11: an ethnic theme park setting

Reference 8 - 0.27% Coverage

¶12: It investigates how the Binglanggu theme park in Hainan aims to contribute to the safeguarding of Li minority heritage. The study is based on qualitative data consisting of interviews with Li minority members working at Binglanggu

Reference 9 - 0.28% Coverage

¶12: The findings indicate that, when concentrating on certain ICH expressions that align with the state’s ethnic minority narrative, the theme park makes an important contribution to the research and documentation of Li minority heritage.

Reference 10 - 0.14% Coverage

¶12: are to include the ethnic minority group in the safeguarding process, for example by employing them in management positions

Reference 11 - 0.03% Coverage

¶14: restitution and repatriation

Reference 12 - 0.17% Coverage

¶14: and the notion of a ‘shared’ colonial heritage. Ultimately, the article re-contextualizes the Maisons Tropicales in their (post-)colonial legacies

Reference 13 - 0.09% Coverage

¶16: that, avant la lettre, disregards traditional up-down decision-making processes

Reference 14 - 0.02% Coverage

¶18: learning to respect

¶19:
Reference 15 - 0.04% Coverage

¶22: the first-place of the Kalahari

Reference 16 - 0.14% Coverage

¶23: Through the extended example of the Tsodilo Hills in Botswana and the various social groups – local ethnic communities

Reference 17 - 0.02% Coverage

¶23: national citizens

Reference 18 - 0.12% Coverage

¶23: set within a postcolonial context of nation building and modernising that involves the politicisation

Reference 19 - 0.01% Coverage

¶26: a contested

Reference 20 - 0.20% Coverage

¶27: The historical struggles the immigrants faced upon settling the land are rooted in the landscape and commemorated in different versions of Patagonian regional history

Reference 21 - 0.07% Coverage

¶27: that serve as a method of solidifying Welshness in Chubut

Reference 22 - 0.09% Coverage

¶27: while minimally representing predecessor groups like the indigenous communities

Reference 23 - 0.22% Coverage

¶27: Spanish colonials. Curiously, the representation of these other heritage communities throughout heritage displays actually serves to bolster the Welsh ‘first-place’ claims over the region

Reference 24 - 0.05% Coverage

¶27: by acknowledging local historical diversity

Reference 25 - 0.09% Coverage

¶27: while simultaneously recalling and emphasising the [Welsh] homeland heritage.

Reference 26 - 0.08% Coverage

¶27: explores how ‘first-places’ can be a source of symbolic conflict

Reference 27 - 0.02% Coverage

¶28: Moroccan Jewish

Reference 28 - 0.34% Coverage

¶29: At the heart of this idea and since the very start, there has always been the Jewish case. The diaspora of the Jews of Morocco, in the periphery, was presented by some authors, as a good case with which to relativize the theoretical pertinence and conceptual inspiration of the Jewish model.

Reference 29 - 0.20% Coverage

¶29: Focusing on Jewish history, heritage, and travelling in Morocco, I will continue to question the paradigm of social studies based on the bi-polar center-diaspora model.

Reference 30 - 0.33% Coverage

¶29: The individualization of religious practice in post-secular societies allows and includes – and often merges – secular, ethnic and political approaches of what once was purely designated as religious identity. Heritage Moroccan landscape (and landscaping) allows different approaches

Reference 31 - 0.06% Coverage

¶30: Uses of the past: negotiating heritage in Xi’an

Reference 32 - 0.30% Coverage

¶31: The recent urban development in Xi’an illustrates how local authorities are rebuilding an imagined and ancient capital of China which is tied to the remote Tang dynasty, a symbol of the glorious Chinese civilization. Based on instrumental uses of the past

Reference 33 - 0.16% Coverage

¶31: This study contributes to an understanding of the contested nature of heritage in the rapidly shifting urban landscape of contemporary China

Reference 34 - 0.39% Coverage

¶31: Rather than fully following the official script, participants in the heritage industry have different responses to the changing social and living environment in Xi'an. Despite the nation-state's overwhelming involvement in people's daily lives, I suggest that there is still space where individuals may challenge the dominant narrative

Reference 35 - 0.18% Coverage

¶31: While such challenges might not replace the existing official discourse, people adapt, negotiate and contest these heritage discourses and practices

Reference 36 - 0.25% Coverage

¶33: Located in Coimbra and built in the 1940s, when Portugal was a colonial empire and was under the rule of a right wing dictatorship, the park was designed as a pedagogical device for children to learn about the nation

References 37-38 - 0.24% Coverage

¶33: The work undertaken with the latter has allowed to identify a narrative of 'firstness' that constructs the park as a hyper-real first-place by Portuguese visitors.

¶34: Re-using 'uncomfortable heritage':

Reference 39 - 0.26% Coverage

¶35: with potentially difficult past events, we propose the category of 'uncomfortable heritage', as part of a wider spectrum of 'dark heritage', and conclude with a final reflection upon 1933 Shanghai as a heterotopic space.

¶36:
Reference 40 - 0.04% Coverage

¶39: continued cross-sector dialogue.

¶40:
References 41-43 - 0.43% Coverage

¶40: the memory-work of producing and managing slavery heritage at southern plantation museums

¶41: In the southeastern United States, operators of plantation museums have traditionally engaged in a selective and romanticised remembrance of the antebellum past that has regrettably silenced and marginalised the historical experiences and struggles of enslaved African people.

Reference 44 - 0.29% Coverage

¶41: suggests that theatrical performances of the memories of enslavement are an increasingly important but not yet fully understood strategy for recovering, embodying, and representing a different and hopefully more just narrative about enslaved Africans

Reference 45 - 0.32% Coverage

¶41: We delve into the emotion-laden challenges confronting slavery-related museum theatre development at the North Carolina plantations and discuss the creative response formulated at the sites to help visitors work through unexpected feelings and understandings about the past.

Reference 46 - 0.34% Coverage

¶44: The game is built upon historical narratives of disenfranchised populations that are seldom taught, those typically relegated to the 'null curriculum'. These narratives include the stories of women immigrant labour leaders in the early twentieth century, more than a decade before suffrage

Reference 47 - 0.23% Coverage

¶44: In paying particular attention to historical themes that endure over time, the game aims to draw connections between historical and contemporary narratives of diverse and disenfranchised populations

References 48-49 - 0.28% Coverage

¶44: can be used to spotlight contemporary issues of disenfranchisement. Supra-reveals, historical thematic foreshadowing, can help establish key links between themes of disenfranchisement of diverse groups in the past and those in the present.

References 50-51 - 0.12% Coverage

¶44: brought focus to teaching issues of diversity and disenfranchisement typically written out of curriculum.

Reference 52 - 0.08% Coverage

¶46: but many remain rooted in authoritative and didactic conservatism.

Reference 53 - 0.10% Coverage

¶46: visitor agency is retained and a more radical model of historical knowledge suggested.

¶47:
Reference 54 - 0.18% Coverage

¶49: Can technology help present the stories of disadvantaged and disenfranchised groups whose heritage lacks well-preserved architecture or material culture?

Reference 55 - 0.28% Coverage

¶49: This especially applies to underrepresented groups whose heritages have not been well served by traditional modes of preservation and interpretation due to a variety of factors. These range from disadvantages relating to material culture

Reference 56 - 0.11% Coverage

¶52: obscures the wider work that such objects do in respect to the cultural politics of ownership

Reference 57 - 0.05% Coverage

¶53: Insurgency, heritage and the working class

Reference 58 - 0.44% Coverage

¶54: due to changes in the capitalist economy, becoming known as an 'ex-coal mining community'. Drawing on insurgent planning theory and through a political, economic and social analysis of the history of this national monument, the paper explores how grassroots heritage movements, grounded on their historical memory of social struggle, question authorised voices in the field,

Reference 59 - 0.26% Coverage

¶54: The strategies used by these groups are discussed in the context of the emergence of social movements at the beginning of the twentieth century, the influence of the Modern Movement in Chile as a symbol of social justice

Reference 60 - 0.47% Coverage

¶54: Through interviews, participant observations, archival research and analysis of the physical built environment, I argue that moving across 'invited' and 'invented' spaces of participation, Lotinos are capable of disrupting hegemonic conceptions of heritage, using it for their own social, cultural and economic purposes and creating opportunities for a more inclusive and democratic cultural process.

Reference 61 - 0.21% Coverage

¶60: assuming continuous links between contemporary populations and ancient societies. In the context of current and expected major demographic changes as a result of global migration

Reference 62 - 0.08% Coverage

¶60: to perceived challenges of globalisation and demographic changes

Reference 63 - 0.16% Coverage

¶60: By reflecting on present narratives, our discussion relates to struggles over defining 'Norwegianness' and criticism of such notions

References 64-65 - 0.46% Coverage

¶60: The identification of four levels of tension allows us to centre attention on key issues of importance to the societal aim of including and engaging an increasingly heterogeneous population, and to argue for a bottom-up and recursive approach.

¶61: 'Where the F… is Vuotso?': heritage of Second World War forced movement and destruction in a Sámi reindeer herding community in Finnish Lapland

Reference 66 - 0.05% Coverage

¶62: within a Sámi reindeer herding community

Reference 67 - 0.12% Coverage

¶62: Our focus is on the village of Vuotso, which is home to the southernmost Sámi community in Finland.

Reference 68 - 0.22% Coverage

¶62: They also appear to facilitate nostalgia for the more independent days before traditional Sámi lifeways were ruptured by stronger Finnish State intervention in the post-war decades.

¶63:
Reference 69 - 0.09% Coverage

¶66: Heritage and resistance: irregularities, temporalities and cumulative impact

Reference 70 - 0.04% Coverage

¶67: often give rise to social conflicts

Reference 71 - 0.38% Coverage

¶67: In this study, we investigate how resistances to this change emerge, coalesce and revolve, and how they use heritage to generate cumulative impact. The analyses of urban change and resistance in Gårda, a working-class neighbourhood of Gothenburg, Sweden, showed social conflicts to be instigated by their stigmatisation

Reference 72 - 0.10% Coverage

¶67: In response, five ‘Re-Gårda’ resistance strategies emerged to contest Gårda’s future

Reference 73 - 0.14% Coverage

¶67: Investigating heritage and resistance in Gårda helped us reveal the potential of resistance in challenging the limits

Reference 74 - 0.16% Coverage

¶69: These resonances often lend a conservative charge to heritage; however, they might also be viewed as offering a critique of the present.

Reference 75 - 0.02% Coverage

¶73: diverse meanings

Reference 76 - 0.09% Coverage

¶73: On one hand, the site marks a point of conflict between Turks and Armenians

Reference 77 - 0.05% Coverage

¶73: and construction of national narratives

Reference 78 - 0.04% Coverage

¶73: and add to the political tension

Reference 79 - 0.05% Coverage

¶73: from national political meanings and uses

Reference 80 - 0.10% Coverage

¶75: In the wake of Native North American activism and moves to decolonize archaeology

Reference 81 - 0.74% Coverage

¶75: some journals, museums, and individual scholars have blanket policies covering even those remains whose descendants favour display. This article examines one context affected by these policies: the central Mexican town of Xaltocan. Here, Indigenous residents advocate for archaeological study and exhibition of ancient human remains, yet they have been criticised and censored by North American audiences. We consider two factors behind their desire to display the dead as part of efforts to reclaim Indigenous identities: long-standing Mesoamerican relationships with the dead and the materiality and symbolic capital of bones.

Reference 82 - 0.20% Coverage

¶75: We argue that an academic reluctance to display any human remains is problematic – even if it is a well-intentioned acknowledgement of respect for their sensitive nature

References 83-84 - 0.24% Coverage

¶75: because it imposes the wishes of one Indigenous group on another, and may thereby lead to the unwitting perpetuation of colonial practice. We suggest that decolonizing archaeology may sometimes necessitate

Reference 85 - 0.12% Coverage

¶75: ethnographic research in individual communities is needed to ensure respect for descendant perspectives.

¶76:
Reference 86 - 0.17% Coverage

¶77: The study of Feng Shui demonstrates how a non-western discourse of narrating the historic urban form could be deployed in Chinese heritage practice

Reference 87 - 0.09% Coverage

¶78: Speaking for the dead: the memorial politics of genocide in Namibia and Germany

Reference 88 - 0.08% Coverage

¶79: discusses the politics of the material commemoration of mass crime

Reference 89 - 0.15% Coverage

¶79: with a focus on the Ovaherero and Nama descendants of the victims of a 1904–1908 mass ethnic killing in German Southwest Africa.

References 90-91 - 0.46% Coverage

¶79: My approach to monuments emphasises their place as artefacts that mark changes of regime after war or revolution, and as focal points of resistance to state regimes of commemoration. Tracing the material forms of memorialisation in Germany reveals the significance of both a ‘remembrance culture’ of the Holocaust and, at the same time, resistance to recognition of the Ovaherero/Nama genocide

Reference 92 - 0.67% Coverage

¶79: In Namibia, the success of the Ovaherero/Nama activist campaign in Germany prompted the government to shift positions and take up the cause of genocide remembrance, asking Germany to officially recognise that its actions constituted genocide, to issue a formal apology and to pay reparations. By framing the mass violence of imperial Germany in terms of its enduring legacy in heritage, Ovaherero and Nama activists and their supporters were able to cross into different geographies of commemoration and bring distant wrongs, without living witnesses, into the present.

¶80:
Reference 93 - 0.02% Coverage

¶85: Resisting relocation

Reference 94 - 0.12% Coverage

¶86: Secondly, the concept of found space opens up a discussion surrounding the role of citizen expertise

Reference 95 - 0.15% Coverage

¶86: the paper concludes by considering the place for found space and citizen expertise within current heritage discourse and practice

Reference 96 - 0.18% Coverage

¶88: Such conflicts relate to a host of tensions between private and public concerns and specifically between pro-development and pro-conservation approaches

Reference 97 - 0.04% Coverage

¶89: democratisation or ‘Changeless Change’

Reference 98 - 0.29% Coverage

¶90: is the product of prolonged wrestling with the question of how heritage professionals and researchers can facilitate and sustain public agency in caring for heritage in the UK during austerity without exploiting volunteers or devaluing professionals

Reference 99 - 0.14% Coverage

¶90: It offers critical perspectives on efforts made to democratise heritage in the UK by increasing public participation

Reference 100 - 0.29% Coverage

¶90: through a critique of neoliberalism and the rise of neoliberal approaches in the heritage sector. It argues that the adoption of neoliberal approaches, such as crowdsourcing, that profess to democratise yet reinforce existing power structures

Reference 101 - 0.23% Coverage

¶90: Drawing on critical perspectives on participation from a number of disciplines, it is suggested that efforts to increase public participation in heritage cannot hope to avoid exploiting volunteers

Reference 102 - 0.03% Coverage

¶90: devaluing professionals

Reference 103 - 0.07% Coverage

¶90: marginalising traditionally underrepresented demographics

Reference 104 - 0.06% Coverage

¶93: the Islamic State and the war on cultural heritage

¶94:
Reference 105 - 0.21% Coverage

¶94: that the IS uses to enhance the tension that is built up leading to the destruction of cultural heritage while allocating material and human resources to produce digital propaganda.

Reference 106 - 0.31% Coverage

¶102: The Homeless Heritage project took place across two English cities (Bristol and York) between 2010 and 2014. The project sought to use a range of participatory heritage practices to engage contemporary homeless people in documenting their perspectives on each city

Reference 107 - 0.06% Coverage

¶102: contributed to the democratisation of knowledge

Reference 108 - 0.11% Coverage

¶102: aiding negotiation of the complicated politics of contemporary homelessness in valuable ways.

¶103:
Reference 109 - 0.05% Coverage

¶103: : top down politics meet bottom up heritage

Reference 110 - 0.13% Coverage

¶104: Countering polarising political rhetoric about Kyrgyz nomadism as the only authentic national heritage identity,

Reference 111 - 0.07% Coverage

¶104: eagerly participate in discussions about a complex Kyrgyz past

Reference 112 - 0.17% Coverage

¶105: Shared heritage, shared authority, shared accountability? Co-generating museum performance criteria as a means of embedding ‘shared authority’

References 113-114 - 0.46% Coverage

¶106: This New Zealand case study presents insights from the perspectives of Māori and non-Māori museum stakeholders. It aimed to understand which activities and responsibilities mattered to stakeholders, in order to develop more meaningful accountability for their shared heritage. Using a participatory mixed method, the research explored how museum stakeholders assess their museum’s performance

Reference 115 - 0.10% Coverage

¶106: Māori and non-Māori generated, sorted and rated 'possible performance statements’.

Reference 116 - 0.29% Coverage

¶106: Both cultural groups prioritised factors not generally featured in compliance-driven approaches to accountability reporting. For Māori, greatest importance was placed on care of taonga (‘treasures’), Māori-specific practice and engagement with Māori

Reference 117 - 0.37% Coverage

¶106: Where shared authority is taken seriously and stakeholders are involved, accountability becomes meaningful. This collaborative approach to performance framework development offers a tool for embedding the realities of shared authority into planning and delivering the museum’s activities and responsibilities.

Reference 118 - 0.03% Coverage

¶108: for diverse stakeholders

Reference 119 - 0.10% Coverage

¶108: requires both paying attention to the fields of power in which the sites operate

Reference 120 - 0.05% Coverage

¶108: associated the deep Native American past

References 121-122 - 0.28% Coverage

¶108: an interpretation that is consistent with settler colonial ideologies. This narrative generally obfuscates connections between the heritage of the sites and contemporary peoples, and it effaces the history of colonialism and dispossession

References 123-124 - 0.14% Coverage

¶108: at two contested sites in the central Midwest revealed both congruencies and conflicts among diverse constituencies'

Reference 125 - 0.14% Coverage

¶108: At Mounds State Park a proposed dam and reservoir 'Mounds Lake' project would inundate a large portion of the site.

Reference 126 - 0.09% Coverage

¶108: At Strawtown Koteewi, Native American tribes have made repatriation claims

Reference 127 - 0.08% Coverage

¶108: particularly for culturally and historically affiliated Native Americans

Reference 128 - 0.20% Coverage

¶108: It also highlighted the positions of the constituencies within the broader fields of power implicated in these contested sites.

¶109: Middle of nowhere: contesting rural heritage

Reference 129 - 0.29% Coverage

¶110: It argues that the Gopher Hole Museum succeeds in part because its organisers are active agents who take pride in the museum without attempting to refute the sometimes negative responses to it, or control the ways in which outsiders interpret it.

Reference 130 - 0.09% Coverage

¶111: The legacy of communism: difficult histories, emotions and contested narratives

Reference 131 - 0.26% Coverage

¶112: This paper considers contested and traumatic narratives, using a case study of the planned National Museum of Romanian Communism and the site of Jilava Penitentiary, a former communist prison, near Bucharest in Romania.

Reference 132 - 0.51% Coverage

¶112: in order to understand the role heritage plays in contested situations. It also considers the nature of transitional justice ('Transitional justice is an approach to systematic or massive violations of human rights that both provides redress to victims and creates or enhances opportunities for the transformation of the political systems, conflicts, and other conditions that may have been at the root of the abuses'.) in this context.

Reference 133 - 0.12% Coverage

¶113: 'My voice counts because I'm handsome.' Democratising the museum: the power of museum participation

Reference 134 - 0.21% Coverage

¶114: Participation – where visitors are invited to leave a comment, co-create, or contribute to exhibitions – has been hailed as an opportunity to democratise the museum experience

Reference 135 - 0.35% Coverage

¶114: argues that participation has the potential to democratise the museum experience for visitors, particularly when a more expansive definition is applied which acknowledges the benefits of participation beyond simply leaving a comment. Participation can provoke conversations and forge connections

Reference 136 - 0.20% Coverage

¶114: however this potential is hampered by the often unacknowledged undemocratic practices within institutions by professionals who devalue visitor participation and power-sharing

Reference 137 - 0.06% Coverage

¶116: Themed Section: Inclusive Archives and Recordkeeping

Reference 138 - 0.21% Coverage

¶118: suggests that despite an apparent focus on WWII, the exhibition narrative may, albeit indirectly, address the history written under communism and its protracted collective memory

Reference 139 - 0.20% Coverage

¶120: The modernization of Butiá food by-products has influenced the lives of family producers that make such products. These people, who have built their lives around Butiá palms

Reference 140 - 0.16% Coverage

¶120: feel as if their local ecological knowledge has been frozen, homogenized and displaced, which has led to a series of local conflicts

Reference 141 - 0.06% Coverage

¶120: has come along together with more general conflicts

Reference 142 - 0.07% Coverage

¶120: with reference to the marginalization of these individuals

Reference 143 - 0.05% Coverage

¶121: Indigenous heritage and healing nostalgia

Reference 144 - 0.06% Coverage

¶121: Mapuche's lof in Rehue Romopulli, Port Saavedra, Chile

Reference 145 - 0.14% Coverage

¶122: discusses how various agents influence the configuration of Indigenous emotions and how a healing nostalgia emerges

Reference 146 - 0.14% Coverage

¶122: while at the same time symbolically repairing the 'immemorial' Indigenous conflict with the Chilean State and its society

References 147-148 - 0.23% Coverage

¶122: traces that emotion through ethnographies and collaborative cartographies with Indigenous Mapuches of the Rehue Romopulli, in the Araucanía Region of Chile.

¶123: Inclusive archives and recordkeeping

Reference 149 - 0.16% Coverage

¶124: the ethos of inclusivity that assures that the subjects of records have full opportunity to participate in the memory-making process

Reference 150 - 0.04% Coverage

¶124: and to ‘own’ the resulting records

Reference 151 - 0.35% Coverage

¶124: This themed section presents four articles demonstrating various ways in which this is being done or could potentially be done, and why it is needed. The articles model new and innovative modes of archiving, closely collaborative approaches to ensuring that the ‘personal’ is included in the record

Reference 152 - 0.12% Coverage

¶125: The tacit semantics of ‘Loud Fences’: tracing the connections between activism, heritage and new histories

Reference 153 - 0.55% Coverage

¶126: In 2015, in response to harrowing accounts of child sexual abuse at the hands of Catholic clergy in the town of Ballarat, a campaign of public support was launched in the form of coloured ribbons attached to the fences of institutions where the abuse had occurred. The “Loud Fence” campaign has become a global form of protest and commemoration. Institutions’ reactions were varied; some removed the ribbons, to find them promptly replaced, with attendant publicity

Reference 154 - 0.12% Coverage

¶126: Thus was established a silent dialogue that encapsulated the contested nature of the ribbons’ symbolism

Reference 155 - 0.10% Coverage

¶126: discusses the meanings of the Loud Fences in relation to divided community sensibilities

Reference 156 - 0.04% Coverage

¶126: as a performative mode of activism

References 157-158 - 0.79% Coverage

¶126: It considers ways in which the campaign challenges institutional cultures that stand as extant remnants of colonialism and as edifices of iconic institutional power. The Loud Fences campaign is characterised as a grass-roots quest, initially intended to show solidarity with disenfranchised

victims of abuse, that has come to be seen as giving them a symbolic “voice” in the face of institutional denial. The paper touches upon the ways in which such campaigns, based on visual symbols and contested, yet unspoken, “dialogue”, can be historicised.

¶127: More voice, less ventriloquism– exploring the relational dynamics in a participatory archive of mental health recovery

Reference 159 - 0.20% Coverage

¶128: built from the authors’ shared experience of using participatory methodology when working together on the construction of an archive of mental health recovery stories

Reference 160 - 0.30% Coverage

¶128: In particular, it examines the nature of the relational dynamic between the authors which moved from a collaborative partnership towards friendship in the course of constructing the archive (practice) and critically reflecting on its development (research)

Reference 161 - 0.60% Coverage

¶128: The article has been constructed by interweaving the personal reflections of the two authors on the shared process, using self-reflexivity as a method for exploring the benefits and challenges of taking an emotionally engaged and personal approach to participatory research. In particular, it seeks to explore the role that our friendship played in enabling us to build affinity whilst simultaneously acknowledging and working with our differences; confronting asymmetries in our positions and privileges.

Reference 162 - 0.27% Coverage

¶129: collaboratively designing an inclusive archive of learning disability history

¶130: The Living Archive of Learning Disability History is being developed by an inclusive team of researchers both with and without learning disabilities.

Reference 163 - 0.30% Coverage

¶130: Yet – drawing on thinking that came out of our collaborative workshops – we also identify alternative imperatives, that you might want to have control over how you share your personal memories and stories, with whom, when you share them and for how long.

Reference 164 - 0.53% Coverage

¶132: Added to this, the growing discourse on identifying and examining power structures inherent in institutional practices and policies, adds pressure to an increasingly complex heritage environment. A recent call for activist archivists is engaging, but lacks robust communication of the tools, methods and frameworks that can initiate and support how activism is deployed, evaluated and evolved, and what impact activism has as a transformative practice

Reference 165 - 0.33% Coverage

¶132: This paper proposes the use of a theoretical model, the Mediated Recordkeeping Model (MRkM), as a framework to guide the development and implementation of self-reflexive modelling processes to challenge individual assumptions and practices within the memory and heritage professions

Reference 166 - 0.07% Coverage

¶135: with which to describe the ability of ICH practitioners

Reference 167 - 0.09% Coverage

¶135: The results contribute not only to the establishment of an inclusive concept

Reference 168 - 0.06% Coverage

¶138: Socialist architecture as today's dissonant heritage

Reference 169 - 0.38% Coverage

¶139: The heritage studies of the socialist built legacy of the former Soviet Socialist Republics have mainly concentrated on the buildings and monuments representing the political ideology of the socialist era due to their evidently controversial character, while the more mundane and ordinary legacy has seldom been the focus

Reference 170 - 0.49% Coverage

¶139: These prosaic buildings, which used to play important role in the Soviet-time rural life, have become a dissonant heritage today, although their controversial nature lies in the complicated contemporary environment they fell into after the collapse of the socialist regime, rather than in the fact that they were constructed for ideological purposes. This paper examines the dissonant processes and the present contexts

References 171-172 - 0.19% Coverage

¶139: as well as the acceptance of them as a meaningful part of Estonian history that should not be ignored or forgotten

¶140: Miniature dissonance and the museum space:

Reference 173 - 0.06% Coverage

¶141: disrupt curatorial efforts to impose meaning upon them

Reference 174 - 0.05% Coverage

¶141: a situation I term miniature dissonance

Reference 175 - 0.12% Coverage

¶141: which demonstrates that this problem is both more widespread and problematic than is often recognised

Reference 176 - 0.08% Coverage

¶141: These miniatures disrupt curatorial intentionality in the museum space

Reference 177 - 0.07% Coverage

¶143: with especial attention on local Indigenous communities.

Reference 178 - 0.08% Coverage

¶143: the changes in the role of the Indigenous peoples in archaeology

Reference 179 - 0.21% Coverage

¶143: points out the empowerment processes of modern Mayan people, the response by the official managers and the Indigenous reaction to governmental investments in tourism infrastructure

Reference 180 - 0.15% Coverage

¶143: concludes that a shift from the current type management model to a new, participatory one could contribute to reduce social tension

Reference 181 - 0.16% Coverage

¶145: has stated that the intentional destruction of cultural heritage is a violation of cultural rights. The Rapporteur examines a timely issue

Reference 182 - 0.07% Coverage

¶145: and ‘destruction’ as ideologically motivated and aggressive

References 183-184 - 0.20% Coverage

¶145: has been the topic of controversy. By implication what is – or is not – considered intentional destruction is contested. Ambiguity about the meaning of cultural rights

Reference 185 - 0.04% Coverage

¶145: the dissonant nature of heritage

Reference 186 - 0.08% Coverage

¶145: complex multi-layered motivations behind ‘destructive’ practices

Reference 187 - 0.13% Coverage

¶150: It also explored the implications of conventional Cultural Heritage Management’s (CHM) indifference to this.

Reference 188 - 0.47% Coverage

¶150: are partly the result of limited socio-economic benefits, inconsistent business opportunities, complaints about employment and payment, and few feasible alternatives for making a living. By engaging with the socio-economic discourse, this study broadens our understanding of the integration of conservation in the broader social agenda, and contributes to the economist-anthropologic debate on CHM

Reference 189 - 0.07% Coverage

¶154: Intramuros: memory, violence and national becoming in Manila

Reference 190 - 0.10% Coverage

¶155: and formed a centrepiece for the 1998 centennial celebrations of Philippine independence

Reference 191 - 0.37% Coverage

¶155: . The site memorialises José Rizal, a writer and leader of the Philippine independence movement, who was executed by the Spanish in Fort Santiago in 1896. By focussing on his last moments, the Rizal Shrine coopts a language of martyrdom and redemptive suffering, from which a nation was born and continues to evolve

Reference 192 - 0.16% Coverage

¶155: The use of Rizal in the site marginalises alternative forms of suffering that might otherwise challenge the state’s use of violence.

Reference 193 - 0.09% Coverage

¶155: acts of legitimated historical violence reveal the ethical dilemmas that exist

Reference 194 - 0.12% Coverage

¶155: when heritage management deliberately eulogises some forms of suffering and marginalises others.

¶156:
Reference 195 - 0.20% Coverage

¶157: The initiatives were situated in the Belizean villages of Crooked Tree and Biscayne. The cultural exchange took place between people of African Kriol and Mopan Maya descent

Reference 196 - 0.09% Coverage

¶158: California mission landscapes: race, memory, and the politics of heritage

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶14: It is argued that, reflecting institutional dominance of the conservation agenda

<Internals\\JCH 2005 abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶5: In the light of the changing political situation in that island

<Internals\\JCH 2006 Abstracts> - § 2 references coded [0.45% Coverage]

Reference 1 - 0.08% Coverage

¶29: Both phases try to embed experts' knowledge.

Reference 2 - 0.36% Coverage

¶29: Even though the proposed framework is guided by the expert, it is semi-automatic and able to reduce typical human limits such as subjective and emotive state, visual system performances and so on

<Internals\\JCH 2009 Abstracts> - § 2 references coded [0.17% Coverage]

Reference 1 - 0.09% Coverage

¶104: Such selection can generate considerable dispute between policy makers and various stakeholders

Reference 2 - 0.09% Coverage

¶104: unless the selection process is transparent, consistent and incorporates views of stakeholders

<Internals\\JCH 2010 Abstracts> - § 2 references coded [0.06% Coverage]

Reference 1 - 0.03% Coverage

¶39: from more diverse backgrounds.

Reference 2 - 0.03% Coverage

¶128: Alaska Native artifacts

<Internals\\JCH 2011 abstracts> - § 3 references coded [0.31% Coverage]

Reference 1 - 0.05% Coverage

¶56: publication of illicit cultural property

¶57:

Reference 2 - 0.09% Coverage

¶88: Particular attention is given to indigenous Fijian intangible cultural heritage

Reference 3 - 0.16% Coverage

¶123: In other cases, copyright owners restrict or even block access to the digital cultural content through the Internet and the P2P infrastructure

<Internals\\JCH 2012 Abstracts> - § 2 references coded [0.50% Coverage]

Reference 1 - 0.02% Coverage

¶9: Brazilian indigenous artworks

Reference 2 - 0.47% Coverage

¶10: In this paper, we detail our color texture generation method and apply it on the digital preservation of many artworks made by native Brazilians (indians) from the Wauja and Karaja communities. These indigenous communities are acknowledged as great ceramic artists, each bearing their own main themes, using a very rich symbolism in their paintings. Their artworks represent important aspects of the native South American culture and their digital preservation is motivated by three main reasons: (1) their fragility; (2) the paintings loose their original appearance with time; and (3) the possibility of extinction of these communities

<Internals\\JCH 2013 abstracts> - § 5 references coded [0.34% Coverage]

Reference 1 - 0.08% Coverage

¶45: a heritage previously unwanted, ethnically and ideologically dissonant, but nowadays being rediscovered to an increasing extent.

¶46:
Reference 2 - 0.13% Coverage

¶87: Since almost 50 years in the communist regime the consolidation of historical monuments was almost forbidden and they were intentionally left to deteriorate, in the present time they are extremely degradated

Reference 3 - 0.07% Coverage

¶146: this paper mainly discusses a comprehensive plan, which is focused on the public participation and public life

Reference 4 - 0.05% Coverage

¶146: It will also include cultural and social activities for different types of groups

Reference 5 - 0.01% Coverage

¶148: inclusiveness

<Internals\\JCH 2014 abstracts> - § 4 references coded [0.36% Coverage]

Reference 1 - 0.06% Coverage

¶128: Tainan has nearly 300 hundred years of rich history and a multicultural background

Reference 2 - 0.06% Coverage

¶143: In addition, the research highlights diversity amongst the stakeholders

Reference 3 - 0.14% Coverage

¶179: the ideas and principles widespread in Western Europe and the United States cannot be directly and straightforwardly imported into the context of post-Soviet transformation.

¶180:
Reference 4 - 0.10% Coverage

¶181: the presence of different actors (public government representatives, architects, architectural historians, developers and owners).

<Internals\\JCH 2015 abstracts> - § 2 references coded [0.04% Coverage]

Reference 1 - 0.01% Coverage

¶185: An inclusive approach

Reference 2 - 0.03% Coverage

¶188: the involvement of a large number of stakeholders.

<Internals\\JCH 2016 abstracts> - § 7 references coded [0.73% Coverage]

Reference 1 - 0.10% Coverage

¶160: Ceremonial tsantsa refers to shrunken heads mummified as war trophies within the ancient traditions and rituals of the Amazonian Shuar, Achuar, Awajún/Aguaruna, Wampís/Huambisa and Candoshi-Shapra (SAAWC)

Reference 2 - 0.05% Coverage

¶160: how they should handle any potential requests to return such artefacts to their cultural homes.

Reference 3 - 0.02% Coverage

¶174: is the focal point of this settlement.

Reference 4 - 0.11% Coverage

¶174: this condition has indeed initiated conservation problems. In particular, the research puts forward main problems related with the mutually worshipped and used pattern of Al-Haram Al-Ibrahimi/Tombs of the Patriarchs

References 5-6 - 0.29% Coverage

¶174: Above the tombs of Ibrahim/Abraham as well as his prophets and their wives who have religious significance in Islam, Christianity and Judaism; at some point in the Islamic period, a mosque was added and this sacred complex was transformed over time by different civilizations. After the establishment of the Israeli state in 1948, the conditions changed for using Al-Haram Al-Ibrahimi/Tombs of the Patriarchs. Due to the tensions between Israel and Palestine, the building complex, according to the Hebron Protocol, was divided into two to host Jews and Muslims in 1997.

Reference 7 - 0.16% Coverage

¶174: Since this kind of a division creates difficulties in studying within the section of the “other” belief group, surveying the building complex as a whole, which is the initial stage of conservation process, is prevented. Thereby, the holistic approach of conservation cannot be applied for this building.

<Internals\\JCH 2017 abstracts> - § 3 references coded [0.20% Coverage]

Reference 1 - 0.15% Coverage

¶85: Māori are the indigenous people of Aotearoa New Zealand. Textiles produced by Māori have high cultural importance and aesthetic appeal and are consequently often on display, despite being thought to be vulnerable to photodegradation, with loss of colour and fibre embrittlement reported for artefacts held in collections worldwide.

Reference 2 - 0.04% Coverage

¶246: as well as affect the local culture and integrity of a region, particularly in developing countries.

Reference 3 - 0.01% Coverage

¶246: a blessing or burden?

<Internals\\JCH 2018 abstracts> - § 14 references coded [1.16% Coverage]

Reference 1 - 0.09% Coverage

¶42: Hakka culture, the material and spiritual wealth of the Hakka, originated in Xijin Dynasy (266 AD) and manifests in the forms of language, folk customs, architecture, relationship, etc. Yongding County, the Hakka culture resorts

Reference 2 - 0.01% Coverage

¶83: diverse stakeholder groups.

Reference 3 - 0.01% Coverage

¶158: indigenous museum collections:

Reference 4 - 0.01% Coverage

¶158: revitalization and repatriation

Reference 5 - 0.14% Coverage

¶159: Increasingly, indigenous communities consult museum holdings in order to inform social movements reclaiming cultural heritage, though collections and their records are often not conserved or made accessible with these goals in mind. We report a project conducted with Arctic Sámi communities in collaboration with the Sámi Museum Siida

References 6-7 - 0.17% Coverage

¶159: in archaeological ethnography aimed at increasing accessibility for descendant community members that may potentially expand collections' use for researchers. Concurrently, we stress that such an integrative approach must be particularly cautious in the sharing of models of indigenous cultural heritage, which encounter frequent threats of misuse and appropriation in an era of easy 3D modeling and printing

Reference 8 - 0.37% Coverage

¶159: This abstract appears below in North Sámi. Davvisámegiella: Etnográfalaš museaid čoakkáldagaid leat dábálaččat čoaggán, bajásdoallán ja geavahan antropologiijadahje museasuorggi dutkit. Eamiálbmotservošat galledit museaid čoakkáldagaidain eanet ja eanet vai besset ealáskahttit iežaset kulturárbbi. Čoakkáldagaidja daidda gullevaš dieđuid eai goittotge dábálaččat leat seailluhan ja dahkanrabasin dan dárkkuhusa várás. Dárkilis etnográfalaš jearahallamiid bohtosiidovttastahttin álkit logahahtti 3D hábmenteknihkkii, erenomážit fotogrammetriai- mii evttohit servoša geahččanguovllus vuolgi metodologiija, man ulbmilin leabuoridit čoakkáldagaid rabasvuođa servoša lahtuide ja jos vejolaš, maiddáidutkiide. Seammás mii deattuhit, ahte dakkár lahkonanvugiin 3D-málliidjuohkimis galgá leat várrugas. Erenomážit dakkár eamiálbmogiid bokte, geaidkulturárbbi geavahit boastut dálá áiggis, goas 3D-hábmen ja prenten lea álki.

¶160:
Reference 9 - 0.04% Coverage

¶233: Cultural heritage in times of armed conflicts in the Middle East: Much more than material damage?

Reference 10 - 0.04% Coverage

¶281: Cultural heritage in times of armed conflicts in the Middle East: Much more than material damage?

Reference 11 - 0.02% Coverage

¶282: Protecting Yazidi cultural heritage through women

Reference 12 - 0.15% Coverage

¶283: the relationship existing between violence, gender, and culture, referring to the specific situation of women belonging to the Yazidi minority, who have been abducted, raped, and sold by the Islamic State. I will demonstrate that women can be those who, despite huge suffering, will be able to preserve the unique culture of this minority during post-conflict situations

Reference 13 - 0.07% Coverage

¶323: At Treblinka extermination camp, almost one million of people were killed during the Holocaust. A further 10,000 people are estimated to have been murdered at the nearby labor camp.

Reference 14 - 0.03% Coverage

¶327: The role of cultural heritage for defining the national identity

Name: Nodes\\'Critical' heritage discussion\Abstract concepts of heritage\Present-centred heritage

<Internals\\Antiquity 1994 abstracts> - § 2 references coded [0.33% Coverage]

Reference 1 - 0.11% Coverage

¶153: Who creates the past in Germany?

Reference 2 - 0.23% Coverage

¶189: where the present is again being re-made by the pictures of the past.

<Internals\\Antiquity 1995 abstracts> - § 4 references coded [1.72% Coverage]

Reference 1 - 0.55% Coverage

¶20: The study of gender in ancient societies seems inseparable from the place of gender in our own society–and therefore inseparable from the particular attitudes and expectations those contemporary manners create

Reference 2 - 0.21% Coverage

¶59: This new area of dominance for the past is worth an archaeological attention.

¶60:
Reference 3 - 0.67% Coverage

¶71: In that central European zone of moving national boundaries, it has been crucial in another sense; frontiers, ideologies and attitudes have moved across the place, each time re-making the frame of ideas through which it is seen. Those changes continue.

Reference 4 - 0.29% Coverage

¶226: Archaeological attention in Palestine, as the Holy Land, has focused on research related to the biblical story.

<Internals\\Antiquity 1996 abstracts> - § 4 references coded [1.12% Coverage]

Reference 1 - 0.52% Coverage

¶28: The Great Powers — starting with ancient Imperial Rome and running up to the present — have valued Classical Greek culture as embodying the founding spirit of their own, our own western world. So where does the modern state of Greece stand?

Reference 2 - 0.07% Coverage

¶49: Ancient Celts and modern ethnicity

Reference 3 - 0.33% Coverage

¶50: Ljubljana, Slovenia, a sovereign nation formerly part of Yugoslavia. As was to be expected in such a place and at such a time, questions of ethnicity and

Reference 4 - 0.18% Coverage

¶50: it was first developed in the Ljubljana session on 'Contemporary myth of the past'.

¶51:
<Internals\\Antiquity 1997 Abstracts> - § 3 references coded [0.69% Coverage]

Reference 1 - 0.15% Coverage

¶22: Modern belief in the veneration of a single Great Goddess in the European Neolithic

Reference 2 - 0.10% Coverage

¶39: 'Leaving more than footprints': modern votive offerings

Reference 3 - 0.43% Coverage

¶50: Vincent & Ruth Megaw found a useful parallel between the multiple definitions of the ancient Celts, as it can be seen from varied sources, and the several ways an individual's ethnic identity is seen and defined in the contemporary world.

<Internals\\Antiquity 1998 abstracts> - § 9 references coded [2.47% Coverage]

Reference 1 - 0.40% Coverage

¶17: Reconstruction drawings intended to illustrate the realities of prehistoric life can be famously revealing of preconceptions in the minds of the modern illustrator and of the researcher who briefs the illustrator.

Reference 2 - 0.21% Coverage

¶17: Nineteenth-century technical illustrations of the Neanderthal skull are unintentionally revealing of attitude.

Reference 3 - 0.27% Coverage

¶37: Chinese scholarship well illustrates how research attitudes direct the spirit of research, and the tenor of the archaeological story which results.

Reference 4 - 0.15% Coverage

¶105: literary and social climate was such that a pre-Hispanic past was eagerly sought.

Reference 5 - 0.05% Coverage

¶136: in the past and the present

Reference 6 - 0.10% Coverage

¶148: the British Empire in T.J. Dunbabin's The western Greeks

Reference 7 - 0.46% Coverage

¶149: T.J. Dunbabin's book The western Greeks was published 50 years ago. In it he modelled the development of the Greek cities of Italy on the British Empire of the 1930s. Here Franco De Angelis explores the problem of faulty and distorting analogies.

Reference 8 - 0.20% Coverage

¶155: which have important lessons for how our personal biases influence our interpretation of lithic assemblages.

Reference 9 - 0.62% Coverage

¶269: the changes that reading Morgan (1877) had on the discussions of the Formen (1857–58) and the Anti-Dühring (1878) can only suggest that the accumulation of positive evidence in the course of a century and a half of archaeological research would have caused Marx and Engels to revise substantially every one of their specific claims.

¶270:
<Internals\\Antiquity 1999 abstracts> - § 6 references coded [1.84% Coverage]

Reference 1 - 0.53% Coverage

¶37: It does not lie in the events of the last 20 years, which have profoundly changed the structure, practices and means of French archaeology. The problem is more fundamental, and derives from the differences of mentality and culture.

Reference 2 - 0.41% Coverage

¶43: One of the favourite themes of the media consisted in trying to demonstrate that Alsatians were descendants of ‘Germanic’ populations who settled a long time ago in this country,

Reference 3 - 0.20% Coverage

¶143: Letting the past serve the present — some contemporary uses of archaeology in Viet Nam

¶144:
Reference 4 - 0.23% Coverage

¶146: Ancestors can be created and modified, so the nature of the ancestral cult has changed through time.

Reference 5 - 0.34% Coverage

¶146: investigates the process in modern history by which a legendary sage, the Yellow Emperor, was first transformed into the progenitor of the Han Chinese,

Reference 6 - 0.13% Coverage

¶242: The Atlantic Celts: ancient people or modern invention?

<Internals\\Antiquity 2000 abstracts> - § 11 references coded [1.47% Coverage]

Reference 1 - 0.18% Coverage

¶30: many fundamental questions of interest about the site's stratigraphic, environmental and archaeological context were left unanswered (and often not asked).

¶31:
Reference 2 - 0.19% Coverage

¶75: cannot be viewed in isolation from the broader realms of antiquity, archaeology and the past in modern Greek society and the context of Greek higher education. A

Reference 3 - 0.10% Coverage

¶78: Both education and archaeology deal thus with the manipulation of present and past t

Reference 4 - 0.19% Coverage

¶80: The profession and the people who practice it, in all its diverse applications, are and have been influenced by shifting paradigms and changing levels of understanding.

Reference 5 - 0.11% Coverage

¶86: This constructed past serves a variety of different purposes for a rapidly changing present

Reference 6 - 0.17% Coverage

¶86: rom utilization as a symbol of the long tradition of Ireland's high technological expertise — nowadays being best expressed in the computing industry,

Reference 7 - 0.08% Coverage

¶86: to the context for a call of a revitalization of Celtic spirituality

Reference 8 - 0.20% Coverage

¶246: Such claims often involve adopting new or different patterns of behaviour commonly associated with the new social, religious, indigenous or occupational position claimed.

Reference 9 - 0.03% Coverage

¶253: archaeological ‘fact’ ¶254:

Reference 10 - 0.09% Coverage

¶255: based on the same ‘archaeological proof’ that no such temple had ever existed

Reference 11 - 0.14% Coverage

¶260: especially as derived from a historical chronicle, the Mahavamsa, which was ‘rediscovered’ by colonial officials in AD 1826

<Internals\\Antiquity 2001 abstracts> - § 1 reference coded [0.34% Coverage]

Reference 1 - 0.34% Coverage

¶117: Sample sets and artefacts made for collectors reflect how some gunflint knappers, drawing on romantic conceptions of their craft as ‘heritage’, assigned new meanings to the flint industry as part of a survival strategy for an obsolescent trade.

<Internals\\Antiquity 2002 abstracts> - § 5 references coded [0.87% Coverage]

Reference 1 - 0.28% Coverage

¶61: Although research in these areas is not new, the steadily increasing body of archaeological literature is shaped both by recent theoretical trends within the discipline itself and by widespread concerns over contemporary redefinitions of boundaries

Reference 2 - 0.05% Coverage

¶62: Making the past for South Africa's future:

Reference 3 - 0.08% Coverage

¶68: the nature of these monuments as they were perceived over 300 years.

¶69:
Reference 4 - 0.06% Coverage

¶437: Since the Union the writing of the history of Britain

Reference 5 - 0.40% Coverage

¶437: (Ash 1980: 34), the viewpoint of the historian depending on the individual's position on the meaning and consequences of the Union and on the process of securing the creation of 'North Britain' and 'South Britain' — 'the wider experiment to construct a new genuine British identity which would be formed from the two nations of Scotland and England'

<Internals\\Antiquity 2003 abstracts> - § 1 reference coded [0.28% Coverage]

Reference 1 - 0.28% Coverage

¶176: deconstruct the fictional image of Neanderthals, showing why we see them in the way we do.

¶177:
<Internals\\Antiquity 2004 abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶204: Ancient uses of the past

<Internals\\Antiquity 2006 abstracts> - § 5 references coded [0.80% Coverage]

Reference 1 - 0.13% Coverage

¶6: her re-invention by myth-makers – including archaeologists.

¶7:
Reference 2 - 0.16% Coverage

¶29: as a purveyor of culture, it is in the business of creating or reinforcing

Reference 3 - 0.04% Coverage

¶238: Engineering the past

Reference 4 - 0.32% Coverage

¶239: compared to a celebrated time capsule of the period; it being argued that 'deep time' consciousness itself engendered notions of futuristic projection.

Reference 5 - 0.16% Coverage

¶361: Ruins Reused: changing attitudes to ruins since the late eighteenth century

<Internals\\Antiquity 2007 abstracts> - § 3 references coded [0.11% Coverage]

Reference 1 - 0.05% Coverage

¶62: Producing and Consuming the ‘Minoans’

Reference 2 - 0.03% Coverage

¶203: Imag(in)ing the Celts

Reference 3 - 0.03% Coverage

¶586:

Distorting the Past

<Internals\\Antiquity 2008 abstracts> - § 1 reference coded [0.66% Coverage]

Reference 1 - 0.66% Coverage

¶112: In two recent books, From Stonehenge to Las Vegas – Archaeology as popular culture (AltaMira 2005) and Archaeology is a brand! The meaning of archaeology in popular culture (Archaeopress 2007), Cornelius Holtorf wants us to readdress the focus of archaeology from being predominantly a study of the past to becoming a study of its use in popular culture in the present.

<Internals\\Antiquity 2009 abstracts> - § 4 references coded [0.85% Coverage]

Reference 1 - 0.33% Coverage

¶28: The author shows how the assumptions of great authorities, themselves rooted in a colonial world, led to a highly resistant model of core and periphery for pottery production that may have no basis in fact

Reference 2 - 0.22% Coverage

¶103: This penetrating critique tracks the history of the hybrid cosmos from its first appearance through its resilient repetition until today.

¶104:
Reference 3 - 0.09% Coverage

¶121: Pictures desired by theory may not be supported by facts

¶122:
Reference 4 - 0.20% Coverage

¶208: The interpretation of archaeology is inevitably affected by the social, cultural and intellectual background of researchers.

<Internals\\Antiquity 2010 abstracts> - § 4 references coded [1.42% Coverage]

Reference 1 - 0.31% Coverage

¶163: The modern example allows us to get behind the scenes and under the covers – into the mentality of monumentality, as it has probably always been, proxy for the zeitgeist

Reference 2 - 0.27% Coverage

¶173: an origin rooted in the intellectual movements of the later nineteenth century, and in particular in the personage and thought of Salomon Reinach

Reference 3 - 0.45% Coverage

¶175: The discussions revealed much that was entangled in the modern psyche: ‘don't let's tame strangeness’ was one leitmotiv of this stimulating colloquium. A romantic attachment to the irrational is a feature of our time, especially among academics

Reference 4 - 0.38% Coverage

¶237: In the mid twentieth century this was naturally seen as prompted by the contemporary Roman Empire, while the later post-colonial discourse has emphasised the independence and long life of Indian initiatives

<Internals\\Antiquity 2011 abstracts> - § 10 references coded [1.82% Coverage]

Reference 1 - 0.24% Coverage

¶116: The emerging capital was from the outset conceived as a heterotopia of Hellenism, a Foucauldian 'other space' devoted to Western Classicism in view of the Classical ruins it preserved.

Reference 2 - 0.09% Coverage

¶116: The Acropolis was duly cleansed from any non-Classical antiquities

Reference 3 - 0.36% Coverage

¶116: As Artemis Leontis has argued in her discussion of Greece as a heterotopic 'culture of ruins', the Acropolis of Athens, now repossessed by architectural renovation and scholarly interest, functions 'as a symbol not of Greece's ancient glory but of its modern predicament'

Reference 4 - 0.22% Coverage

¶118: the sacralisation of the Classical past, and the recasting of the Western Hellenism into an indigenous Hellenism have been extensively studied in the last 15 years or so

Reference 5 - 0.10% Coverage

¶118: an endlessly reproduced and modified global icon (in both senses of the word).

¶119:
Reference 6 - 0.42% Coverage

¶200: Soviet intellectual aims in the 1950s had a profound and lasting influence on the development of Chinese archaeology, including the design of its institutions, its theoretical basis, its research agenda and its field methods. The new emphasis on ancient life beyond the elite and the study of social and economic process

Reference 7 - 0.12% Coverage

¶202: The present exercise aims to investigate and question the social and intellectual context

Reference 8 - 0.07% Coverage

¶202: has been interpreted as belonging to a ‘theocracy’

Reference 9 - 0.04% Coverage

¶275: Archaeology in current society

Reference 10 - 0.17% Coverage

¶276: Among the resultant trends to be noted in the Czech Republic are a decreasing interest in a single general theoretical paradigm,

<Internals\\Antiquity 2012 abstracts> - § 1 reference coded [0.21% Coverage]

Reference 1 - 0.21% Coverage

¶134: Hadrian's Wall had a busy afterlife, a material history reflecting the uses, attitudes and emotions of later centuries

<Internals\\Antiquity 2015 abstracts> - § 4 references coded [0.75% Coverage]

Reference 1 - 0.17% Coverage

¶90: This interpretation of the Tarquinia burial is emblematic of a far wider phenomenon, both within and beyond Italy, which has serious implications for future archaeological practice

Reference 2 - 0.13% Coverage

¶181: National research traditions have, at times, obscured our understanding of contacts and connections between areas in the Mesolithic.

Reference 3 - 0.23% Coverage

¶302: The work of North American archaeologists in Jordan has, for more than a century, been directed by the quest for a particular desired past, namely that of the history of Israel and its neighbours, such as the Ammonites, Moabites and Edomites.

Reference 4 - 0.22% Coverage

¶304: This fundamentally shaped the scholarship of this class of pottery. Vases were valued for their completeness, their iconography—scenes depicting Greek myth and literature being particularly prized—and their aesthetic qualities

<Internals\\Antiquity 2016 abstracts> - § 1 reference coded [0.59% Coverage]

Reference 1 - 0.59% Coverage

¶36: encouraging discussions about the relationship—if any—between modern Celtic identities and the ancient Celts. A major milestone was reached with the publication of John Collis's monograph The Celts. Origins, myths and inventions (2003), which is probably the best historiographical review about the construction of the concept and the different sources involved from Antiquity to modern times. One of his main points is that classical sources never referred to the presence of Celts on the British Isles and that the use of the term for the populations of ancient Britain was mainly an invention of the modern era (see also Morse 2005, How the Celts came to Britain

<Internals\\Antiquity 2017 abstracts> - § 1 reference coded [0.27% Coverage]

Reference 1 - 0.27% Coverage

¶66: the influence of today on a face from the past

¶67: Creating a facial appearance for individuals from the distant past is often highly problematic, even when verified methods are used. This is especially so in the case of non-European individuals, as the reference populations used to estimate the face tend to be heavily biased towards the average facial variation of recent people of European descent.

<Internals\\Antiquity 2018 abstracts> - § 2 references coded [0.36% Coverage]

Reference 1 - 0.24% Coverage

¶103: Bernbeck and Pollock point out that in our work, only the people of the present matter, rather than those in the past. Although our discussion centres on living people, we also believe that the past is unfinished and that working with it allows us to build a different future

Reference 2 - 0.12% Coverage

¶103: our plea for a new objectivity means that we are interested in the past qua past, not just in representations of the past in the present.

¶104:
<Internals\\Curator 1997> - § 1 reference coded [0.67% Coverage]

Reference 1 - 0.67% Coverage

¶22: The paper attributes this difference to the concerns of the two audiences at that time.

<Internals\\Curator 2005> - § 1 reference coded [0.59% Coverage]

Reference 1 - 0.59% Coverage

¶22: in a society undergoing rapid modernization, but also one noted for an aversion to social science research.

<Internals\\Curator 2006> - § 3 references coded [2.71% Coverage]

Reference 1 - 0.80% Coverage

¶10: In this cultural model, past, present and future are directly intertwined, and the invisible door between the world of museums and the “outside” world has vanished.

Reference 2 - 0.69% Coverage

¶73: This article explores the act of collecting from a postmodern perspective by examining the influences of changing times, places, and persons.

Reference 3 - 1.22% Coverage

¶73: The focus of the museum's collection has changed over the years with the changing views of academics and society. The museum today still strives to hold knowledge of all things, yet tempers this goal under the pressures of modern theorists and politics

<Internals\\Curator 2007> - § 2 references coded [0.43% Coverage]

Reference 1 - 0.21% Coverage

¶24: has involved a reinvestigation of notions of greatness,

Reference 2 - 0.22% Coverage

¶24: We have made decisions that might curl a Victorian's toes.

<Internals\\Curator 2008> - § 1 reference coded [0.45% Coverage]

Reference 1 - 0.45% Coverage

¶25: meanings that, he argues, have the potential to evolve over time.

¶26:

<Internals\\Curator 2011 abstracts> - § 4 references coded [1.03% Coverage]

Reference 1 - 0.20% Coverage

¶24: the obviously popular topics which challenge no one

Reference 2 - 0.20% Coverage

¶26: Such changes mirror developments occurring in society

Reference 3 - 0.51% Coverage

¶37: Even in creationist thinking, where views seem eternally and stubbornly intransigent, there are new fads and museological fashions.

¶38:
Reference 4 - 0.12% Coverage

¶81: questioned past versus present,

<Internals\\Curator 2012 abstracts> - § 5 references coded [1.75% Coverage]

Reference 1 - 0.70% Coverage

¶13: Recent global political events have pushed Islam to the center stage in European and American museums. Since 9/11 there has been a substantial increase in exhibitions featuring Islamic art, the Muslim world, and the Middle East

Reference 2 - 0.12% Coverage

¶21: Remembering and Disremembering in Africa

Reference 3 - 0.07% Coverage

¶22: to forget other stories

Reference 4 - 0.65% Coverage

¶22: by forgetting certain aspects of the colonial past. By implication the dual act of remembering and forgetting sets the pattern for how the postcolonial African nation narrates itself in the postcolonial moment.

Reference 5 - 0.20% Coverage

¶22: how they forge or fail to forge a coherent collective memory.

¶23:
<Internals\\Curator 2013 abstracts> - § 1 reference coded [0.30% Coverage]

Reference 1 - 0.30% Coverage

¶36: How does what we remember about history relate to true historical understanding

<Internals\\IJCP 2005 Abstracts> - § 2 references coded [0.58% Coverage]

Reference 1 - 0.42% Coverage

¶6: and practices of different social groups, which continually evolve as they interact with others and their membership changes.

Reference 2 - 0.17% Coverage

¶25: yet progress should not come at the cost of memory

<Internals\\IJCP 2007 Abstracts> - § 1 reference coded [0.25% Coverage]

Reference 1 - 0.25% Coverage

¶52: to facilitate the creation of a common European landscape heritage.

<Internals\\IJCP 2008 Abstracts> - § 2 references coded [0.37% Coverage]

Reference 1 - 0.09% Coverage

¶6: has changed over the last few years

Reference 2 - 0.29% Coverage

¶55: the new concept of Cultural Routes shows the evolution of ideas with respect to the vision of cultural properties

<Internals\\IJCP 2010 abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶27: the Manipulation of Historical Memory

¶28:
<Internals\\IJHS 1996 Abstracts> - § 7 references coded [5.41% Coverage]

Reference 1 - 1.41% Coverage

¶5: The present discussion is framed within the context of the argument that relics of the past are a resource to be selectively exploited in accordance with contemporary political and cultural demands

Reference 2 - 0.55% Coverage

¶8: there have been shifts in emphasis in the national meta-narratives over time

Reference 3 - 0.81% Coverage

¶11: A social construction approach reveals the problematic nature of these symbolic reconstructions, their partiality

Reference 4 - 1.05% Coverage

¶11: The richly layered urban landscape and historically constructed narratives – the local heritage – have been cynically appropriated and transformed

Reference 5 - 0.53% Coverage

¶14: the multiplicity of images in a postmodern space of spectacle and pastiche

Reference 6 - 0.61% Coverage

¶63: These names associated with the defeat and dishonour of France in 1940 have no place

Reference 7 - 0.45% Coverage

¶63: Hence the Fall of France, hence the line's heritage oblivion.

<Internals\\IJHS 1997-8 Abstracts> - § 3 references coded [1.16% Coverage]

Reference 1 - 0.25% Coverage

¶29: Much broader, vital concepts are needed.

Reference 2 - 0.49% Coverage

¶53: restorations, like the groups they represent, themselves have complex histories.

Reference 3 - 0.42% Coverage

¶53: Founded in the early 1960s, both saw demands for change by the 1990s.

<Internals\\IJHS 1998 Abstracts> - § 3 references coded [1.26% Coverage]

Reference 1 - 0.30% Coverage

¶22: and consequently upon how public heritage is created.

Reference 2 - 0.45% Coverage

¶38: the shaping, revision and essential instability of heritage messages through time

Reference 3 - 0.50% Coverage

¶42: Heritage sites in Wales also relate their history and present archaeology to a Celtic past

<Internals\\IJHS 1999 Abstracts> - § 1 reference coded [0.28% Coverage]

Reference 1 - 0.28% Coverage

¶23: Making heritage in an Australian coastal tourist resort:

<Internals\\IJHS 2000 Abstracts> - § 5 references coded [3.82% Coverage]

Reference 1 - 1.46% Coverage

¶13: one explanation of this success was that Titanic is a heritage film which held a powerful attraction to audiences steeped in a contemporary heritage culture. Sections of the public are attracted to heritage and crave its illusory evocation of a retrievable and meaningful past.

Reference 2 - 0.06% Coverage

¶13: presentism;

Reference 3 - 1.36% Coverage

¶20: such crafted furniture and photographs of such objects have a particular role in the development of material culture and public history. Furniture made by cabinet makers and wood carvers in London's East End has been conventionally defined as unskilled work.

Reference 4 - 0.84% Coverage

¶24: there is no concern to interpret the legacy of communism for tourists; instead there is an attempt to deny or airbrush out this period of the country's history.

Reference 5 - 0.11% Coverage

¶57: Discursive Formation

<Internals\\IJHS 2001 abstracts> - § 5 references coded [4.34% Coverage]

Reference 1 - 0.47% Coverage

¶4: Built colonial heritage exhibits a symbolism which affects how it is presented and interpreted

Reference 2 - 0.71% Coverage

¶12: considers these processes through the specific study of the ways in which the collective memory of the Second World War in France has evolved.

Reference 3 - 0.71% Coverage

¶12: This shows how the collective memory has been restructured in recent years as more and more people realise the need for a more ?honest? approach

Reference 4 - 1.00% Coverage

¶25: questions the future of these representations with the shift in Malaysian cultural representations in the 1990s to those of a modernising, multi-ethnic nation in which a feudal past plays a lesser role.

Reference 5 - 1.45% Coverage

¶38: .This article proposes that by an examination of the distinction between unchanging tradition and custom, as the source of ever-changing practices, rooted in a vital sense of the past, it is possible to re-conceive heritage interpretation, presentation and preservation in more dynamic terms.

<Internals\\IJHS 2002 Abstracts> - § 6 references coded [2.86% Coverage]

Reference 1 - 0.14% Coverage

¶29: author explores the manipulation

Reference 2 - 0.29% Coverage

¶30: Representations of an Imagined Past: fairground heritage villages

Reference 3 - 0.96% Coverage

¶35: Over the past 150 years, different perceptions concerning the cultural influence that historic buildings should exert on modern life have evolved within the British Isles and Continental (especially Central) Europe.

Reference 4 - 0.94% Coverage

¶38: The trajectory of Riel's dynamic memory from 1885 to 2001 is marked by his characterization as charismatic national leader, state traitor, cultural hero, symbol of reconciliation, and icon of 'postnationalism'.

Reference 5 - 0.29% Coverage

¶46: show how aesthetic appreciation of the area has changed over time.

Reference 6 - 0.23% Coverage

¶46: are influenced by social and technological factors.

<Internals\\IJHS 2003 Abstracts> - § 6 references coded [4.04% Coverage]

Reference 1 - 0.76% Coverage

¶5: a better understanding of the way in which remembrance would be affected by the social change and the political environment involved

Reference 2 - 0.42% Coverage

¶22: considers the ways in which new meanings are being attached to collections

Reference 3 - 0.75% Coverage

¶31: Today, few are able to read the monumental texts of the past; texts that lie clouded in the mists of periods of commemorative zeal

Reference 4 - 1.46% Coverage

¶31: Our ability to read these texts relies on an understanding of not only the historical personages or events being commemorated but the various contexts in which they came to acquire meaning: the circumstances in which the commemorative events took place;

Reference 5 - 0.33% Coverage

¶35: British maritime heritage: carried along by the currents?

Reference 6 - 0.32% Coverage

¶36: for the expansion and 'reinvention' of maritime heritage

<Internals\\IJHS 2004 Abstracts> - § 1 reference coded [0.31% Coverage]

Reference 1 - 0.31% Coverage

¶18: their work reveals their own contemporary readings of the castle's history

<Internals\\IJHS 2005 Abstracts> - § 5 references coded [5.63% Coverage]

Reference 1 - 0.92% Coverage

¶7: that partly ignores the conditions under which these landscapes were actually formed. This tends to naturalise the landscape, often cleansing it of human action and thereby generating a notion of an innate and given national landscape

Reference 2 - 2.52% Coverage

¶33: This paper employs Henri Lefebvre's term ‘texture’ as a means of analysing a series of events that took place in June 2002 to mark the 750th anniversary of Sweden's capital city. The resulting case study demonstrates that heritage is the present-day use of the past and that selection and interpretation shift according to contemporary demands. The latter prompts a continuing series of ‘particular actions’ (Lefebvre) that require explaining and elucidating to new audiences in fresh contexts. This provides heritage with its impetus whilst also accounting not only for its range and reach but also for its richness as a source of study.

Reference 3 - 1.51% Coverage

¶35: Generally, the literature distinguishes between history (which is seen as objective and fixed) and heritage interpretation (which is characterised as biased, selective and serving parochial interests). It is argued that history is actually far more dynamic and subjective and that this requires an ongoing revision of interpretation for visitors as historical interpretations change.

Reference 4 - 0.25% Coverage

¶53: plays a vital role in the creation of global sites of heritage.

Reference 5 - 0.43% Coverage

¶57: heritage is a mediated and constructed concept that expresses particular histories to support specific agendas

<Internals\\IJHS 2006 Abstracts> - § 11 references coded [4.30% Coverage]

Reference 1 - 0.13% Coverage

¶5: changing forms of historical consciousness

Reference 2 - 0.27% Coverage

¶15: Palimpsests of Progress: Erasing the Past and Rewriting the Future in Developing Societies

Reference 3 - 0.79% Coverage

¶16: Singapore and Jakarta are presented here as case studies of the ways in which economic, political and cultural forces have interacted to produce cityscapes in which elements of the past are variously eliminated, hidden, privileged, integrated and/or reinvented.

Reference 4 - 0.15% Coverage

¶21: Constructing a Genealogy for the New South Africa

Reference 5 - 0.42% Coverage

¶22: It will first discuss the perceived need for monuments generally, and the identification and public commemoration of 'heroes' in particular

Reference 6 - 0.22% Coverage

¶22: It will be suggested that by identifying and celebrating new heroes, we,

Reference 7 - 0.25% Coverage

¶22: , create a genealogy, a chosen ancestry—not in biological but in ideological terms

Reference 8 - 0.60% Coverage

¶29: to explore the cyclical biographies of town walls in their transformation from civic monuments, through phases of neglect, decay and destruction to their current status as cherished cultural resources

Reference 9 - 0.07% Coverage

¶31: at a particular moment

Reference 10 - 0.23% Coverage

¶45: But the generation that established Australia's villages has been overtaken.

Reference 11 - 1.18% Coverage

¶73: This paper investigates the Orphan School's discursive construction in historical documents and more recent media releases. Using a theoretical approach informed by the work of Michel de Certeau and Michel Foucault, and drawing on the writings of various modern historical geographers, the paper considers the ways in which understandings of the Institution and the building have been created

<Internals\\IJHS 2007 Abstracts> - § 3 references coded [0.41% Coverage]

Reference 1 - 0.14% Coverage

¶16: Memory, and Forgetting in a Small Canadian City

Reference 2 - 0.20% Coverage

¶68: The Changing Face of Heritage at Canada's National Historic Sites

Reference 3 - 0.07% Coverage

¶69: is changing radically.

<Internals\\IJHS 2008 Abstracts> - § 3 references coded [3.07% Coverage]

Reference 1 - 0.44% Coverage

¶5: Zoos are complex social representations of the natural world. They are not just about animals but equally about cultural attitudes towards animals.

Reference 2 - 1.90% Coverage

¶9: The way in which the 'appropriate' landscape to any species (or site type) is constructed is itself culturally variable. For this reason, these landscapes give us vistas over the cultural assumptions and aspirations of the societies that create them. Just as any African savannah in a zoo is not Africa as it is but Africa as we think it should be, so any heritage landscape is not a reconstruction of a prehistoric landscape but a construction of what we think it should be. Crucial for understanding landscape construction is therefore an understanding of how they are perceived—and meant to be perceived—by people in the present.

Reference 3 - 0.73% Coverage

¶60: Paradoxically, the reclamation of its pre-eminent naval heritage has been slow by the standards of peers elsewhere, notably Bermuda. The paper examines the reasons for this, what naval heritage reclamation has been undertaken, what is proposed,

<Internals\\IJHS 2009 Abstracts> - § 9 references coded [3.64% Coverage]

Reference 1 - 0.18% Coverage

¶6: but also through social and economical needs and interests.

Reference 2 - 0.10% Coverage

¶12: in a climate of historical change.

Reference 3 - 0.15% Coverage

¶20: How we construct our relationships to the past and

Reference 4 - 0.24% Coverage

¶20: cultural aspirations influence how we create and give meaning to our environment.

Reference 5 - 0.58% Coverage

¶41: Through examining local perceptions and reactions to the Ebel es-Saqi project, this paper explores how local conceptions of landscape evolve in response to political, economic, and social change.

Reference 6 - 0.26% Coverage

¶53: while noting the disjuncture between the represented animal and Balto's actual existence

Reference 7 - 0.36% Coverage

¶55: The article traces significant shifts in the ways its relevance has been and currently is being imagined and expressed.

Reference 8 - 0.69% Coverage

¶55: Importantly, however, such agendas do not simply erase the site's national significance but are analysed, rather, as re-imbuing the site with a new strand of Danishness—now taken to entail cosmopolitan and reconciliatory values.

¶56:
Reference 9 - 1.07% Coverage

¶62: This article argues that museum patrons of the 1960s, the decade in which many living history museums were founded, saw pioneer villages in the context of their own modernising lifestyles. However much Black Creek Pioneer Village might reflect anxiety about the direction of modernity, it also framed the past in ways that legitimated modern, suburban living.

<Internals\\IJHS 2010 Abstracts> - § 4 references coded [0.99% Coverage]

Reference 1 - 0.17% Coverage

¶16: These receptions vary and influence attempts to develop heritage

Reference 2 - 0.09% Coverage

¶16: Although heritage can be created

Reference 3 - 0.58% Coverage

¶22: The credibility of cultural heritage is thus derived from its being a ‘reflection’ of these contexts. It is through this ‘reflection’ that people are able to identify themselves with the past and its material.

¶23:
Reference 4 - 0.16% Coverage

¶62: and eventually transformed civic guilt into civic pride.

<Internals\\IJHS 2011 abstracts> - § 14 references coded [7.10% Coverage]

Reference 1 - 0.79% Coverage

¶12: While scholars have embraced the notion of seas as cultural or historical units, this type of ‘basin thinking’ is a recent phenomenon in the Indian Ocean. Over the last 150 years the dhow has gone from being a despised symbol of the slave trade and economic underdevelopment to representing a romanticized past

Reference 2 - 0.49% Coverage

¶12: changing perceptions of both the vessels and the region it is taken to represent. It argues that recent representations of dhows as cultural heritage represent a new and developing notion of

Reference 3 - 0.07% Coverage

¶16: in the late 20th century

¶17:
Reference 4 - 0.70% Coverage

¶21: These are both sites where early nineteenth-century women made history, mapping the political and military history of the American Revolution onto the domestic fabric of their homes by telling the stories of their recent ancestors, naming rooms and preserving furnishings.

Reference 5 - 1.06% Coverage

¶21: these women may not have been primarily focused on telling their own stories, but they made an important statement on the role of domestic spaces in national history and for their own power as history makers. Through material and textual instruments of memory, these women transformed their individual memories into shared narratives, illuminating the process by which a ‘social memory’ of the Revolution was created.

Reference 6 - 0.20% Coverage

¶23: How do agendas of remembering and forgetting intersect at historic dwellings?

Reference 7 - 0.43% Coverage

¶25: and relationships in the present. As such, the practices of museums as well as visitors might be considered 'heritage work' which serves social purposes in the present

Reference 8 - 0.68% Coverage

¶35: After Twain's death in 1910 the citizens of Hannibal worked diligently to strengthen the connection between Mark Twain and Hannibal in order to make Mark Twain and their city part of the national public memory despite him living there only a portion of his 75 years.

Reference 9 - 0.42% Coverage

¶39: former sufferers of leprosy participate in an international heritage discourse and how they construct the history of leprosy in contemporary Singapore and Malaysia

Reference 10 - 0.32% Coverage

¶39: Meanwhile aspects of that history, which are deemed incompatible, are discarded to fall in between the cracks of the discourse.

Reference 11 - 0.68% Coverage

¶39: others have created a unique culture of heritage that appropriates the international discourse, but also expresses their own needs and perspectives. Cultures of heritage are, however, themselves fluid and liable to change like the memories on which they are based.

¶40:
Reference 12 - 0.86% Coverage

¶56: Furthermore, the dynamics of industrial sectors contribute to the changing aspect and character of what will be recalled as heritage. This analysis outlines the role that industrial relations in textile and shoe manufacturing sectors has had for the configuration of cultural heritage in two declining industrial cities in Eastern Spain

Reference 13 - 0.26% Coverage

¶63: in a period when – after it disappeared into museums – it now seems to be disappearing within them.

¶64:
Reference 14 - 0.17% Coverage

¶74: has today generated an idealised past and a purified iconic image

<Internals\\IJHS 2012 Abstracts> - § 5 references coded [2.06% Coverage]

Reference 1 - 0.59% Coverage

¶6: I argue that the rules we have to follow in approaching an artefact create a series of unrelated socio-cultural connotations which shape our perception of the object. The culture of the artefact is therefore largely the culture of the context through which it is presented.

Reference 2 - 0.24% Coverage

¶19: cultural categories are formulated so as to fit into contemporary imaginations, longings and settlement policies

Reference 3 - 0.21% Coverage

¶23: A subject of the heritageisation process, it has become a familiar and discursive part of the past

Reference 4 - 0.23% Coverage

¶27: I examine the active role these memorials have played in changing the occupation narrative of the islands.

Reference 5 - 0.79% Coverage

¶67: This paper explores the latent messages of two Australian maritime museums to show how the narratives conveyed therein are variations on the theme of 'transience'. It describes how exhibits and displays work to manipulate the geographical and temporal aspects of seafaring so they make all arrivals largely inevitable and relative to one place and nation: Australia

<Internals\\IJHS 2013 abstracts> - § 11 references coded [2.77% Coverage]

Reference 1 - 0.20% Coverage

¶8: they are re-examining what their heritage means, and in turn are creating new heritage micro-narratives.

Reference 2 - 0.32% Coverage

¶10: A number of competing incentives are at work in determining how people actively choose to preserve or, alternatively, discard aspects of their 'cultural heritage'

Reference 3 - 0.22% Coverage

¶10: in determining how people actively and consciously construct 'cultural heritage' in a dynamic and fluid process

Reference 4 - 0.45% Coverage

¶12: Very little is known formally of Chitral history and prehistory beyond the last 200–300 years, and this has led to a relatively set list of heritage and cultural events or traits being iterated by local people and outsiders alike.

Reference 5 - 0.22% Coverage

¶55: an attempt to understand how the present invokes the past in the service of many and diverse contemporary needs

Reference 6 - 0.09% Coverage

¶85: Forgetting to remember, remembering to forget

Reference 7 - 0.18% Coverage

¶86: but also to active decisions to delist or cease to conserve particular forms of heritage once

Reference 8 - 0.13% Coverage

¶86: to contemporary and future societies can no longer be demonstrated.

Reference 9 - 0.36% Coverage

¶92: I argue that the Polish understanding of urbanity is ambiguous, muddling formality with cultural connotations. I address how such convolution both rewrites history and affects modernity

Reference 10 - 0.42% Coverage

¶92: I conclude that considering degraded towns as a special form of cultural heritage is a new construction, where coupling of the disconnected dimensions of the Polish understanding of urbanity becomes even more apparent

Reference 11 - 0.18% Coverage

¶96: In common with other western countries, there is resurgence in war commemoration in Australia

<Internals\\IJHS 2014 abstracts> - § 11 references coded [2.34% Coverage]

Reference 1 - 0.26% Coverage

¶27: However, the project also offers counterpoints and paradoxes connected to remembering and forgetting, between its orientation to the present and to the past

Reference 2 - 0.20% Coverage

¶38: can illuminate understandings of the way cultures of music and memory are negotiated and transacted in the present.

¶39:

Reference 3 - 0.38% Coverage

¶53: Regarding entanglement, heritage becomes relevant only when coupled with other concerns, ranging from politics to livelihood to personal biographies. An unpredictable array of entanglements came into being during the project

Reference 4 - 0.60% Coverage

¶53: Transformation refers to the claim that heritage is not frozen in the past. Instead, it is in motion and subject to change. The transformations of heritage discussed in this paper are examined from the perspective of a mobilities paradigm and understood, in part, as resulting from the experience of performing heritage for outsiders for the first time

Reference 5 - 0.18% Coverage

¶53: argues that it is a fluid construct that can be both anchored in the past and negotiated in the present

Reference 6 - 0.13% Coverage

¶53: This perspective makes sense of an event in which contemporary people anchored

Reference 7 - 0.06% Coverage

¶59: The meanings created were then used

Reference 8 - 0.05% Coverage

¶60: Heritage-ising return migration

Reference 9 - 0.10% Coverage

¶80: Since then, appreciation of Coen has changed considerably.

Reference 10 - 0.29% Coverage

¶97: It explores the implications of the resurfacing of marginal cultural histories within the present moment, and how this can transform conceptions of historicity and time.

Reference 11 - 0.10% Coverage

¶109: the present and past invigorate and co-create each other.

<Internals\\IJHS 2015 abstracts> - § 21 references coded [4.46% Coverage]

Reference 1 - 0.13% Coverage

¶13: examines how one of the chosen sites, an unusual bus shelter, was constructed as official heritage,

Reference 2 - 0.24% Coverage

¶19: Further I show how the genesis and transformation of this local discourse about heritage is driven by local concerns and politics, as well as national and international developments.

¶20:

Reference 3 - 0.24% Coverage

¶41: focuses on the case of the Museum of the Revolution to argue that Cuban museums changed in conjunction with the increasing crypto-colonial relations of subordination to the USSR.

Reference 4 - 0.17% Coverage

¶69: The destruction triggered attention and led to the barn's association with a Nazi Second World War transit camp and with Anne Frank

Reference 5 - 0.10% Coverage

¶71: This provided a new opportunity of a playful use of Ancient Greek heritage

Reference 6 - 0.07% Coverage

¶80: Remembering and forgetting sites of reform in New York

Reference 7 - 0.18% Coverage

¶81: This article examines how sites of reform in New York are remembered and forgotten over successive generations during the twentieth century

Reference 8 - 0.23% Coverage

¶81: In this manner, the absence of memory regarding sites of reform in New York can demonstrate the significance of remembering and forgetting for a 'critical heritage studies'.

Reference 9 - 0.19% Coverage

¶81: This assessment of New York's sites of reform highlights how a new area of analysis can be formed through examining how societies forget.

¶82:
Reference 10 - 0.08% Coverage

¶85: This paper examines how heritage is produced and practised,

Reference 11 - 0.10% Coverage

¶88: Heritage as future-making: aspiration and common destiny in Sierra Leone

Reference 12 - 0.71% Coverage

¶89: engages with an arising interest in heritage as a 'future-making' project, arguing that in a context such as Sierra Leone heritage work may be better understood as a reflection of aspirations for a 'common destiny', than the articulation of common pasts. It questions the centrality with which modern anxiety continues to frame heritage temporalities, drawing on anthropological engagements with contexts of development and social transformation to propose a non-linear model for mapping the relationship between the past and the present

Reference 13 - 0.05% Coverage

¶114: managing the past to serve the present

¶115:
Reference 14 - 0.35% Coverage

¶121: In the eighteenth century, this architecture made the romantic ideals of rural society synonymous with its surroundings, territory and country. In the twentieth century, a select few modernist intellectuals carried out in-depth studies of this architectural type

Reference 15 - 0.05% Coverage

¶123: the use of history in contemporary spaces

Reference 16 - 0.14% Coverage

¶123: the ongoing study of spatio-historical context of heritage sites as revealed in the multifaceted construction

Reference 17 - 0.26% Coverage

¶141: were transformed by imperial Qing officials in the mid-nineteenth century, demonised and denounced as feudal superstition during the Cultural Revolution (1966–1976), exploited as cultural resources

Reference 18 - 0.07% Coverage

¶141: since the early twentieth century and involved in

Reference 19 - 0.39% Coverage

¶141: Based on ethnographic materials collected in 2008 and 2009, this paper argues that it is the inherited vernacular narratives and ritual performances that are negotiating with the state's constant effort of shaping the ritual through various discourses, constructing the meaning of inheritance

Reference 20 - 0.22% Coverage

¶148: Migrant heritage, as a grassroots practice seeking to commemorate pre- and post-war migrant communities and their contributions, emerged in Australia from the 1980s

Reference 21 - 0.47% Coverage

¶148: This article seeks to complicate understandings of migrant heritage as a marginal practice, specifically by interrogating the use-value of particular narratives in the Australian context – that is, how do individuals, communities and other groups (the grassroots) draw on sanctioned and publicly circulating narratives to mark their site as heritage-worthy

<Internals\\IJHS 2016 abstracts> - § 11 references coded [1.94% Coverage]

Reference 1 - 0.26% Coverage

¶12: The case confirms the generally observed manner in which formal depictions of political heritage, encompassing stories of influential individuals, are inextricably tied to contemporary politics

Reference 2 - 0.37% Coverage

¶38: However, like other 'gateway city' heritage sites, it has the potential for aligning with a larger trend in international heritage conservation and heritage diplomacy, that of prioritising narratives of the past that weave together transnational connections and associations.

Reference 3 - 0.33% Coverage

¶48: The term 'diaspora' itself to define Scotland's vast overseas population has been scrutinised for its usefulness. However, since devolution, it has gained currency in public discourse and policies and has led to the 're-diasporisation' of Scotland

Reference 4 - 0.18% Coverage

¶48: This article explores the changing perception and place of diasporic heritage in Scotland since the 1970s through two case studies.

Reference 5 - 0.13% Coverage

¶55: Empowerment, transformation and the construction of ‘urban heritage’ in post-colonial Hong Kong

Reference 6 - 0.13% Coverage

¶88: Conceptualising heritage as a contested process of past-based meaning production in the present,

Reference 7 - 0.05% Coverage

¶92: in new ways to engage with the past

Reference 8 - 0.14% Coverage

¶94: The article documents the heritage-making at work within memorialisation at the Chattri as a case study,

Reference 9 - 0.13% Coverage

¶94: can be enacted through time, between material form and immaterial practices, and across cultures

Reference 10 - 0.07% Coverage

¶96: Their heritage-making strategies are illustrated

Reference 11 - 0.15% Coverage

¶129: The materialisation of a European cultural heritage and the production of physical European heritage sites are

<Internals\\IJHS 2017 abstracts> - § 9 references coded [1.33% Coverage]

Reference 1 - 0.05% Coverage

¶26: and associated benefits or detriments

Reference 2 - 0.13% Coverage

¶45: may need to shift the spotlight from ‘exceptional circumstances’ to the contemporaneity of heritage.

Reference 3 - 0.08% Coverage

¶49: positioning the material past in the contemporary present

¶50:
Reference 4 - 0.16% Coverage

¶56: through the production of a critical heritage whose novelty lies in the constructive use of irony, sarcasm and double meaning.

Reference 5 - 0.14% Coverage

¶167: Heritage on the move. Cross-cultural heritage as a response to globalisation, mobilities and multiple migrations

Reference 6 - 0.31% Coverage

¶172: I show how the material culture, architecture and built environment evolved in close relationship to the spread of heritage discourses leading to a mutually constituting association that helped shape the elements of the new social realities.

¶173:
Reference 7 - 0.12% Coverage

¶176: We introduce ‘emotion networking’ as a methodology to approach present-day heritage production

Reference 8 - 0.17% Coverage

¶180: Guided walking tours therefore epitomise the relational rethinking of memorial landscapes, or quasi-heritage, in everyday urban life.

Reference 9 - 0.17% Coverage

¶180: We explore to what extent the bodily practices, narratives, and reconfiguration of space have produced new memorialised landscapes.

<Internals\\IJHS 2018 abstracts> - § 12 references coded [1.60% Coverage]

Reference 1 - 0.11% Coverage

¶8: how the transformation of places, practices, objects into diverse forms of ‘heritage’ evolves.

Reference 2 - 0.04% Coverage

¶28: contraction, fabrication, dissipation

Reference 3 - 0.40% Coverage

¶29: I will testify to the emergence and fabrication of new Jewish ‘first-places’, a process attending the aging and departure of the last Jews of Morocco and with the support of the Kingdom, while following current, and disruptive trends of contraction, commutation and dissipation of ‘first-places’ in different Jewish practices and narratives.

Reference 4 - 0.04% Coverage

¶31: to pursue their own interests.

Reference 5 - 0.24% Coverage

¶35: The paper delineates how a process of ‘strategic forgetting and selective remembrance’ has been undertaken, negotiating the bloody nature of the building’s past, in its reuse as an upscale commercial venue.

Reference 6 - 0.20% Coverage

¶37: . The significance of the fan’s pilgrimage to Austen-linked heritage sites lies not in the author to be ‘found’ there but in how the tourist actively constructs ‘their’ Jane

Reference 7 - 0.04% Coverage

¶77: to interweave the past and present

Reference 8 - 0.04% Coverage

¶90: as a contemporary social process.

¶91:
Reference 9 - 0.06% Coverage

¶117: Forgetting communism, remembering World War II?

Reference 10 - 0.27% Coverage

¶118: Such an analysis offers a case to investigate cultural heritage as participating and reflecting dynamics between history writing and memory in contemporary Poland between local, national and transcultural memory making processes.

¶119:
Reference 11 - 0.05% Coverage

¶136: The inherent malleability of heritage:

Reference 12 - 0.10% Coverage

¶137: in the context of the inherent malleability of heritage as both a concept and a process

<Internals\\JCH 2002 abstracts> - § 1 reference coded [0.33% Coverage]

Reference 1 - 0.33% Coverage

¶75: The latter one consisted in the increasing importance that coastal cultural heritage has acquired either in the social perception of coastal reality

<Internals\\JCH 2018 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶83: while acknowledging that corresponding attributes, metrics and weights can change over time and should be regularly updated.

Name: Nodes\\'Critical' heritage discussion\Power and political heritage\Professional expertise

<Internals\\Antiquity 1994 abstracts> - § 1 reference coded [0.24% Coverage]

Reference 1 - 0.24% Coverage

¶77: whose views of the past may not match much or at all with the academics.

<Internals\\Antiquity 1995 abstracts> - § 1 reference coded [0.26% Coverage]

Reference 1 - 0.26% Coverage

¶111: conceals as well as reveals fundamentals that no real practice of archaeology can actually escape.

<Internals\\Antiquity 1996 abstracts> - § 3 references coded [0.16% Coverage]

Reference 1 - 0.07% Coverage

¶7: An embarrassment of professors

Reference 2 - 0.03% Coverage

¶177: United we stand?

Reference 3 - 0.06% Coverage

¶240: Connoisseurship in context

<Internals\\Antiquity 1997 Abstracts> - § 2 references coded [0.83% Coverage]

Reference 1 - 0.68% Coverage

¶256: This makes electronic Egypt an intellectual and ethical minefield for the uninitiated, especially as there proves often little to differentiate between this panoply of sites in terms of presentation and professionality. It palpably illustrates the homogenization of knowledge on the net and prompts us to consider the construction of archaeology and archaeological knowledges.

Reference 2 - 0.15% Coverage

¶268: prehistory to politics: John Mulvaney, the humanities and the public intellectual.

<Internals\\Antiquity 2001 abstracts> - § 5 references coded [0.96% Coverage]

Reference 1 - 0.08% Coverage

¶208: We have received three comments from fellow professionals

Reference 2 - 0.12% Coverage

¶208: has taken over its years of increasingly high-profile professional and business activity.

Reference 3 - 0.33% Coverage

¶247: written from the perspective of someone who has been actively involved in professional archaeology since the creation of the first county 'units' in 1973, who helped to promote a professional institute and its codes of contractual behaviour

Reference 4 - 0.28% Coverage

¶297: Among the general public, the extraordinarily important role played by cultural resource management (hereafter CRM) procedures in the conservation of archaeological materials usually goes unrecognized.

Reference 5 - 0.14% Coverage

¶297: publication procedures and venues are so different in the worlds of academic and contract archaeology.

<Internals\\Antiquity 2004 abstracts> - § 1 reference coded [0.17% Coverage]

Reference 1 - 0.17% Coverage

¶81: A professional offering on the same subject appeared almost simultaneously

<Internals\\Antiquity 2009 abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶30: As road protests diminished, real archaeologists took the stage.

<Internals\\Antiquity 2010 abstracts> - § 2 references coded [0.86% Coverage]

Reference 1 - 0.07% Coverage

¶35: Raymond Dart and the danger of mentors

Reference 2 - 0.78% Coverage

¶36: But adherence to mentors has its dangers. That is shown in the career of Raymond Dart, whose professional work was deeply flawed by the adherence he paid to his mentor Grafton Elliot Smith. His status has been maintained by his dedicated disciple, the great physical anthropologist Phillip

Tobias, but critical assessment of the corpus of Dart's work (Dubow 1996; Derricourt 2009) contrasts with his selective reputation.

<Internals\\Antiquity 2011 abstracts> - § 4 references coded [0.77% Coverage]

Reference 1 - 0.37% Coverage

¶198: Irrespective of whether climate change poses the greatest challenge in the twenty-first century or whether it is just one of many challenges facing humanity (cf. Rowland 2010), the absence of an archaeological voice diminishes the relevance and impact of the debate as a whole.

¶199:
Reference 2 - 0.10% Coverage

¶205: What should professional archaeologists do about objects discovered by amateurs?

Reference 3 - 0.20% Coverage

¶205: The British Museum is now promoting a code of practice (Bland 2008: 81–2); and, at pains to avoid counterposing professional archaeologists and amateurs

Reference 4 - 0.10% Coverage

¶205: rather than . . . research . . . conceived and executed by professionals'.

<Internals\\Antiquity 2012 abstracts> - § 1 reference coded [1.45% Coverage]

Reference 1 - 1.45% Coverage

¶82: The familiar term "pseudoarchaeology" allows us to categorise and comfortingly dismiss a diverse group of alternative presentations of the past, and reinforce our own professionalism as scholars and scientists. Glyn Daniel regularly denounced the ideas of a "lunatic fringe" in Antiquity editorials, and contributors to a recent unforgiving book analyse "how pseudoarchaeology misrepresents the past" (Fagan 2006). Other terms like "alternative" or "cult" archaeologies describe the same phenomena, and it is appropriate to consider elements of pseudohistory in the same argument. The conventional image is of a clear gap between the knowledge gained through our scholarly and scientific research and thinking, and the illusory pasts and falsehoods created by others. But such a binary division does present problems

<Internals\\Antiquity 2018 abstracts> - § 2 references coded [0.18% Coverage]

Reference 1 - 0.06% Coverage

¶93: is not afraid of defending its expert knowledge in the public arena

Reference 2 - 0.12% Coverage

¶99: At its heart, and despite the radical rhetoric, Gonzalez-Ruibal et al.'s paper is another defence of archaeological expertise by archaeologists

<Internals\\Curator 1994> - § 2 references coded [0.52% Coverage]

Reference 1 - 0.23% Coverage

¶13: professionalism versus the audience

Reference 2 - 0.29% Coverage

¶13: connoisseurship versus the public experience,

<Internals\\Curator 1996> - § 3 references coded [2.10% Coverage]

Reference 1 - 0.58% Coverage

¶7: Staff efforts to "professionalize" and upgrade museum operations

Reference 2 - 0.47% Coverage

¶10: museums, professional associations, and governments.

Reference 3 - 1.04% Coverage

¶46: requires skills and experience that stretch beyond the expertise of a science-technology museum exhibition staff.

<Internals\\Curator 2000> - § 3 references coded [1.11% Coverage]

Reference 1 - 0.57% Coverage

¶5: "When I Grow Up I'd Like to Work in a Place Like This": Museum Professionals' Narratives of Early Interest in Museums

Reference 2 - 0.10% Coverage

¶6: museum professionals

Reference 3 - 0.44% Coverage

¶6: both narrator and colleagues can find clues about where their beliefs and values really lie

<Internals\\Curator 2001> - § 2 references coded [0.62% Coverage]

Reference 1 - 0.34% Coverage

¶28: accommodating these shifts will demand a different style of decision making.

Reference 2 - 0.28% Coverage

¶69: Traditions associated with conservatism, scholarly content, and

<Internals\\Curator 2002> - § 2 references coded [0.68% Coverage]

Reference 1 - 0.32% Coverage

¶17: The Authority Debate and Art Museum Leadership in America

Reference 2 - 0.36% Coverage

¶18: theirs and that of the art museum itself in contemporary society.

<Internals\\Curator 2004> - § 1 reference coded [0.77% Coverage]

Reference 1 - 0.77% Coverage

¶9: The study found considerable variety in the backgrounds, expertise, titles and training of people developing Web sites within institutions.

<Internals\\Curator 2005> - § 4 references coded [1.53% Coverage]

Reference 1 - 0.87% Coverage

¶18: Achieving much with little, they have had to learn to function within a dramatically changing local environment, and to speak “English” in a globalized world.

Reference 2 - 0.12% Coverage

¶22: and professional norms

Reference 3 - 0.30% Coverage

¶22: frequently draw on Western expertise in building them.

Reference 4 - 0.24% Coverage

¶68: involved in museum professional development

<Internals\\Curator 2006> - § 1 reference coded [2.26% Coverage]

Reference 1 - 2.26% Coverage

¶15: Even wealthy industries such as the oil and gas sector cannot attract young people—especially young women—to engineering, despite the fact that engineers with less than a decade of experience earn an average of U.S. $75,000 a year, and when fully experienced, an average of U.S. $127,000 a year. Overall, it seems that the ability of the public to interrogate issues driven by changes in science and technology, and their level of trust, are effectively decreasing.

<Internals\\Curator 2007> - § 1 reference coded [0.51% Coverage]

Reference 1 - 0.51% Coverage

¶28: Four complementary research strategies are proposed for studying the relationships between museum professionals and published research.

<Internals\\Curator 2008> - § 5 references coded [4.92% Coverage]

Reference 1 - 0.86% Coverage

¶7: their role as custodians of cultural content and so presents debate around an institution's attitude towards cultural authority.

Reference 2 - 0.73% Coverage

¶29: and realigning communication between management and front-line staff in order to empower front-line staff.

Reference 3 - 0.22% Coverage

¶53: Who's Behind What's on the Walls?

Reference 4 - 0.68% Coverage

¶58: This article presents a personal working study in navigating this increasingly complex career choice.

Reference 5 - 2.43% Coverage

¶60: Visitors to a zoo were presented with seven environmental messages. They then selected—from a list of zoo-related job titles—the one they deemed most credible and the one considered least credible. Statistical analysis established that three “credible” job titles were selected significantly more often, while three were generally selected as “least credible.”

<Internals\\Curator 2010 Abstracts> - § 3 references coded [1.22% Coverage]

Reference 1 - 0.51% Coverage

¶16: In essence, those who follow this approach are committed to creating exhibitions that will tell visitors what they must experience.

Reference 2 - 0.37% Coverage

¶16: How can museum professionals cultivate “not knowing” as a motivation for improving what they do?

Reference 3 - 0.34% Coverage

¶57: How will we meet those challenges and who will lead us to the new shore of our future?

<Internals\\Curator 2011 abstracts> - § 2 references coded [0.86% Coverage]

Reference 1 - 0.12% Coverage

¶19: Confessions of a Confident Man

Reference 2 - 0.74% Coverage

¶42: Knowing how to do installations is implicit practical knowledge, which perhaps doesn’t need to be made explicit. Hanging is a practice mastered by gifted curators who don’t write out the rules.

<Internals\\Curator 2012 abstracts> - § 6 references coded [1.15% Coverage]

Reference 1 - 0.04% Coverage

¶16: Museum Experts

Reference 2 - 0.08% Coverage

¶17: museum and cultural experts

Reference 3 - 0.16% Coverage

¶17: 17 museum experts and specialists on Pacific cultures

Reference 4 - 0.16% Coverage

¶34: A debate surrounding the changing nature of authority

Reference 5 - 0.21% Coverage

¶37: Letting Go? Sharing Historical Authority in a User-Generated World

¶38:
Reference 6 - 0.48% Coverage

¶68: The contentious relationship between cultural heritage professionals and commercial entities is nowhere more fraught than in underwater archeological sites

<Internals\\Curator 2013 abstracts> - § 7 references coded [4.11% Coverage]

Reference 1 - 0.59% Coverage

¶13: Research has highlighted the vast gulf that exists between experts' and novices' understandings of science, and how difficult it is to bridge this gulf.

Reference 2 - 0.24% Coverage

¶23: rather than in competition with formal institutional knowledge.

Reference 3 - 0.30% Coverage

¶24: Mutualizing Museum Knowledge: Folksonomies and the Changing Shape of Expertise

Reference 4 - 0.71% Coverage

¶25: The networking of knowledge in the Internet age is calling into question the relationship between experts and non-experts in the development, preservation, and communication of knowledge

Reference 5 - 0.44% Coverage

¶25: These changes in the roles of expertise will have implications for museums as traditional gatekeepers of knowledge

Reference 6 - 0.59% Coverage

¶40: Museums today grapple with the reconciliation of traditional models of authority with the expectation to incorporate new voices in cultural interpretation

Reference 7 - 1.24% Coverage

¶40: Expanding on the metaphors of the museum as “the Temple and the Forum” and the Web as “the Cathedral and the Bazaar,” this essay argues that issues of democratization, voice, and authority in museums can be addressed through Wikipedia's community, process, and its potential as a model for a new Open Authority in museums.

¶41:
<Internals\\Curator 2015 abstracts> - § 2 references coded [1.82% Coverage]

Reference 1 - 1.09% Coverage

¶6: Over the past decade, museum administrators, curators, and staff have begun to recognize a subset of visitors that is starting to view their roles in museums differently. No longer is this new museum audience willing to accept curators' authoritative narratives passively. Instead, this group of visitors seeks to share authority with curators

Reference 2 - 0.73% Coverage

¶17: By examining several curatorial initiatives at the Gladstone, this article explores the ways in which alternative approaches to the concepts of "expert," "gallery," and "curator" are realized within the context of a hybrid space.

¶18:
<Internals\\Curator 2016 abstracts> - § 4 references coded [3.15% Coverage]

Reference 1 - 1.30% Coverage

¶30: This form of ignorance assumes authority in describing and acting on behalf of a subject, even as it fails to take seriously the subject's self-knowledge and agency. While Ortega initially coined this term to describe the stance of white feminists toward women of color, here I extend the concept to describe a wider range of knowers—in this case, the institutional museum

Reference 2 - 0.78% Coverage

¶30: Using a case study at the Museum of Fine Arts, Boston to illustrate this problem, I will suggest that becoming aware of instances of loving, knowing ignorance and learning to avoid it is a key skill for museum professionals

Reference 3 - 0.76% Coverage

¶42: In so doing, it calls into question the public art institution's ability to perform a self-critique when embedded within the hegemony of the neoliberal order and constrained by bureaucratic institutional limitations.

Reference 4 - 0.32% Coverage

¶64: reported here looked at how two groups of people – one with art expertise and one without –

<Internals\\Curator 2017 abstracts> - § 4 references coded [0.86% Coverage]

Reference 1 - 0.20% Coverage

¶22: to help us ensure we are really achieving what we claim to.

Reference 2 - 0.14% Coverage

¶39: Confessions of an Accidental Zoo Curator

Reference 3 - 0.21% Coverage

¶41: through which museum professionals and educators may network

Reference 4 - 0.31% Coverage

¶43: so that as authors, curators, educators, editors and publishers we can reach our audiences

<Internals\\IJCP 1994 abstracts> - § 2 references coded [1.73% Coverage]

Reference 1 - 0.23% Coverage

¶2: Museum professionals

Reference 2 - 1.50% Coverage

¶10: it is now essential to improve the status of restorers and to recognise that art restoration is highly skilled, professional work

<Internals\\IJCP 1995 abstracts> - § 1 reference coded [1.13% Coverage]

Reference 1 - 1.13% Coverage

¶17: The participants were museums professionals, police and customs officers from 21 African countries.

<Internals\\IJCP 1996 Abstracts> - § 1 reference coded [0.79% Coverage]

Reference 1 - 0.79% Coverage

¶8: boast of an expertise, which remains unrecognised by official archaeologists.

<Internals\\IJCP 1997 Abstracts> - § 1 reference coded [1.37% Coverage]

Reference 1 - 1.37% Coverage

¶30: equally important concerning the professional identities of Native Americans and museum professionals, respectively.

<Internals\\IJCP 1998 abstracts> - § 3 references coded [1.87% Coverage]

Reference 1 - 0.45% Coverage

¶8: in order both to establish accepted practices of professionals in various disciplines

Reference 2 - 0.79% Coverage

¶12: By declaring that the past is a public heritage, claiming that archaeologists should be its stewards, and moving toward a positivist scientific approach

Reference 3 - 0.63% Coverage

¶14: critical of the mainstream archaeologists, who, according to the author, hide behind the veil of scientific objectivity.

<Internals\\IJCP 2005 Abstracts> - § 8 references coded [3.81% Coverage]

Reference 1 - 0.55% Coverage

¶37: In addition, by affirming the plaintiffs' position, the court essentially declared archaeologists and associated scientists to be the primary stewards of that heritage

Reference 2 - 0.09% Coverage

¶44: between field researchers

Reference 3 - 0.27% Coverage

¶50: under the explicit control of the American government and its agents of science.

Reference 4 - 0.59% Coverage

¶52: Heritage piety departs ever farther from reality. High-minded admonitions broaden the gulf between what happens to cultural property and what virtuous stewards feel should happen

Reference 5 - 0.34% Coverage

¶52: These evils endure because heritage stewards commonly subscribe to four underlying sacrosanct fictions

Reference 6 - 1.22% Coverage

¶52: I show why these views are mistaken yet remain embedded in heritage philosophy and protocol. In particular, although heritage is piously declared the legacy of all mankind, chauvinist sentiment continues to impede internationalism, partly because it buttresses the credentials of those in charge, who are forced into moral postures that promise unachievable stewardship.

Reference 7 - 0.60% Coverage

¶52: Heritage professionals once seen as selfless are now targets of suspicion, often thought backward looking, deluded, self-seeking, or hypocritical. Small wonder that militant reformers

Reference 8 - 0.15% Coverage

¶52: are viewed with an increasingly cynical eye.

¶53:
<Internals\\IJCP 2006 Abstracts> - § 1 reference coded [1.69% Coverage]

Reference 1 - 1.69% Coverage

¶43: I am an outsider to the field. I was asked to write a report with the hope that I might be able to provide a different perspective precisely because I am not a practitioner. I am taking it on faith that my lack of authority is, for the purposes of this essay, authoritative. I will focus on questions that seem important to me and suggest some answers that seem reasonable to me. I leave it in the hands of the readers to decide whether the exercise serves any purpose for them

<Internals\\IJCP 2007 Abstracts> - § 3 references coded [0.57% Coverage]

Reference 1 - 0.16% Coverage

¶6: rather than some complex academic reasoning

Reference 2 - 0.26% Coverage

¶52: suggests that the lacunae is the result of established academic agendas

Reference 3 - 0.16% Coverage

¶52: which focus on long-term processes of change

<Internals\\IJCP 2008 Abstracts> - § 2 references coded [0.70% Coverage]

Reference 1 - 0.41% Coverage

¶6: The article suggests that to achieve an integrated approach to conservation, national, regional, and international bodies and their professionals must be involved

Reference 2 - 0.29% Coverage

¶59: The AAMD accomplishes this mission by establishing and maintaining the highest standards of professional practice

<Internals\\IJCP 2009 Abstracts> - § 1 reference coded [0.37% Coverage]

Reference 1 - 0.37% Coverage

¶31: Geneticists, however, are more prestigious and better funded—and what scientist doesn't aspire to that?

¶32:
<Internals\\IJCP 2013 abstracts> - § 4 references coded [1.77% Coverage]

Reference 1 - 0.10% Coverage

¶42: the Politics of Expertise

¶43:
Reference 2 - 0.18% Coverage

¶43: examines the problematic politics of expertise

Reference 3 - 0.84% Coverage

¶43: as heritage professionals strive to hold on to and expand their self-created professional legitimacy and importance. Heritage professionals, in striving to maintain their relevance, tend to create self-referential regimes

Reference 4 - 0.65% Coverage

¶43: lawyers, because of their own professional tendencies, might be in a position to offer a counterpoint to rule by experts in international cultural heritage management.

¶44:
<Internals\\IJCP 2016 abstracts> - § 1 reference coded [0.61% Coverage]

Reference 1 - 0.61% Coverage

¶8: but, instead, has fostered an elite-driven policy approach shaped by symbiotic, mutually legitimizing government–scholar networks.

<Internals\\IJHS 1994-6 Abstracts> - § 4 references coded [2.29% Coverage]

Reference 1 - 0.11% Coverage

¶12: professional care

Reference 2 - 1.20% Coverage

¶14: Experts can visualise an original location or environment; ordinary museum visitors need the context of people, or place, or familiar activities, to be able to relate to unfamiliar objects.

Reference 3 - 0.14% Coverage

¶33: planning professionals

Reference 4 - 0.85% Coverage

¶33: it remains the exception for other professions to take an active role in the protection of spatial elements of the historic townscape.

<Internals\\IJHS 1996 Abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶41: professional one

<Internals\\IJHS 1997-8 Abstracts> - § 2 references coded [0.39% Coverage]

Reference 1 - 0.30% Coverage

¶29: in advance of some of the heritage professionals

Reference 2 - 0.09% Coverage

¶41: Professionalism

<Internals\\IJHS 1999 Abstracts> - § 1 reference coded [0.69% Coverage]

Reference 1 - 0.69% Coverage

¶46: The rapid establishment of national parks in Indonesia required staff to be trained in a variety of disciplines including interpretation.

<Internals\\IJHS 2000 Abstracts> - § 5 references coded [1.83% Coverage]

Reference 1 - 0.70% Coverage

¶7: Older modernist models for communication based on the transmission of authoritative subject-based facts to a mass of passive receivers

Reference 2 - 0.20% Coverage

¶7: New roles for art museum professionals

Reference 3 - 0.21% Coverage

¶11: have much to teach heritage professionals

Reference 4 - 0.51% Coverage

¶11: providing expert advice upon which decisions about the future use of these forests will be made.

Reference 5 - 0.21% Coverage

¶15: specific and professional understanding

<Internals\\IJHS 2002 Abstracts> - § 1 reference coded [4.43% Coverage]

Reference 1 - 4.43% Coverage

¶42: Academics and practitioners alike know relatively little about the core competencies that are transferable from one heritage-area initiative to another. Often those new to the field have had to look to consultants or peers for advice regarding the essential core competencies needed to make their emerging organisations a success.This research surveyed the executive directors of the known universe of 154 heritage areas in the USA for the purposes of identifying the essential core skills they feel are needed to create and sustain a multi-jurisdictional heritage-tourism initiative. In addition, the importance-performance methodology employed in the survey instrument made it possible to assess their critical needs and priorities for training. Results of this study contributed to the design of the Heritage Development Institute, recently created to serve the executive staff of the nation's heritage areas at the College of Charleston on behalf of the Alliance of National Heritage Areas

<Internals\\IJHS 2003 Abstracts> - § 3 references coded [1.23% Coverage]

Reference 1 - 0.32% Coverage

¶9: The role of the historian and archaeologist is examined

Reference 2 - 0.43% Coverage

¶11: the processes of its management and the role of expertise within management

Reference 3 - 0.48% Coverage

¶11: requires a self-conscious evaluation of the role of heritage managers in the process

<Internals\\IJHS 2005 Abstracts> - § 4 references coded [1.66% Coverage]

Reference 1 - 0.11% Coverage

¶37: Academics and professionals

Reference 2 - 0.66% Coverage

¶42: The research attempts to understand the mechanisms, rationales, internal and external forces, actors, experts, and power networks that privileged a particular discourse

Reference 3 - 0.56% Coverage

¶46: These conservation practices, dating to the late 19th and early 20th centuries, were undertaken before the age of museum professionalisation

Reference 4 - 0.33% Coverage

¶59: By participating more actively in forums already populated by heritage professionals

<Internals\\IJHS 2006 Abstracts> - § 3 references coded [0.82% Coverage]

Reference 1 - 0.54% Coverage

¶24: The paper concludes by examining the adequacy of Stebbins's P-A-P system for analysing the power relations between museum professionals and volunteers in the museum social world.

¶25:
Reference 2 - 0.16% Coverage

¶45: modern professional standards of heritage management

Reference 3 - 0.12% Coverage

¶47: between expertise and community interests

<Internals\\IJHS 2007 Abstracts> - § 3 references coded [2.48% Coverage]

Reference 1 - 1.13% Coverage

¶51: The long-standing rift between the biological and social sciences has done much to shape how nature conservation and the conservation of cultural heritage are practised today. In the field of protected areas, fundamental differences in outlook have contributed to an unproductive atmosphere in which seemingly endless rounds of criticisms are traded among disciplines

Reference 2 - 1.01% Coverage

¶51: This will require seeking out common ethical foundations and terms of reference, and calls for a serious commitment to promoting interdisciplinary research and facilitating the work of interdisciplinary teams to perform it. The result—integrated natural and cultural heritage conservation—has the potential to be more effective.

¶52:
Reference 3 - 0.34% Coverage

¶57: Can we ensure an adequate specialist training within a holistic framework which balances science and the arts?

<Internals\\IJHS 2008 Abstracts> - § 1 reference coded [1.27% Coverage]

Reference 1 - 1.27% Coverage

¶49: This attention has been stimulated by the continued importance of local history as a popular cultural activity, in parallel with, paradoxically, a relatively recent decline in academic teaching provision in the subject. The reflection on the characteristics and role of local history has yielded searching consideration of its relationship with the pursuit of history more broadly, most especially in the academic discipline

<Internals\\IJHS 2009 Abstracts> - § 4 references coded [1.77% Coverage]

Reference 1 - 0.53% Coverage

¶20: This paper starts from the premise that an interest in heritage and the roots of cultural traditions is not the exclusive concern of archaeologists, historians or folklorists.

Reference 2 - 0.15% Coverage

¶20: which may differ from that of professional groups

Reference 3 - 0.85% Coverage

¶37: This paper considers reasons for this underestimation, and suggests that these groups may also have higher and more wide-ranging expectations of history than intellectuals do. It suggests these 'emotional' uses of history, rather than being inferior to academic history, may be richer

Reference 4 - 0.25% Coverage

¶37: the two-dimensional historical experience of the researcher or museums professional.

<Internals\\IJHS 2010 Abstracts> - § 8 references coded [1.46% Coverage]

Reference 1 - 0.19% Coverage

¶10: Furthermore, many professionals pay lip-service to the whole concept

Reference 2 - 0.13% Coverage

¶10: those of professionals do not always coincide.

Reference 3 - 0.32% Coverage

¶14: However, working with community archives also presents challenges to dominant professional assumptions and practices

Reference 4 - 0.06% Coverage

¶16: tourism professionals

Reference 5 - 0.09% Coverage

¶18: for decentring the new Protectors

Reference 6 - 0.17% Coverage

¶45: rather than top-down memorial schemes or official proclamations

Reference 7 - 0.34% Coverage

¶72: Ultimately, the revitalisation culture is engaging in 'unethical' behaviour from the perspective of conservation professionals

Reference 8 - 0.16% Coverage

¶72: if the field of heritage conservation is able and willing

<Internals\\IJHS 2012 Abstracts> - § 4 references coded [1.75% Coverage]

Reference 1 - 0.70% Coverage

¶10: The relationships between archaeologists and metal-detector users are often more complex than is realised, partly because little has been published to date on the dynamics that exist, though there is more about the artefactual information that has been gleaned through these relationships (see e.g. www.finds.org.uk/database

Reference 2 - 0.56% Coverage

¶10: The ways in which rallies in England and Wales are conducted are the subject of continued debate between different organisations, with the Council for British Archaeology, for example, planning a guidance note for the promotion of archaeologically good practice

Reference 3 - 0.39% Coverage

¶76: results from expert discourse and practices; it could be grasped by an analysis of conservators' discourse and practices in the particular context of the castle's reconstruction.

¶77:
Reference 4 - 0.11% Coverage

¶89: The central authorities' focus on professionalism

<Internals\\IJHS 2013 abstracts> - § 4 references coded [1.58% Coverage]

Reference 1 - 0.51% Coverage

¶4: These mechanisms are not in essence negative; they are necessary for the production of the kind of knowledge that is specific for the system or organisation. However, in planning, some form of coordination of interests and types of knowledge is seen as desirable.

Reference 2 - 0.28% Coverage

¶20: The result is London's Olympic Waterscape, a 20-minute film comprising both 'expert' interview material discussing broad themes and developments

Reference 3 - 0.39% Coverage

¶80: It suggests much is to be gained from tackling the uneasy relationship that currently exists between social science and humanities-based approaches to heritage and the professional conservation sector

Reference 4 - 0.40% Coverage

¶84: Thus, while agreeing with the questions posed by the Manifesto, we argue that rather than casting the terms of the debate in a way that positions the professional field as needing renovation from without

<Internals\\IJHS 2014 abstracts> - § 3 references coded [1.54% Coverage]

Reference 1 - 1.16% Coverage

¶42: In the case of Slovene popular music heritage, however, things are more complicated. Namely, the whole field is poorly organised, which means that the most influential work on Slovenian popular music heritage is not done by the institutions that are at least nominally in charge of this segment of the country's cultural heritage, but by different popular music enthusiasts – i.e. the ones that are, for the most part, not related to established positions of power in society. Yet, this does not mean that the work of these enthusiasts is not important. After all, in the context of the lack of institutionalised contributions, it alone defines what Slovenian popular music heritage is.

Reference 2 - 0.14% Coverage

¶57: Its aim is to re-think the appropriateness of professionally assessed methodologies

Reference 3 - 0.24% Coverage

¶86: that we question the application of a late-nineteenth-century modernist approach to culture, and that we seek a better theoretical foundation.

<Internals\\IJHS 2015 abstracts> - § 5 references coded [0.79% Coverage]

Reference 1 - 0.06% Coverage

¶11: privileges expert knowledge over local voices

Reference 2 - 0.24% Coverage

¶13: An assumption is that such an approach could represent a particular challenge for heritage experts by broadening the perspective on what to include and exclude in their appraisals.

Reference 3 - 0.10% Coverage

¶51: Collected sites are commonly seen as places requiring expert intervention

Reference 4 - 0.14% Coverage

¶51: Professional archaeologists often position their engagement with site destruction as heritage 'salvage'

Reference 5 - 0.25% Coverage

¶65: The process by which evaluations are formulated by these experts is also being questioned, opening up larger debates about the validity and transparency of the evaluation criteria and process

<Internals\\IJHS 2016 abstracts> - § 13 references coded [2.83% Coverage]

Reference 1 - 0.35% Coverage

¶14: Utilising interviews conducted within 14 authorised and DIY museums devoted to popular music, the researchers demonstrate a distinct contrast between current academic critiques of music use in these museums and the attitudes of the people who create them.

Reference 2 - 0.27% Coverage

¶19: where practitioners are 'bearers' of reified, bounded heritage practices – neglects the lived realities of practitioners, ultimately safeguarding little and potentially exacerbating existing inequalities

Reference 3 - 0.30% Coverage

¶21: It begins by critically addressing the positions of Tomaso Montanari and Salvatore Settis, two prominent heritage intellectuals at the forefront of national campaigns to restore the damaged historic centre of L'Aquila

Reference 4 - 0.18% Coverage

¶28: When collaboration fails, however, the opinion of the professionals using the modern building should be given greater consideration

Reference 5 - 0.08% Coverage

¶34: a questioning of dominant (expert) values and knowledge?

Reference 6 - 0.05% Coverage

¶34: actors situated outside expert culture

Reference 7 - 0.06% Coverage

¶44: has traditionally been shaped by professionals

Reference 8 - 0.18% Coverage

¶76: Conflicts at these two sites often become intensified when heritage experts overlook the 'emotional' and 'transnational' relationships

Reference 9 - 0.49% Coverage

¶101: It provides examples of the integration of multiple roles of public folklorists as scholars, administrators, producers of folklore presentations and government heritage officers. Public folklore praxis achieved through the integration of these roles is seen as a potential model for critical heritage studies praxis for scholars who are advisors and researchers

Reference 10 - 0.13% Coverage

¶105: Folklore research in the United States typically is completed either through academic departments

Reference 11 - 0.51% Coverage

¶105: . These two approaches are termed 'academic folklore' and 'public folklore'. The intellectual history of both approaches has recently been critiqued. One result of this deconstruction is an ambivalence over the historical legacy of key concepts in the study of folklore. Assessing elements of the critical study of folklore's history – in both academe and the public sector

Reference 12 - 0.02% Coverage

¶135: by 'experts'.

Reference 13 - 0.22% Coverage

¶135: Using local heritage designation as an investigatory platform, a thesis is developed to explain professional representations of heritage operating in this setting

<Internals\\IJHS 2017 abstracts> - § 5 references coded [0.60% Coverage]

Reference 1 - 0.02% Coverage

¶39: to Western experts,

Reference 2 - 0.01% Coverage

¶39: expertise

Reference 3 - 0.11% Coverage

¶75: is increasingly impinging on the relationship between the professionals and the public

Reference 4 - 0.10% Coverage

¶81: in balance with the objective art/historical values of conventional experts.

¶82:
Reference 5 - 0.35% Coverage

¶170: However, there are also cases of employing such a narrative actively in order to envision an alternative future beyond ethnic separation. So far, the institutions working with the heritage of Mostar have not addressed these issues, thus possible ways forward are suggested.

¶171:
<Internals\\IJHS 2018 abstracts> - § 13 references coded [2.00% Coverage]

Reference 1 - 0.03% Coverage

¶10: the ‘expert’ designated

Reference 2 - 0.04% Coverage

¶39: continued cross-sector dialogue.

¶40:
Reference 3 - 0.12% Coverage

¶86: Secondly, the concept of found space opens up a discussion surrounding the role of citizen expertise

Reference 4 - 0.15% Coverage

¶86: the paper concludes by considering the place for found space and citizen expertise within current heritage discourse and practice

Reference 5 - 0.29% Coverage

¶90: is the product of prolonged wrestling with the question of how heritage professionals and researchers can facilitate and sustain public agency in caring for heritage in the UK during austerity without exploiting volunteers or devaluing professionals

Reference 6 - 0.03% Coverage

¶90: devaluing professionals

Reference 7 - 0.29% Coverage

¶110: It argues that the Gopher Hole Museum succeeds in part because its organisers are active agents who take pride in the museum without attempting to refute the sometimes negative responses to it, or control the ways in which outsiders interpret it.

Reference 8 - 0.20% Coverage

¶114: however this potential is hampered by the often unacknowledged undemocratic practices within institutions by professionals who devalue visitor participation and power-sharing

Reference 9 - 0.30% Coverage

¶128: In particular, it examines the nature of the relational dynamic between the authors which moved from a collaborative partnership towards friendship in the course of constructing the archive (practice) and critically reflecting on its development (research)

Reference 10 - 0.33% Coverage

¶132: This paper proposes the use of a theoretical model, the Mediated Recordkeeping Model (MRkM), as a framework to guide the development and implementation of self-reflexive modelling processes to challenge individual assumptions and practices within the memory and heritage professions

Reference 11 - 0.07% Coverage

¶135: with which to describe the ability of ICH practitioners

Reference 12 - 0.06% Coverage

¶141: disrupt curatorial efforts to impose meaning upon them

Reference 13 - 0.08% Coverage

¶141: These miniatures disrupt curatorial intentionality in the museum space

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶14: It is argued that, reflecting institutional dominance of the conservation agenda

<Internals\\JCH 2006 Abstracts> - § 2 references coded [0.45% Coverage]

Reference 1 - 0.08% Coverage

¶29: Both phases try to embed experts' knowledge.

Reference 2 - 0.36% Coverage

¶29: Even though the proposed framework is guided by the expert, it is semi-automatic and able to reduce typical human limits such as subjective and emotive state, visual system performances and so on

Name: Nodes\\Archaeology\Public archaeology

<Internals\\Antiquity 1998 abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶215: Public archaeology

<Internals\\Antiquity 2000 abstracts> - § 3 references coded [0.33% Coverage]

Reference 1 - 0.09% Coverage

¶60:

Public archaeology in Canada¶61:

The term 'public archaeology' can mean many things

Reference 2 - 0.22% Coverage

¶61: For the purposes of this paper, the term 'public archaeology' is used to describe those projects and programmes designed to enhance popular knowledge of and appreciation for archaeology.¶62:

A

Reference 3 - 0.02% Coverage

¶87: public archaeology¶88:

<Internals\\Antiquity 2002 abstracts> - § 1 reference coded [0.02% Coverage]

Reference 1 - 0.02% Coverage

¶352: Public Archaeology

<Internals\\Antiquity 2007 abstracts> - § 1 reference coded [0.02% Coverage]

Reference 1 - 0.02% Coverage

¶242: Public Archaeology

<Internals\\Antiquity 2009 abstracts> - § 1 reference coded [0.13% Coverage]

Reference 1 - 0.13% Coverage

¶123: The Discover M74 Public Archaeology Programme ran from August 2007 to February 2009

<Internals\\Antiquity 2010 abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶257: Should a public archaeology exhibition

<Internals\\Antiquity 2018 abstracts> - § 6 references coded [0.21% Coverage]

Reference 1 - 0.05% Coverage

¶92: Against reactionary populism: towards a new public archaeology

Reference 2 - 0.01% Coverage

¶97: and the public

Reference 3 - 0.02% Coverage

¶311: public archaeology.

¶312:
Reference 4 - 0.04% Coverage

¶312: is not part of the 'new public archaeology'

¶313:
Reference 5 - 0.04% Coverage

¶313: which they claim misrepresents public archaeology

Reference 6 - 0.04% Coverage

¶343: Public archaeology cannot just 'fly at dusk'

<Internals\\IJHS 2005 Abstracts> - § 2 references coded [0.26% Coverage]

Reference 1 - 0.07% Coverage

¶56: Public Archaeology

Reference 2 - 0.19% Coverage

¶57: combine to create a form of public archaeology.

¶58:
<Internals\\IJHS 2016 abstracts> - § 1 reference coded [0.13% Coverage]

Reference 1 - 0.13% Coverage

¶137: This paper aims to explore ways in which models of education programmes in public archaeology

Name: Nodes\\Archaeology\Ritual and symbolism

<Internals\\Antiquity 1994 abstracts> - § 15 references coded [3.15% Coverage]

Reference 1 - 0.08% Coverage

¶7: The territory of ritual:

Reference 2 - 0.65% Coverage

¶8: these boundaries operated in conjunction with natural features to define areas of the prehistoric landscape which may have been concerned with ritual during the final Neolithic and Early Bronze Age.

Reference 3 - 0.10% Coverage

¶10: Striking among the figures of

Reference 4 - 0.07% Coverage

¶10: are some waterbirds.

Reference 5 - 0.08% Coverage

¶15: A taphonomy of palaeoart

Reference 6 - 0.37% Coverage

¶16: As one digs back through the archaeological record, art and other evidence of symbolic behaviour becomes scarcer,

Reference 7 - 0.08% Coverage

¶33: Anthropomorphic figurines

Reference 8 - 0.10% Coverage

¶40: Seven ways of seeing rock art

Reference 9 - 0.14% Coverage

¶66: Of Lightning Brothers and White Cockatoos:

Reference 10 - 0.18% Coverage

¶66: signifying systems in the Northern Territory, Australia

Reference 11 - 0.53% Coverage

¶67: Northern Australia is one of the very few regions of the world where an established tradition of rock-art has continued and extends into present-day knowledge.

Reference 12 - 0.30% Coverage

¶67: One can begin to assess the antiquity of those systems of knowledge and of 'signifying'.

¶68:

Reference 13 - 0.11% Coverage

¶99: traditions of ritual architecture

¶100:

Reference 14 - 0.17% Coverage

¶101: The Central Asian dimension of the symbolic system

Reference 15 - 0.21% Coverage

¶133: Orientation and Etruscan ritual

¶134: The cosmology of the Etruscans,

<Internals\\Antiquity 1995 abstracts> - § 11 references coded [3.58% Coverage]

Reference 1 - 0.05% Coverage

¶17: Goddesses, Gimbutas

Reference 2 - 1.09% Coverage

¶18: For a century a notion of a prehistoric Mother Goddess has infused some perceptions of ancient Europe, whatever the realities of developing archaeological knowledge. With the reverent respect now being given to Marija Gimbutas, and her special vision of a perfect matriarchy in Old Europe, a daughter-goddess is now being made, bearer of a holy spirit in our own time, to be set alongside the wise mother of old.

Reference 3 - 0.07% Coverage

¶66: Mesolithic mortuary ritual

Reference 4 - 0.40% Coverage

¶81: Mithraism, the Roman cult to the Persian mystery god Mithras, had a special following in the army–and a matchingly broad distribution across the Empire.

Reference 5 - 0.53% Coverage

¶117: A comparison of the evidence for the earliest scripts in different parts of the world suggests that an apparent preponderance of ceremonial; and symbolic usage should not be interpreted too literally.

Reference 6 - 0.74% Coverage

¶125: the roles of drink and drugs in the lives of prehistoric Europeans. Here, an analysis of diagnostic forms in the megalithic art of Irish passage-tombs—with its spirals, lozenges and turning curves—develops the explorations of that visionary interpretation begun by Bradley in 1989.

Reference 7 - 0.05% Coverage

¶150: Art and diffusion

¶151:
Reference 8 - 0.07% Coverage

¶163: Sacred sites, sacred places.

Reference 9 - 0.50% Coverage

¶171: The famous richness of the region's rock-art also documents the human presence, again over a great time-depth, and gives a direct report of how ancient Arnhem Landers depicted themselves.

Reference 10 - 0.05% Coverage

¶209: its mobiliary art

¶210:
Reference 11 - 0.03% Coverage

¶232: as Great Auks

<Internals\\Antiquity 1996 abstracts> - § 13 references coded [2.20% Coverage]

Reference 1 - 0.27% Coverage

¶46: the analogy is nevertheless effective in expanding current definitions of how ritual is expressed through material culture.

Reference 2 - 0.04% Coverage

¶53: Ritual or fluvial

Reference 3 - 0.42% Coverage

¶76: The rock-art of the Pecos River region, on the Texas-Mexico border, is deservedly celebrated for its very large and inspiring human depictions, convincingly interpreted as images of shamanism.

Reference 4 - 0.09% Coverage

¶77: Thematic changes in Upper Palaeolithic art

Reference 5 - 0.16% Coverage

¶79: Of gods, glyphs and kings: divinity and rulership among the Classic Maya

Reference 6 - 0.38% Coverage

¶80: From them we may discern the concepts and beliefs that defined the authority of these holy lords, as we seek the source of the power of rulers like ‘Sun-faced Snake Jaguar’.

Reference 7 - 0.04% Coverage

¶113: The hunter's vision

Reference 8 - 0.09% Coverage

¶185: the cultural origins of Inca sky watching.

Reference 9 - 0.27% Coverage

¶196: once again, its iconography connects it to the ‘Southern Cult’ or ‘Southeast Ceremonial Complex’ of the Mississippian period.

Reference 10 - 0.16% Coverage

¶199: Zemís, trees, and symbolic landscapes: three Taíno carvings from Jamaica

¶200:
Reference 11 - 0.04% Coverage

¶213: animal sacrifices in

Reference 12 - 0.20% Coverage

¶245: The sounds and colors of power: the sacred metallurgical technology of ancient West Mexico.

Reference 13 - 0.05% Coverage

¶253: Perceiving rock art:

<Internals\\Antiquity 1997 Abstracts> - § 23 references coded [3.27% Coverage]

Reference 1 - 0.10% Coverage

¶21: The Neolithic great goddess: a study in modern tradition

Reference 2 - 0.19% Coverage

¶40: the place has become a focus for New Age ceremony — itself in part inspired by Native American knowledge.

Reference 3 - 0.02% Coverage

¶49: Celtic myths

Reference 4 - 0.14% Coverage

¶61: Andean Art: visual expression and its relation to Andean beliefs and values.

Reference 5 - 0.05% Coverage

¶64: The concept of the goddess.

Reference 6 - 0.16% Coverage

¶82: Maeshowe and the winter solstice: ceremonial aspects of the Orkney Grooved Ware culture

Reference 7 - 0.05% Coverage

¶85: a transformation of ideology,

Reference 8 - 0.04% Coverage

¶86: new ways of symbolizing

Reference 9 - 0.15% Coverage

¶87: Pottery plays an important role as a functional factor and in symbolic expressions.

Reference 10 - 0.20% Coverage

¶87: Some of this symbolism, expressed on a multitude of ritual occasions, may be retrievable archaeologically.

¶88:
Reference 11 - 0.05% Coverage

¶116: The gods in their Greek places

Reference 12 - 0.13% Coverage

¶148: are a major addition to our knowledge of high-status élite burial rituals

Reference 13 - 0.38% Coverage

¶159: One can suppose ancient people living by natural light were more compellingly struck by the sight of comets and supernovae, and understandably researchers seek images of them in the shapes of rock-art motifs.

Reference 14 - 0.11% Coverage

¶176: Riddles in stone: myths, archaeology and the ancient Britons.

Reference 15 - 0.05% Coverage

¶179: sacrifice in early Europe

Reference 16 - 0.11% Coverage

¶182: Snakes and crocodiles: power and symbolism in ancient Zimbabwe.

Reference 17 - 0.10% Coverage

¶192: Agency, art and altered consciousness: a motif in French

Reference 18 - 0.06% Coverage

¶192: Upper Palaeolithic parietal art

Reference 19 - 0.72% Coverage

¶193: Is the meaning of prehistoric art beyond recovery — especially the meaning of early art in deep caves, a remote and strange location which itself suggests some out-of-the-ordinary purpose? David Lewis-Williams has been extending his explorations of meaning in later southern African rock-art to the famous enigma of the European Palaeolithic, here in the particulars of a single distinctive motif.

Reference 20 - 0.15% Coverage

¶204: Images in opposition: polarity, ambivalence and liminality in cult representation

Reference 21 - 0.04% Coverage

¶210: Cupule engravings from

Reference 22 - 0.14% Coverage

¶210: and beyond: exploration of a widespread and enigmatic class of rock markings

Reference 23 - 0.11% Coverage

¶211: the pecked cups or cupules that are widespread in Australia.

<Internals\\Antiquity 1998 abstracts> - § 11 references coded [1.04% Coverage]

Reference 1 - 0.03% Coverage

¶81: Etruscan art.

Reference 2 - 0.15% Coverage

¶100: Protopalatial Knossos was a centre of ritual consumption rather than production

Reference 3 - 0.08% Coverage

¶107: The decoration of Neolithic passage-graves

Reference 4 - 0.13% Coverage

¶107: compares their decorated stones with motifs in Ireland and elsewhere.

Reference 5 - 0.13% Coverage

¶146: Death as a rite of passage: the iconography of the Moche Burial Theme

Reference 6 - 0.18% Coverage

¶147: The application of van Gennep's Rites of Passage structure to iconography and mortuary contexts

Reference 7 - 0.10% Coverage

¶208: Lost Gods of Albion: the chalk hillfigures of Britain

Reference 8 - 0.04% Coverage

¶209: Sacred mound holy rings

Reference 9 - 0.07% Coverage

¶245: stone symbolized death and the dead

Reference 10 - 0.06% Coverage

¶286: Prehistoric ritual and religion.

Reference 11 - 0.09% Coverage

¶289: Sotades: symbols of immortality on Greek Vases.

<Internals\\Antiquity 1999 abstracts> - § 9 references coded [1.85% Coverage]

Reference 1 - 0.17% Coverage

¶7: the ritual deposition of shields in the Later Bronze Age of western Europe.

Reference 2 - 0.08% Coverage

¶49: Art in stone from Rome to Byzantium

Reference 3 - 0.11% Coverage

¶54: Ancient goddesses: The myths and the evidence.

¶55:
Reference 4 - 0.01% Coverage

¶114: God

Reference 5 - 0.12% Coverage

¶117: Ancestral images: the iconography of human origins.

¶118:
Reference 6 - 0.58% Coverage

¶130: provides an opportunity to explore distinctions between sacrifice, burial and grave goods. Waggon models, sun-symbols and buried pairs of cattle suggest additional ideas about the religious beliefs and behaviour of Neolithic societies in central Europe.

¶131:
Reference 7 - 0.52% Coverage

¶146: an exploration of the earliest manifestations and the development of ancestor-worship ritual in the Neolithic period; secondly, demonstrates that lineage/tribal ancestors became state deities in the Shang dynasty (c. 1600-1100 BC)

Reference 8 - 0.17% Coverage

¶188: the kinds of marine shells favoured as ornaments remained nearly constant.

¶189:

Reference 9 - 0.08% Coverage

¶234: Perils of iconography: the Maya

¶235:

<Internals\\Antiquity 2000 abstracts> - § 24 references coded [1.50% Coverage]

Reference 1 - 0.06% Coverage

¶34: was associated with the cult of the mother goddess.

Reference 2 - 0.05% Coverage

¶37: a hallucinogen at Neolithic ‘ritual’ sites

Reference 3 - 0.02% Coverage

¶38: ceremonial site

Reference 4 - 0.01% Coverage

¶41: Cosmology

Reference 5 - 0.08% Coverage

¶43: ritual and riding

¶44: The symbolism of the horse in Eneolithic society

Reference 6 - 0.06% Coverage

¶97:

La naissance de l'art: genèse de l'art préhistorique.

Reference 7 - 0.02% Coverage

¶109: male deity figures.

Reference 8 - 0.03% Coverage

¶110: architectural ritual

Reference 9 - 0.13% Coverage

¶111: domestic activities shifting to the margins and ritual, including ancestor veneration, becoming more important

Reference 10 - 0.09% Coverage

¶176:

Research into the iconography and symbolism of early modern funerary monuments

Reference 11 - 0.02% Coverage

¶184:

Egyptian art. ¶185:

Reference 12 - 0.01% Coverage

¶191:

Druids

Reference 13 - 0.03% Coverage

¶194:

Archaeology and symbolism in

Reference 14 - 0.03% Coverage

¶229: lifestyles and rites:

Reference 15 - 0.29% Coverage

¶252: I told him that I could not take any money for it; that she was worshipped by all the people around, and that several times a year the people assembled from the country at a distance to see the goddess, and to bathe: at which time much was offered to her

Reference 16 - 0.05% Coverage

¶253:

Ayodhya's sacred landscape: ritual memory

Reference 17 - 0.16% Coverage

¶255: This was believed to have marked the birthplace of the Hindu god Rama (hence the name Rama Janmabhumi — literally ‘birthplace of Rama’)

Reference 18 - 0.03% Coverage

¶267:

Ancient art from Cyprus

Reference 19 - 0.02% Coverage

¶295:

European paganism

Reference 20 - 0.02% Coverage

¶296: sacred landscapes

Reference 21 - 0.09% Coverage

¶361: It is unclear why she created an image of a peaceful ‘Goddess-oriented Old Europe’

Reference 22 - 0.07% Coverage

¶377: provides evidence for ritual practices c. AD 1390–1470.¶378:

T

Reference 23 - 0.08% Coverage

¶396:

Ships on bronzes. A study in Bronze Age religion and iconography

Reference 24 - 0.07% Coverage

¶398:

Stargods of the Maya: astronomy in art, folklore, and calenders.

<Internals\\Antiquity 2001 abstracts> - § 20 references coded [2.97% Coverage]

Reference 1 - 0.06% Coverage

¶22: Orientations and origins: a symbolic dimension

Reference 2 - 0.04% Coverage

¶29: some petroglyphs (rock art)

Reference 3 - 0.03% Coverage

¶66: The harmony of symbols

Reference 4 - 0.05% Coverage

¶89: motifs in portable art of the period.

¶90:
Reference 5 - 0.08% Coverage

¶102: implications for the origin of symbolism and language

¶103:
Reference 6 - 0.09% Coverage

¶103: Engraved designs have also been identified on pieces of ochre

Reference 7 - 0.10% Coverage

¶103: suggesting such engraving was a symbolic act with symbolic meaning.

¶104:
Reference 8 - 0.10% Coverage

¶125: Expressiveness and communication: Insular Celtic art through six centuries

Reference 9 - 0.04% Coverage

¶135: a casting and recasting of

Reference 10 - 0.28% Coverage

¶152: The rings' generally symmetrical, circular shapes are seen as reflective of the equal status among their societal members wherein no individual or family held a unique or favoured position over another.

Reference 11 - 0.07% Coverage

¶153: Prehistoric burial and ritual, in southwest Ireland

Reference 12 - 0.07% Coverage

¶190: Remembering, forgetting and the invention of tradition

Reference 13 - 0.03% Coverage

¶235: an Illyrian ritual site

¶236:
Reference 14 - 0.04% Coverage

¶237: A building for ritual use

Reference 15 - 0.04% Coverage

¶269: Rock art in sub-Saharan Mali

¶270:
Reference 16 - 0.31% Coverage

¶270: It seems that the nature of the rock art reported, predominantly ‘geometric’ and saurian motifs, and ‘stick figures’, as well as its apparent recent age, formed little incentive for in-depth studies of rock art in this region.

Reference 17 - 0.08% Coverage

¶277: Research into the formlings in the rock art of Zimbabwe

Reference 18 - 0.81% Coverage

¶278: In 1929, commenting on southern Africa’s rock art, Leo Frobenius remarked: ‘… oddities occur which are completely outside our understanding. There are large forms, shaped like galls or livers, into which human figures are painted …’ (1929: 333). He coined the term‘formling’ to ‘denote this composite type of forms and yet not easily explained’ (Goodall 1959: 62, my emphasis). These motifs (FIGURE 1) still remain poorly understood. In 1998, I began research into their form and meaning. In this note I set out the history of the formling debate and introduce some of my new findings.

Reference 19 - 0.36% Coverage

¶288: The landscapes of the central highlands of Madagascar are inhabited by the spirits of the dead as well as by the living. The ancestors are a forceful presence in the everyday world, and the archaeology of the central highlands is intimately entwined with them.

Reference 20 - 0.28% Coverage

¶288: Tombs are a traditional focus of archaeological research, and those that dot the hills of the central highlands are part of a network of beliefs and practices which engage with the landscape as a whole

<Internals\\Antiquity 2002 abstracts> - § 31 references coded [1.92% Coverage]

Reference 1 - 0.04% Coverage

¶8: the study of Northern rock-art

¶9:
Reference 2 - 0.03% Coverage

¶28: Burnt animal sacrifice

Reference 3 - 0.21% Coverage

¶29: The burnt sacrifice of bare (defleshed) bones, described in Homer's Odyssey and well documented from Archaic and Classical Greece, is now clearly attested by burnt faunal remains from

Reference 4 - 0.20% Coverage

¶29: This evidance is of great importance for understanding both the historical role of sacrifice in Greek religion and the significance of fensting in Mycenaean palatial society.

Reference 5 - 0.03% Coverage

¶42: (an iconographic dossier)

Reference 6 - 0.06% Coverage

¶89: animals in life and religion in the land of the pharaohs

Reference 7 - 0.01% Coverage

¶145: Rock art

Reference 8 - 0.11% Coverage

¶154: Netherworld: discovering the oracle of the dead and ancient techniques of foretelling the future

Reference 9 - 0.01% Coverage

¶208: pictographs

Reference 10 - 0.04% Coverage

¶209: Samples from three charcoal pictographs

Reference 11 - 0.06% Coverage

¶209: One charcoal painting, for example, resembles a mammoth.

Reference 12 - 0.02% Coverage

¶209: on pictographs

Reference 13 - 0.04% Coverage

¶216: Death and the regeneration of life

Reference 14 - 0.13% Coverage

¶217: the vessels may have taken this form to emphasize the relationship between death and the continuity of human life.

Reference 15 - 0.04% Coverage

¶226: presence of art and/or symbolism

Reference 16 - 0.04% Coverage

¶297: Monastic visions: wall paintings

Reference 17 - 0.08% Coverage

¶306: Religiones, ritos y creencias funerarias de la Hispania prerromana

Reference 18 - 0.06% Coverage

¶322: runstenskors som en spegling av kristnandet i Sverige

Reference 19 - 0.04% Coverage

¶330: Pattern and purpose in Insular art

Reference 20 - 0.01% Coverage

¶361: The druids

Reference 21 - 0.03% Coverage

¶366: Biblical & pagan societies

Reference 22 - 0.04% Coverage

¶383: The sacred landscape of the Inca

Reference 23 - 0.04% Coverage

¶398: testing the cosmological model

Reference 24 - 0.07% Coverage

¶423: Social integration of religion and ritual in prehistoric China

Reference 25 - 0.15% Coverage

¶424: examples from Chinese prehistory to demonstrate that religion could maintain and reinforce order in various aspects of social lives.

Reference 26 - 0.04% Coverage

¶487: The archaeology of cult and religion

Reference 27 - 0.05% Coverage

¶642: Late Iron Age sacred space in western Europe

Reference 28 - 0.13% Coverage

¶643: The differential use of constructed sacred space in southern Britain, from the late Iron Age to the 4th century AD

Reference 29 - 0.08% Coverage

¶644: Rites et espaces en pays celte et méditerranéen: étude comparée à partir

Reference 30 - 0.04% Coverage

¶661: Prehistoric rock art in Cumbria

Reference 31 - 0.01% Coverage

¶663: Moche art

<Internals\\Antiquity 2003 abstracts> - § 15 references coded [4.82% Coverage]

Reference 1 - 0.56% Coverage

¶10: rather that the signs in this very early period performed as symbols connected with ritual practice, but they presage a long period of sign use which led eventually to a writing system.

Reference 2 - 0.15% Coverage

¶37: Putting the record straight: Rock art and shamanism

Reference 3 - 0.24% Coverage

¶38: Is the term shamanism being applied uncritically and subjectively to rock art?

Reference 4 - 0.91% Coverage

¶58: Since portable art of the period has long been known in this country (Sieveking 1972; Campbell 1977: vol. 2, figs 102, 105, 143), it has always seemed probable that parietal art must also have existed. We knew that we were most unlikely to discover paintings, since these are generally quite visible

Reference 5 - 0.44% Coverage

¶74: to show how African spiritual spaces were created in houses and gardens in the form of coded landscapes that were often hidden – though in view

¶75:
Reference 6 - 0.17% Coverage

¶85: Faith in the past: debating an archaeology of religion

¶86:
Reference 7 - 0.19% Coverage

¶89: Human figures in portable art of the European Upper Palaeolithic

Reference 8 - 0.18% Coverage

¶93: The mind in the cave: consciousness and the origins of art

Reference 9 - 0.11% Coverage

¶100: Dance of the Cranes: Crane symbolism

Reference 10 - 0.20% Coverage

¶100:

¶101: In this article, the authors reveal the symbolic role of cranes

Reference 11 - 0.39% Coverage

¶101: are interpreted as coming from a spread wing used in dances, a ritual practice perhaps connected with the celebration of marriage.

Reference 12 - 0.16% Coverage

¶118: special food for the ancestors, deities and the élite

Reference 13 - 0.84% Coverage

¶119: Using examples from Andean archaeology the author shows how different foodstuffs perform ceremonial roles in different sectors of society. Many ordinary people use them to feed the ancestors, while the élite may put significance on a variety of consumables, including human blood

Reference 14 - 0.23% Coverage

¶127: The site is considered sacred by Hindus as the birthplace of their god Rama

Reference 15 - 0.05% Coverage

¶139: Sacred and secular

<Internals\\Antiquity 2004 abstracts> - § 21 references coded [2.86% Coverage]

Reference 1 - 0.05% Coverage

¶8: Rock art and rock music

Reference 2 - 0.44% Coverage

¶9: shows how the Neolithic petroglyph site may have functioned in its landscape – as a ritual locality at which not only images but sound, performance and social relationships were all prominent

Reference 3 - 0.27% Coverage

¶19: shows that the temples cluster into groups whose orientation was deliberate and likely to relate to a particular god.

Reference 4 - 0.28% Coverage

¶20: Eighteenth-century rock art depictions of leatherarmoured horses from the Arkansas River basin, south-eastern Colorado, USA

Reference 5 - 0.14% Coverage

¶27: a fresh sighting of rock paintings, all relating to the period

Reference 6 - 0.14% Coverage

¶46: Une histoire de la religion ds Maya: du panthéisme au panthéon

Reference 7 - 0.16% Coverage

¶59: Others are certainly ceremonial, for family and kin-group meetings.

Reference 8 - 0.04% Coverage

¶60: a ritual landscape

Reference 9 - 0.14% Coverage

¶86: Portraits of the Ptolemies: Greek kings as Egyptian pharaohs

Reference 10 - 0.10% Coverage

¶98: Images of women, Classical and Late Antique

Reference 11 - 0.06% Coverage

¶99: an iconographic handbook

Reference 12 - 0.21% Coverage

¶100: Status und Repräsentation: ein Untersuchung zur römischen und frühbyzantischen Bildniskunst

Reference 13 - 0.05% Coverage

¶102: Caring for body & soul

Reference 14 - 0.13% Coverage

¶114: the authors reject the idea of sacrificial infanticide

Reference 15 - 0.03% Coverage

¶118: burial rites

Reference 16 - 0.10% Coverage

¶121: How inscriptions and style reflect politics

Reference 17 - 0.09% Coverage

¶129: High Place: symbolism and monumentality

Reference 18 - 0.14% Coverage

¶132: Ochre is well-known as a substance used in Stone Age symbolism

Reference 19 - 0.05% Coverage

¶137: of incised rock art

¶138:
Reference 20 - 0.12% Coverage

¶165: the commemorative and ritual value of such deposits

Reference 21 - 0.10% Coverage

¶205: how the Greeks re-created their mythical past

<Internals\\Antiquity 2005 abstracts> - § 21 references coded [3.60% Coverage]

Reference 1 - 0.23% Coverage

¶3: The wounded roan: a contribution to the relation of hunting and trance in southern African rock art

¶4:
Reference 2 - 0.07% Coverage

¶4: a painting of three figures in

Reference 3 - 0.57% Coverage

¶4: led to a new hypothesis about the role of the roan antelope in both the economy and beliefs of early Africa. The author shows that not only art, but language too, may reach back to a time when the need for food first began to find expression in ritual.

¶5:
Reference 4 - 0.09% Coverage

¶55: Lightning Warrior: Maya art and kingship

Reference 5 - 0.08% Coverage

¶58: Landscapes, rock-art and the dreaming

Reference 6 - 0.07% Coverage

¶75: Food of the Gods or mere mortals?

Reference 7 - 0.20% Coverage

¶83: Buddhism, Pax Kushana and Greco-Roman motifs: pattern and purpose in Gandharan iconography

Reference 8 - 0.47% Coverage

¶84: The authors show how the Gandharan art of early first millennium Afghanistan used Greek and Roman motifs to give an international context to Buddhist sculpture and reduce tension at home and with the neighbours.

Reference 9 - 0.16% Coverage

¶98: The Nasca lines are geoglyphs – arrays of stones forming geometric shapes

Reference 10 - 0.12% Coverage

¶109: Gender and art in the Near and Middle Eastern Neolithic

Reference 11 - 0.06% Coverage

¶121: Art, landscape, and society

Reference 12 - 0.14% Coverage

¶135: Khirigsuurs, ritual and mobility in the Bronze Age of Mongolia

Reference 13 - 0.34% Coverage

¶136: The khirigsuurs are large and complex ritual sites that are major features in the landscape of Bronze Age Mongolia and represent considerable investment

Reference 14 - 0.22% Coverage

¶138: The landscape of Delphi was itself instrumental in creating or enhancing the cosmology of Apollo.

¶139:

Reference 15 - 0.13% Coverage

¶154: rock art in the Laura Region, Cape York Peninsula, Australia

Reference 16 - 0.20% Coverage

¶155: there are mismatches which suggest that some motifs were often imitated by later artists

Reference 17 - 0.08% Coverage

¶170: Ambiguous images: gender and rock art

Reference 18 - 0.07% Coverage

¶223: Caves and rocks: state of the art

Reference 19 - 0.11% Coverage

¶226: Helleristninger: Billeder fra Bornholms Bronzealder

Reference 20 - 0.10% Coverage

¶230: Prehistoric pictures as archaeological source

Reference 21 - 0.06% Coverage

¶256: Maya dwellings in hieroglyphs

<Internals\\Antiquity 2006 abstracts> - § 53 references coded [9.29% Coverage]

Reference 1 - 0.18% Coverage

¶4: Geometric, zoomorphic and anthropomorphic symbols mark routes, destinations and usage

Reference 2 - 0.14% Coverage

¶5: Mending the past: Ix Chel and the invention of a modern pop goddess

Reference 3 - 0.55% Coverage

¶6: For modern communities, she is the moon goddess and protectress of Maya culture and women; for scholars she is one of a number of deities with different roles in the Postclassic period. Which is the real Ixchel? The author excavates the story of the Maya goddess

Reference 4 - 0.08% Coverage

¶16: Similarities of theme and iconography

Reference 5 - 0.11% Coverage

¶20: as well as an iconic force in ceremonial burial.

¶21:

Reference 6 - 0.13% Coverage

¶37: In the Maw of the Earth Monster: Mesoamerican ritual cave use.

Reference 7 - 0.03% Coverage

¶40: Olmec Art at

Reference 8 - 0.04% Coverage

¶42: The Graven Image:

Reference 9 - 0.04% Coverage

¶43: Idols of the People

Reference 10 - 0.27% Coverage

¶58: Cultic Theatres and Ritual Drama: a study in regional development and religious interchange between East and West in Antiquity

Reference 11 - 0.06% Coverage

¶60: time, astronomy and the cosmos

Reference 12 - 0.05% Coverage

¶66: Sacrificial landscapes

Reference 13 - 0.10% Coverage

¶67: Décors, images et signes de l'âge du Fer européen

Reference 14 - 0.05% Coverage

¶83: Trees in Udmurt religion

Reference 15 - 0.34% Coverage

¶84: the author reveals how an early historic people of central Russia used trees in their religion, and describes some of the meanings that lay behind their rituals.

Reference 16 - 1.03% Coverage

¶93: Cosmology and the Bronze Age landscape

¶94: A recent study has suggested that the decorated Bronze Age metalwork of South Scandinavia depicted the path of the sun through the sky during the day and through the sea at night. At different stages in its journey it was accompanied by a horse or a ship. Similar images are found in prehistoric rock art, and this paper argues that, whilst there are important differences between the images in these two media, they also signal some of the same ideas.

Reference 17 - 0.50% Coverage

¶96: Six hand stencils from four French caves are attributed to four adult females, an adult male, and a sub-adult male. Here we take a step closer to showing that both sexes are engaged in cave art and whatever dreams and rituals it implies.

Reference 18 - 0.09% Coverage

¶134: Shadows of a Northern Past: Rock Carvings

Reference 19 - 0.03% Coverage

¶135: Human Sacrifice

Reference 20 - 0.12% Coverage

¶136: Gathering Hopewell: Society, Ritual, and Ritual Interaction

Reference 21 - 0.03% Coverage

¶147: Oceanic rock art

Reference 22 - 0.50% Coverage

¶148: They left their mark on the cave in the form of numerous hand stencils. During the first millennium AD, later generations of artists used the same cave, drawing birds and a circular sign for water still recognised by the present community.

Reference 23 - 0.17% Coverage

¶157: King's monuments: identifying ‘formlings’ in southern African San rock paintings

Reference 24 - 0.52% Coverage

¶158: The author demonstrates that the complex images of rock art known as formlings depict or evoke the equally complex architecture of ant-hills. Presented in cutaway and full of metaphorical references, they go beyond the image into the imagination.

Reference 25 - 0.13% Coverage

¶163: The aurochs, nature worship and exploitation in eastern Gaul

Reference 26 - 0.05% Coverage

¶164: suggests votive deposits

Reference 27 - 0.04% Coverage

¶164: ritual connotations,

Reference 28 - 0.24% Coverage

¶173: Excarnation – the exposure of a corpse for stripping and possible dispersal by birds and animals – is a burial rite

Reference 29 - 0.12% Coverage

¶193: The Roman Nude: Heroic Portrait Statuary 200 BC-AD 300

Reference 30 - 0.15% Coverage

¶196: Mind and Religion: Psychological and Cognitive Foundations of Religiosity

Reference 31 - 0.02% Coverage

¶199: ritual,

Reference 32 - 0.06% Coverage

¶202: The Sacred Animal Necropolis

Reference 33 - 0.24% Coverage

¶217: these beads provided a symbolic language that somehow kept the early peoples of Australia in touch with the sea.

¶218:

Reference 34 - 0.05% Coverage

¶226: The king and his cult:

Reference 35 - 0.17% Coverage

¶226: its implications for the concept of sacral leadership in early medieval Europe

¶227:
Reference 36 - 0.15% Coverage

¶227: is reinterpreted as an instrument for sacrificing animals by pole-axing.

Reference 37 - 0.24% Coverage

¶227: As such it is a symbol of the leader-as-priest who was a feature of both Germanic and Roman pre-Christian society

Reference 38 - 0.08% Coverage

¶229: with a variety of accompanying rituals.

Reference 39 - 0.41% Coverage

¶235: Amongst the numerous images found on the walls of Palaeolithic caves, fluted lines, made by fingers dragged through a skin of wet clay remain some of the most intriguing. In their study of images

Reference 40 - 0.85% Coverage

¶235: Comparing the dimensions of the experimental flutings with the originals, they conclude that the patterns on the roof of Chamber A1 at Rouffignac were made by the fingers of children aged between 2 and 5 years old. Given the current height of the chamber, such children would have needed to be hoisted aloft by adults. Who knows what lessons in art or ritual were thereby imparted to the young persons…

Reference 41 - 0.22% Coverage

¶237: they provided more than a status symbol and gastronomic treat: the fallow deer was an emblem of Empire.

¶238:
Reference 42 - 0.16% Coverage

¶243: Are modern artworks really comparable in any serious way to ancient monuments?

Reference 43 - 0.07% Coverage

¶255: Visual Culture and Archaeology: Art

Reference 44 - 0.04% Coverage

¶263: The Religious Reuse

Reference 45 - 0.15% Coverage

¶280: The Art of the Picts: Sculpture and Metalwork in Early Medieval Scotland

Reference 46 - 0.05% Coverage

¶292: The World of Ancient Art

Reference 47 - 0.06% Coverage

¶293: Psychoanalysis and the Image

Reference 48 - 0.12% Coverage

¶303: Celebrations: Sanctuaries and the vestiges of cult activity

Reference 49 - 0.05% Coverage

¶304: Making a Landscape Sacred

Reference 50 - 0.05% Coverage

¶313: The Mother of the Gods

Reference 51 - 0.08% Coverage

¶327: the Roots of the Western Tradition.

Reference 52 - 0.04% Coverage

¶353: Forty Carved Motifs

Reference 53 - 0.04% Coverage

¶367: Murals and graffiti

<Internals\\Antiquity 2007 abstracts> - § 51 references coded [5.24% Coverage]

Reference 1 - 0.25% Coverage

¶4: Its tall structure and numerous ornamented finds suggest an elaborate timber cult house. This is the first Scandinavian building for which the term ‘temple’ can be justly claimed

Reference 2 - 0.06% Coverage

¶6: their implications for the ritual landscape

Reference 3 - 0.08% Coverage

¶14: Magdalenian art that extends over much of northern Europe.

¶15:
Reference 4 - 0.05% Coverage

¶36: the Roots of the Western Tradition.

Reference 5 - 0.06% Coverage

¶49: Consciousness, Cosmos and the Realm of Gods

Reference 6 - 0.03% Coverage

¶51: Symbols and warriors:

Reference 7 - 0.02% Coverage

¶54: The Sacred Animal

Reference 8 - 0.02% Coverage

¶73: et symboliques

Reference 9 - 0.07% Coverage

¶86: Representation and Corporeality in the Neolithic

Reference 10 - 0.08% Coverage

¶89: reconstructing gender relations in the prehistoric rock art

Reference 11 - 0.03% Coverage

¶110: Spirits of the Dead

Reference 12 - 0.05% Coverage

¶131: Reading a Culture through its Art

Reference 13 - 0.05% Coverage

¶133: in Moche Religion and Visual Culture

Reference 14 - 0.06% Coverage

¶140: Cahokia: A World Renewal Cult Heterarchy

Reference 15 - 0.01% Coverage

¶155: and Ritual

Reference 16 - 0.07% Coverage

¶178: It appears to carry symbols of the sun, moon and stars

Reference 17 - 0.23% Coverage

¶178: and the debate now moves to the matter of its meaning. Here the authors offer a subtle interpretation that sees it as the shamanistic device of a local warrior society.

Reference 18 - 0.15% Coverage

¶184: and implies the use of symbolic language not only across the former continent of Sahul, but also Eurasia.

¶185:
Reference 19 - 0.15% Coverage

¶188: while no doubt enacted with ritual airs, nevertheless had their context and purpose in the slaughter of enemies.

Reference 20 - 0.06% Coverage

¶198: Determining style in Palaeolithic cave art

Reference 21 - 0.10% Coverage

¶199: How can we explain the variations and similarities of Palaeolithic art?

Reference 22 - 0.67% Coverage

¶199: The author begins to address these big questions by deconstructing over 900 images of the horse, the animal most commonly depicted in European caves. He finds it possible to distinguish variations due to differences in live animals and due to differences in methods of representation – allowing the isolation of those few differences due to style. Applying this to a case study at Parpalló in Spain, he notes that the local sequence of horse images correlates with other cultural changes.

Reference 23 - 0.10% Coverage

¶201: is thought by some to have had a symbolic rather than a functional purpose

Reference 24 - 0.13% Coverage

¶201: show that the halberd probably performed both in fighting and ritual, and in ritualised fighting

Reference 25 - 0.08% Coverage

¶212: Cult Image and Divine Representation in the Ancient Near East

Reference 26 - 0.02% Coverage

¶223: Myths in Stone

Reference 27 - 0.02% Coverage

¶230: Símbolos de poder

Reference 28 - 0.10% Coverage

¶269: Pictorial pursuits: Figurative painting on Mycenaean and Geometric pottery.

Reference 29 - 0.05% Coverage

¶276: Women and Ritual in Ancient Greece

Reference 30 - 0.06% Coverage

¶286: Etruscan Myth, Sacred History and Legend

Reference 31 - 0.06% Coverage

¶334: Old Norse religion in long-term perspectives:

Reference 32 - 0.03% Coverage

¶364: Rock art and artisans

Reference 33 - 0.18% Coverage

¶365: This is a story that will appeal to all scholars involved with the interpretation of rock art. Figures depicted on rock surfaces

Reference 34 - 0.14% Coverage

¶365: and they evoke local creatures and architectural echoes of the town and temples on which they worked.

Reference 35 - 0.03% Coverage

¶378: ritual transformation¶379:

Reference 36 - 0.07% Coverage

¶379: for which they may have acted as founding rituals.

Reference 37 - 0.03% Coverage

¶418: Food for the Gods:

Reference 38 - 0.03% Coverage

¶491:

Commoner Ritual a

Reference 39 - 0.03% Coverage

¶492:

Ritual & Power in Stone

Reference 40 - 0.05% Coverage

¶512: .

Making and Meaning in Insular Art

Reference 41 - 0.23% Coverage

¶529: . The grids themselves join a growing repertoire of patterns known from Upper Palaeolithic society, but their role remains enigmatic: counting, calendars or ornament? A

Reference 42 - 0.04% Coverage

¶535: A punishment ritual is implied

Reference 43 - 0.30% Coverage

¶541: It is also suggested that the aurochs skulls, missing from the pit, may have been reserved for ritual purposes elsewhere, an early example of the Near Eastern bull cult that was later to have a long history in Europe.¶542:

Reference 44 - 0.19% Coverage

¶543: . The use of the quatrefoil theme on other carvings reveals its association with water and its symbolic role as the mouth of an underworld

Reference 45 - 0.11% Coverage

¶545: – foodstuffs for funeral feasts and with significance for religious practice.¶546:

Reference 46 - 0.49% Coverage

¶552: he authors show that the Jomon clay figurines made by hunter-gatherers use imagery that emphasises a narrow waist and full hips, showing that a female construct was part of the symbolism of these possibly shamanistic objects. In creating these figurines, prehistoric people were no doubt turning a recognition of health and fertility into more cultural icons

Reference 47 - 0.15% Coverage

¶563: Burial rites are thus sets of variables which may be independent of each other and change at different rates.

Reference 48 - 0.02% Coverage

¶588: et symboliques¶589:

Reference 49 - 0.04% Coverage

¶597: (

Nasca and Moche iconography

Reference 50 - 0.05% Coverage

¶598: : Reading a Culture through its Art

Reference 51 - 0.05% Coverage

¶599: n Moche Religion and Visual Culture

<Internals\\Antiquity 2008 abstracts> - § 23 references coded [5.85% Coverage]

Reference 1 - 0.08% Coverage

¶13: their possible meaning for rites of burial

¶14:
Reference 2 - 0.14% Coverage

¶14: find that the cuts and fractures fit best with a range of ritual mutilations

Reference 3 - 0.18% Coverage

¶26: it had roles in status, ritual and performance, being daubed onto pots and people before sacrifice

Reference 4 - 0.16% Coverage

¶26: The results indicate that the formation of the colour was actually part of the ritual.

¶27:
Reference 5 - 0.21% Coverage

¶30: Describing the systematic search for lost sacred images and sites in places associated with Krishna's earthly pastimes

Reference 6 - 0.15% Coverage

¶59: Worshippers and Warriors: reconstructing gender relations in the prehistoric rock art

Reference 7 - 0.07% Coverage

¶79: ritual practices in Neolithic Ireland

Reference 8 - 0.66% Coverage

¶80: caves then had a primary role in the remembrance of the dead, and were used for excarnation, token deposition or inhumation. The author compares these practices to other contemporary types of burial and concludes that there was a strong symbolic or ritual sense shared in Neolithic Ireland between passage tombs and those certain kinds of cave that they resembled.

¶81:
Reference 9 - 0.19% Coverage

¶83: Symbolic language in Torres Strait, NE Australia: images from rock art, portable objects and human scars

Reference 10 - 0.63% Coverage

¶84: Rock art is a prominent archaeological source for the region – but not the only one. In this study the author shows how rock art interconnects with imagery on portable artefacts and scarification – scarring patterns on skin – to define cultural zones of the last few centuries in territories occupied by both horticulturalists and hunter-gatherers.

¶85:
Reference 11 - 0.07% Coverage

¶91: Equids and an acrobat: closure rituals

Reference 12 - 0.28% Coverage

¶92: superficially suggest random killing and disposal. But here the authors produce evidence that these represent the deliberate sacrifice of valued creatures.

Reference 13 - 0.32% Coverage

¶94: Some of the spirals, hyperbolae and ellipses which all feature in the repertoire do not occur in nature and must have their origin in some still unknown human science or aesthetic.

Reference 14 - 0.37% Coverage

¶96: However, certain aspects of the figure suggest a rather deeper, more ambiguous symbolism. The authors use their up-to-date critique to raise questions about the eclectic character of Iron Age spirituality.

¶97:
Reference 15 - 0.40% Coverage

¶108: show iconographical influence from the bull-figures seen in the Levant in the early first millennium BC. This of course has important implications for the development of belief systems at either end of the Mediterranean.

Reference 16 - 0.27% Coverage

¶155: A striking pattern emerges: the soil and vegetation matches the dedications to particular deities, suggesting an economic basis for particular cults.

Reference 17 - 0.69% Coverage

¶217: show an extraordinary repertoire of incised carving on mammoth ivory plaques and carving in the round, including representations of women and large mammals, and geometric decoration on bone utensils. The authors show that while belonging to the broad family of Upper Palaeolithic

artists, the Zaraysk carvers produced forms particular to their region, some with magical associations.

Reference 18 - 0.24% Coverage

¶225: The rondels – circular earthworks of late Neolithic Europe – have a repeated form highly suggestive of deliberate design and symbolism

Reference 19 - 0.16% Coverage

¶225: The idea of a solar cult receives some corroboration from patterns on contemporary pottery.

Reference 20 - 0.28% Coverage

¶227: Identifying among them the leaves of the sissoo tree, they show that its symbolic usage celebrated a wide range of properties, from medicine to furniture.

Reference 21 - 0.05% Coverage

¶263: Art and industry at Amarna

Reference 22 - 0.20% Coverage

¶284: Fire, Water, Heaven and Earth. Ritual practice and cosmology in ancient Scandinavia: an Indo-European perspective

Reference 23 - 0.06% Coverage

¶290: Nasal motifs in Maya iconography

<Internals\\Antiquity 2009 abstracts> - § 24 references coded [3.07% Coverage]

Reference 1 - 0.12% Coverage

¶95: the dagger is thus the implement of sacrifice and the symbol of its office.

¶96:

Reference 2 - 0.24% Coverage

¶103: Ancient Mesoamericans are generally thought to have imagined the universe stacked in vertical layers, not unlike the cosmic layers of Dante's Comedy

Reference 3 - 0.18% Coverage

¶109: Freshly broken coral had been transported to these sites, remote from the sea – no doubt for ritual purposes.

Reference 4 - 0.03% Coverage

¶120: Mesolithic myths

Reference 5 - 0.12% Coverage

¶135: Image and imagination: a global prehistory of figurative representation.

Reference 6 - 0.09% Coverage

¶159: Arts of ancient Viet Nam: from river plain to open sea

Reference 7 - 0.15% Coverage

¶169: Engraved art and acoustic resonance: exploring ritual and sound in north-western South Africa

Reference 8 - 0.20% Coverage

¶170: the author persuasively evokes a lively prehistoric ritual centre, with rock gongs, reverberating echoes, dancing and trance.

Reference 9 - 0.12% Coverage

¶173: Social interaction and rock art styles in the Atacama Desert (northern Chile)

Reference 10 - 0.65% Coverage

¶174: the author looks at three consecutive styles of rock art, placing them in the social context in which they were produced. Although necessarily succinct, the argument shows that as hierarchy increased and functioned over longer distances, rock art could perform as the organ of pastoralist authority, or the badge of marginalised hunters or, most often, as the imagery of consensus masking social inequality.

Reference 11 - 0.07% Coverage

¶178: While the latter had a religious overtone

Reference 12 - 0.04% Coverage

¶183: the Neolithic ritual site

Reference 13 - 0.17% Coverage

¶184: They propose that the bones have been symbolically arranged and the mound as a whole had a ritual purpose

Reference 14 - 0.13% Coverage

¶198: They then raise some pertinent ideas about the other advantages, social and symbolic

Reference 15 - 0.06% Coverage

¶221: from discovery to interpretation -

Reference 16 - 0.03% Coverage

¶223: Rock art and ritual

Reference 17 - 0.08% Coverage

¶224: Art as metaphor: the prehistoric rock-art of Britain

Reference 18 - 0.12% Coverage

¶241: Cave paintings and the human spirit: the origin of creativity and belief.

Reference 19 - 0.08% Coverage

¶242: Image and audience: rethinking prehistoric art.

Reference 20 - 0.12% Coverage

¶261: so the tools take their place in the ritual apparatus associated with burial.

Reference 21 - 0.20% Coverage

¶265: advancing strong evidence that the site was dedicated to ritual activities in which cannibalism played an important part.

¶266:

Reference 22 - 0.03% Coverage

¶277: For Gods or men?

Reference 23 - 0.03% Coverage

¶278: symbolic objects

Reference 24 - 0.03% Coverage

¶304: ritual in Uppland

<Internals\\Antiquity 2010 abstracts> - § 33 references coded [7.00% Coverage]

Reference 1 - 0.40% Coverage

¶40: . There are good reasons for thinking about kings in any society, regardless of political constitution, because, in their coronations, their deeds and their deaths or funerals, they are 'collective representations'.

Reference 2 - 0.05% Coverage

¶40: with epigraphy, iconography

Reference 3 - 0.06% Coverage

¶51: Bearing the truth about Celtic art

Reference 4 - 0.10% Coverage

¶64: Blood & mistletoe: the history of the Druids in Britain

Reference 5 - 0.03% Coverage

¶65: ritual narratives

Reference 6 - 0.09% Coverage

¶83: The emergence of bone-working and ornamental art

Reference 7 - 0.25% Coverage

¶86: succeed in reconstructing a burial rite from one of the most elusive of mortuary phases: the Early Epipalaeolithic in south-west Asia.

¶87:
Reference 8 - 0.35% Coverage

¶88: from the realistic drawings of large deer by hunter-gatherers, through the symbolic humans of the Iron Age to the hand-prints of more recent pilgrims and garish life-size modern 'scarecrows'

Reference 9 - 0.22% Coverage

¶92: The furnished barrow burials of Wessex represent a maturation of the Beaker rite during the Early Bronze Age in Britain.

Reference 10 - 0.27% Coverage

¶101: The discovery of rare bird stencils from a unique Australian rock art complex is reported, the species they most closely resemble is discussed

Reference 11 - 0.16% Coverage

¶105: the equally potent reality of spirits supporting and controlling the fate of structures.

Reference 12 - 0.66% Coverage

¶105: houses were furnished with special offerings when founded and refurbished, while evidence from living folklore suggested that the houses themselves were originally given spiritual personalities and were treated as members of the family. As more modern thinking took hold, this spirituality was transferred to the more mobile and skittish household sprites.

Reference 13 - 0.04% Coverage

¶109: local ritual practices

Reference 14 - 0.49% Coverage

¶147: A petroglyph showing a human face found in East Timor is dated to the late Pleistocene. It recalls ancient Australian forms and raises the possibility of connecting early cave art with the better known painted figures of Lapita/Austronesian art ten millennia later

Reference 15 - 0.15% Coverage

¶149: the hearths and their assemblage complement the ritual nature of the paintings.

¶150:
Reference 16 - 0.31% Coverage

¶161: What are we to make of such a deposit? Clearly it does not relate to an ethnic or ritual norm. The authors lead us through the ways that such a rite might be decoded.

Reference 17 - 0.13% Coverage

¶172: Salomon Reinach and the religious interpretation of Palaeolithic art

Reference 18 - 0.13% Coverage

¶173: When did upper Palaeolithic cave art come to be thought of as religious?

Reference 19 - 0.28% Coverage

¶175: Archaeology, consistently warned off religion by wise old heads, here rushes deeper into the thicket to tackle the thorny topic of ancient witchcraft.

Reference 20 - 0.24% Coverage

¶175: the connections between witches and shamanism – and by implication the possible connections with prehistoric ritual and belief.

Reference 21 - 0.10% Coverage

¶187: Myths and ceremonial centres in the ancient Caribbean

Reference 22 - 0.07% Coverage

¶189: ritual at the center of the cosmos.

Reference 23 - 0.05% Coverage

¶215: Wine, worship, and sacrifice

Reference 24 - 0.38% Coverage

¶227: The type of rock art known as the Pastoral style, featuring evocative outline drawings of cattle, appears on upright stones incorporated into the platforms in the period 5430–5150 BP, and probably earlier.

Reference 25 - 0.13% Coverage

¶227: appearing to serve the spiritual needs of hundreds of Neolithic people.

Reference 26 - 0.25% Coverage

¶231: the context, a cremation burial, raises the suggestion that these grains might signal a ritual rather than a subsistence commodity.

¶232:
Reference 27 - 0.09% Coverage

¶235: a votive purpose is likely given their proximity

Reference 28 - 0.15% Coverage

¶240: An early medieval symbol carved on a tree trunk: pathfinder or territorial marker?

Reference 29 - 0.43% Coverage

¶241: Symbols on trees have been used to mark trails, the ownership of land and resources, and all manner of votive moments from superstitious sign-making, worship of a god, thanks for a successful hunt or the memory of a loving tryst.

Reference 30 - 0.63% Coverage

¶245: They conclude that the femur acted as an ancestral emblem and could be used by families of relatively low social rank. This function contrasts with the Aztec, where the large bones could also be used as war trophies. Archaeological readers studying ancestor worship and the cult of relics in other continents will find much of value here

Reference 31 - 0.06% Coverage

¶246: the evolution of ritual killing

Reference 32 - 0.05% Coverage

¶265: Water, colour and the Maya

Reference 33 - 0.18% Coverage

¶268: L'architecture des signes: l'art pariétal des tombeaux néolithiques autour de la mer d'Irlande.

<Internals\\Antiquity 2011 abstracts> - § 31 references coded [3.21% Coverage]

Reference 1 - 0.08% Coverage

¶6: The victims were participants in an elaborate funerary ritual

Reference 2 - 0.05% Coverage

¶13: anthropomorphic faces in world rock art

Reference 3 - 0.31% Coverage

¶14: Why do early artists draw eyes? The author argues that they reflect the evolution of the brain in its expressions of fear, love and behaviour, and invites us to apply this ethological approach more widely to the study of early symbolism.

Reference 4 - 0.17% Coverage

¶18: In this land, known for its rich association with horses, the skeletal evidence appears to indicate a fading of ritual interest.

Reference 5 - 0.15% Coverage

¶22: it put a sacrificial creature, essential for numerous social and economic transactions, in reach of everyone.

¶23:
Reference 6 - 0.05% Coverage

¶50: European rock art: arti-facts and fancies

Reference 7 - 0.05% Coverage

¶51: Representations and communications:

Reference 8 - 0.07% Coverage

¶76: a ritualised gathering place of a different kind.

Reference 9 - 0.03% Coverage

¶79: Ritual in the landscape

Reference 10 - 0.06% Coverage

¶80: but practising their own up-country rituals

Reference 11 - 0.10% Coverage

¶86: Recent discussion in these pages favoured a ceremonial burial on the mountain

Reference 12 - 0.21% Coverage

¶90: The drawings, which begin by depicting ritually important patterned mats, and continue with images of cars, bicycles and figures with their hands on their hips

Reference 13 - 0.02% Coverage

¶164: the burial rites

Reference 14 - 0.26% Coverage

¶164: Thus hunting has a spiritual value for these agriculturalists, and whether inherited or marked at birth, the children signal something more variable and subtle than linear rank.

¶165: Ritual and remembrance

Reference 15 - 0.05% Coverage

¶168: symbolic interpretations are proposed.

Reference 16 - 0.15% Coverage

¶174: goes on to argue for specific symbolic meanings for these choices in the context of religious change after Akhenaten.

Reference 17 - 0.04% Coverage

¶176: Sacrifice was thus very probable.

Reference 18 - 0.04% Coverage

¶179: In the path of the Maize God

Reference 19 - 0.16% Coverage

¶180: No less impressive was the series of votive rituals found to have been enacted at the tomb for another 100 years or more

Reference 20 - 0.12% Coverage

¶213: L'art des cavernes en action. Tome 1: les animaux modèles. Aspect, locomotion, comportement

Reference 21 - 0.14% Coverage

¶214: L'art des cavernes en action. Tome 2: les animaux figurés. Animation et mouvement, l'illusion de la vie

Reference 22 - 0.02% Coverage

¶237: A question of style

Reference 23 - 0.05% Coverage

¶240: displaying aurochs and other animals

Reference 24 - 0.07% Coverage

¶243: Pongo symbolism in the geometric rock art of Uganda

Reference 25 - 0.15% Coverage

¶244: its symbolism may be interpreted in the light of later belief systems recorded amongst the historical Pygmy people

Reference 26 - 0.18% Coverage

¶244: Pongo are probably depicted in the rock art to evoke the fecundity of ndura, linking the real and supernatural within the Pygmy cosmos.

¶245:
Reference 27 - 0.10% Coverage

¶248: Other explanations attend the variations in the burial rites of individuals

Reference 28 - 0.08% Coverage

¶252: were provided as a spin-off from regular large-scale sacrifice

Reference 29 - 0.14% Coverage

¶254: accumulated in the shallow water during a unique 250-year spell of ritual practice.

¶255: A symbol — but of what?

Reference 30 - 0.04% Coverage

¶289: Cult places and cultural change

Reference 31 - 0.08% Coverage

¶315: Ritual, belief and the dead in Early Modern Britain and Ireland

<Internals\\Antiquity 2012 abstracts> - § 28 references coded [3.76% Coverage]

Reference 1 - 0.02% Coverage

¶16: ritual burial

Reference 2 - 0.49% Coverage

¶20: The period of use—from 2750 to 2300 cal BC—precedes any identified worship of gods in the Aegean and the site is among the earliest ritual destinations only accessible by sea. The authors offer some preliminary thoughts on the definition of these precocious acts of pilgrimage.

Reference 3 - 0.09% Coverage

¶26: well known for its head cult and warrior statues

Reference 4 - 0.05% Coverage

¶48: Interpreting ancient figurines

Reference 5 - 0.07% Coverage

¶49: ritual and power before the Classic period

Reference 6 - 0.05% Coverage

¶55: Animation in Palaeolithic art

Reference 7 - 0.16% Coverage

¶56: has been exploring the representation of animal movement in cave art for more than 20 years

Reference 8 - 0.09% Coverage

¶62: a political centre in which ritual bronzes featured

Reference 9 - 0.09% Coverage

¶68: the monuments are shown to have had a long ritual use

Reference 10 - 0.40% Coverage

¶90: explored the proposition that, more than just an archaeological culture, the Magdalenian was inspired, through most of its history, by common symbolism across the Great European Plain all the way from the Pyrenees to Poland

Reference 11 - 0.07% Coverage

¶117: personal ornaments and symbolic objects

Reference 12 - 0.12% Coverage

¶118: symbolic objects—the earliest art to be excavated in the Arctic zone.

Reference 13 - 0.19% Coverage

¶120: They argue for continuity of art but change of belief in this crucial transition period.

¶121: The role of cult

Reference 14 - 0.11% Coverage

¶123: a pivotal debate in the interpretation of San rock paintings

¶124:
Reference 15 - 0.28% Coverage

¶124: have led to the notion that southern African spiritual experts routinely mediated with the other world through energetic dances leading to the trance state.

Reference 16 - 0.07% Coverage

¶129: Carthaginian infant sacrifice revisited

¶130:
Reference 17 - 0.34% Coverage

¶130: supplying “another link in the chain of evidence—funerary practices, texts, iconography—that supports the interpretation of the Phoenician Tophets as ritual sites set aside for infant sacrifice

Reference 18 - 0.03% Coverage

¶131: Recognising ritual

Reference 19 - 0.11% Coverage

¶132: deposits of ‘ceremonial trash’ emanating from ritual performance

Reference 20 - 0.07% Coverage

¶136: students of symbolic metalwork everywhere.

Reference 21 - 0.11% Coverage

¶142: propose its use (in the mask) as being symbolic of the ocean.

¶143:
Reference 22 - 0.03% Coverage

¶171: ritual and memory

Reference 23 - 0.05% Coverage

¶187: comprise a rock art gallery

Reference 24 - 0.24% Coverage

¶187: show that the images of boats with attendant prisoners, animals and the earliest representation of a pharaoh offer a window on Dynasty 0

Reference 25 - 0.15% Coverage

¶193: Solutions that combine food production and ritual can be seen as increasingly diverse.

Reference 26 - 0.08% Coverage

¶195: see it as serving ceremonial progressions.

¶196:
Reference 27 - 0.12% Coverage

¶228: Homo symbolicus: the dawn of language, imagination and spirituality

Reference 28 - 0.04% Coverage

¶239: the landscape of ritual

<Internals\\Antiquity 2013 abstracts> - § 22 references coded [3.01% Coverage]

Reference 1 - 0.08% Coverage

¶4: sometimes in ways that imply a strong symbolic significance

Reference 2 - 0.12% Coverage

¶10: The burial rites indicate low investment and personal interpretations as to spiritual meaning

Reference 3 - 0.03% Coverage

¶64: Andean expressions: art

Reference 4 - 0.06% Coverage

¶80: Sacred landscapes of the south-eastern USA:

Reference 5 - 0.24% Coverage

¶81: The landscape has been reorganised on cosmological terms by the pre-Columbian societies. This research offers an exemplary rationale for reading rock art beyond the image and the site.

Reference 6 - 0.26% Coverage

¶95: the authors define new kinds of rock art along the Lennard and Fitzroy rivers in Western Australia—black pigment and scratch-work images featuring anthropomorphic figures with elaborate head-dresses

Reference 7 - 0.03% Coverage

¶101: symbolic behaviour

Reference 8 - 0.02% Coverage

¶106: Violence, ritual

Reference 9 - 0.13% Coverage

¶127: The authors speculate on the symbolic value of eagles' wings among these pre-Neolithic people.

¶128:

Reference 10 - 0.07% Coverage

¶142: The meaning of material: ritual vessel assemblages

Reference 11 - 0.15% Coverage

¶143: illustrate the emphasis placed on formalised rituals in which these vessels are thought to have played a part.

Reference 12 - 0.23% Coverage

¶143: Funerals were occasions of ceremony and display in which both sets of vessels—bronze and pottery—may have been used by different participants, including (symbolically) the dead

Reference 13 - 0.06% Coverage

¶204: human representations in Magdalenian societies

Reference 14 - 0.68% Coverage

¶205: both in the form of portable objects and of motifs and depictions on cave walls. Many of these portray animals, with human imagery playing a relatively minor role. Systematic analysis of human images from three separate zones of south-western France demonstrates that different styles of image were chosen by different communities. The evocative power of the human form, and the conceptual importance of the human image as a depiction of the self, highlights the significance of these Magdalenian representations.

Reference 15 - 0.07% Coverage

¶209: These sites also had important symbolic connotations

Reference 16 - 0.16% Coverage

¶209: The intentional use of older settlement material in the grave fills may also have signified a symbolic link with the past

Reference 17 - 0.09% Coverage

¶225: where leadership combined roles of ritual and political authority

Reference 18 - 0.09% Coverage

¶232: Age estimations attest to infant sacrifice at the Carthage Tophet

¶233:
Reference 19 - 0.14% Coverage

¶233: takes issue with our paper (Smith et al. 2011) that claims the Carthaginians practiced infant sacrifice

Reference 20 - 0.05% Coverage

¶233: our contention of infant sacrifice.

Reference 21 - 0.11% Coverage

¶237: The argument that shamanism is the key that unlocks the hidden meaning of rock art

Reference 22 - 0.14% Coverage

¶237: These confusions, it is argued, undermine key aspects of the shamanistic interpretation of rock art.

¶238:
<Internals\\Antiquity 2014 abstracts> - § 31 references coded [4.89% Coverage]

Reference 1 - 0.09% Coverage

¶10: The motifs, techniques and stylistic features of Upper Palaeolithic art

Reference 2 - 0.14% Coverage

¶12: The origins of the Neolithic in the Near East were accompanied by significant ritual and symbolic innovations.

Reference 3 - 0.43% Coverage

¶12: can be related to monumental statuary of the same period in the southern Levant and south-east Anatolia that probably depicted powerful supernatural beings. It may also betoken a new way of perceiving human identity and of facing the inevitability of death. By representing the deceased in visual form the living and the dead were brought closer together

Reference 4 - 0.02% Coverage

¶19: community ritual

Reference 5 - 0.12% Coverage

¶20: Ritual effigy vessels depicted deities connected with food and fertility, and fire and the hearth

Reference 6 - 0.03% Coverage

¶21: Immortals in a foreign land

Reference 7 - 0.11% Coverage

¶22: Spectacular objects may carry powerful messages about cultural affinities and legitimation.

Reference 8 - 0.06% Coverage

¶22: Chinese iconography figures prominently on the diadem

Reference 9 - 0.12% Coverage

¶26: The Illerup Aadal weapon sacrifice mirrors the material world of a Germanic army from c. AD 210.

Reference 10 - 0.15% Coverage

¶26: The results shed new light on the character of the sacrificial ceremonies which unfolded in the aftermath of Iron Age battles

Reference 11 - 0.05% Coverage

¶33: Imaginary creatures in Palaeolithic art

Reference 12 - 0.34% Coverage

¶34: a series of zoomorphic figures have been identified (four in total between the two sites) that represent creatures that do not exist in nature (Figure 1). They are examples of the so-called ‘imaginary creatures’, unreal or fantastic beings that appear in Palaeolithic art ensembles

Reference 13 - 0.02% Coverage

¶97: ‘Gifts for the gods’

Reference 14 - 0.11% Coverage

¶98: have been offerings to the gods by communities faced with the threat of environmental change.

Reference 15 - 0.05% Coverage

¶110: depicting ceremonial and religious scenes.

Reference 16 - 0.24% Coverage

¶110: The paintings found at Angkor Wat seem to belong to a specific phase of the temple's history in the sixteenth century AD when it was converted from a Vishnavaite Hindu use to Theravada Buddhist.

Reference 17 - 0.18% Coverage

¶190: by the varying styles of burial jar that illustrate and symbolise connections or alliances with other communities.

¶191: Transformations in ritual practice

Reference 18 - 0.17% Coverage

¶192: Ritual practices and their associated material paraphernalia played a key role in extending the reach and ideological impact of early states

Reference 19 - 0.09% Coverage

¶192: who chose at this time to relinquish the former Tiwanaku ritual practices

Reference 20 - 0.10% Coverage

¶234: Des images pour les dieux: art rupestre et art tribal dans le centre de l'Inde.

Reference 21 - 0.05% Coverage

¶236: the origins of Aegean ritual practice

Reference 22 - 0.34% Coverage

¶248: The similar form of the earliest painted motifs in Europe, Africa and Southeast Asia suggests that they are the product of a shared underlying behaviour, but the difference in context (rockshelters) indicates that experiences in deep caves cannot have been their inspiration.

Reference 23 - 0.06% Coverage

¶251: Ritual, art and society in the Levantine Chalcolithic

Reference 24 - 0.72% Coverage

¶252: is here shown to depict a religious procession involving eight individuals rather than the three identified in the original 1970s reconstruction. All of the figures wear masks and carry objects, but elaborately robed leaders, members perhaps of a dedicated priestly class, are clearly distinguished from their naked attendants. The scene belongs to the Late Chalcolithic period when Levantine society was becoming increasingly hierarchical, and the wall painting as a whole illustrates the prominent role of elites in ritual practices at this critical period of social transformation.

Reference 25 - 0.11% Coverage

¶260: raises again the issue of watery rituals and human sacrifice in prehistoric societies.

Reference 26 - 0.06% Coverage

¶260: interprets this instead as a ritual sacrifice.

Reference 27 - 0.03% Coverage

¶268: the Zhou ritual system

Reference 28 - 0.63% Coverage

¶268: Recent study of these bead assemblages, however, indicates that they may also have reflected shifting political circumstances. The use of different bead materials and forms suggests a trend to centralised production and control of manufacture, particularly from the later tenth century BC. The authors correlate a move towards readily manufactured materials with evidence for widespread elite intermarriage, and consider a possible tension between production and the socio-political strategies of the Zhou court.

¶269:

Reference 29 - 0.19% Coverage

¶272: activities that emphasised the sacred origins of the living Tu'i Tonga, including the drinking of kava and the presentation of first fruits to the chiefs.

¶273:

Reference 30 - 0.04% Coverage

¶284: Cult, religion and pilgrimage

Reference 31 - 0.04% Coverage

¶305: Warfare and shamanism in Amazonia

<Internals\\Antiquity 2015 abstracts> - § 32 references coded [2.93% Coverage]

Reference 1 - 0.11% Coverage

¶8: Maternal mortality in childbirth is often obscured by the special ritual practices associated with this type of death

Reference 2 - 0.14% Coverage

¶12: The surviving evidence consists largely of carved motifs, and, until recently, painted megalithic art was thought to be restricted to western Iberia

Reference 3 - 0.02% Coverage

¶14: a nuanced symbolism.

Reference 4 - 0.05% Coverage

¶15: the interpretation of cattle rock art in Ethiopia

Reference 5 - 0.15% Coverage

¶16: also figure prominently in the rock art of the region. In both contexts, their cultural and social significance is underscored by colour and decoration.

Reference 6 - 0.24% Coverage

¶16: These practices may provide direct insight into cattle portrayal in Ethiopian rock art, where abstract or non-realistic symbols depicted on cattle coats could indicate the modification, alteration or beautification of cattle in prehistoric societies.

¶17:
Reference 7 - 0.02% Coverage

¶18: was a ritual centre

Reference 8 - 0.03% Coverage

¶21: Ritualised craft production

Reference 9 - 0.01% Coverage

¶22: Ritual items

Reference 10 - 0.02% Coverage

¶22: a ritual enclosure

Reference 11 - 0.09% Coverage

¶28: which can be linked to the appearance of figurative rock art images in southern Scandinavia

Reference 12 - 0.23% Coverage

¶34: This is in itself interesting, but the discovery of rock art engravings in Sweden that resemble ‘oxhide’ bronze ingots from Cyprus adds a new dimension to the interpretation of Scandinavian rock art, with its strong focus on boat images

Reference 13 - 0.08% Coverage

¶36: present some hitherto little-known rock art motifs from various locations in Sweden

Reference 14 - 0.07% Coverage

¶38: representations of reality mingle with myths, magic and sailors' stories”

Reference 15 - 0.04% Coverage

¶48: Communicating with the world of beings

Reference 16 - 0.06% Coverage

¶69: Violence in Neolithic Iberia: new readings of Levantine rock art

Reference 17 - 0.17% Coverage

¶70: Spanish Levantine rock art offers a unique insight into conflict in Neolithic society, with images of violence, real or imagined, being acted out in scenes preserved in rockshelters

Reference 18 - 0.07% Coverage

¶70: a new way of understanding the imagery in rock art is here proposed.

Reference 19 - 0.08% Coverage

¶80: one that reflected their belief system, replicated their interpretation of the cosmos

Reference 20 - 0.07% Coverage

¶80: facilitated the use of water in ritual architecture and the display of power.

Reference 21 - 0.12% Coverage

¶120: It is often thought of very broadly as a universal phenomenon rooted in religion and sharing a widely recognised iconography

Reference 22 - 0.15% Coverage

¶120: Broadening the parameters of what we categorise as rock art, such art is shown to have multi-layered meanings that spoke to different groups in different ways

Reference 23 - 0.19% Coverage

¶124: Although animal cults are a widely recognised feature of religion in ancient Egypt, little is known about the nature of the catacombs and mummies associated with the temples dedicated to animal gods.

Reference 24 - 0.10% Coverage

¶124: This research highlights the hitherto unappreciated scale of burial practices associated with animal cults

Reference 25 - 0.11% Coverage

¶138: allow a clearer understanding of the religious and ritual practices depicted in the southern San rock art images.

¶139:
Reference 26 - 0.08% Coverage

¶169: is a classic example of the Barrier Canyon style, dating probably to AD 1–1100.

Reference 27 - 0.11% Coverage

¶169: . By removing interpretational bias, the new technology finally lays to rest the Black Dragon Canyon pterosaur.

Reference 28 - 0.05% Coverage

¶210: but largely in association with religion and ritual.

Reference 29 - 0.08% Coverage

¶256: Du conte perdu au mythe retrouvé. Pour une anthropologie de l’art rupestre saharien

Reference 30 - 0.03% Coverage

¶282: or as magical and apotropaic

Reference 31 - 0.11% Coverage

¶282: leads to a discussion of demonology beliefs, dual faith and a resurgence in paganism following the Counter-Reformation

Reference 32 - 0.07% Coverage

¶290: If so, they throw new light on associated ritual activity during the building

<Internals\\Antiquity 2016 abstracts> - § 28 references coded [3.41% Coverage]

Reference 1 - 0.25% Coverage

¶8: Analysis of the style and technique of the Hunsrück images reveals significant parallels with Palaeolithic cave art from other parts of Europe, most notably France. The oldest of the images at Gondershausen—three horses in particular—may be attributed to the Aurignacian or Gravettian

Reference 2 - 0.10% Coverage

¶17: Buried with turtles: the symbolic role of the Euphrates soft-shelled turtle (Rafetus euphraticus) in Mesopotamia

Reference 3 - 0.12% Coverage

¶18: underline the economic and symbolic significance of these animals for communities in prehistoric and early historical Mesopotamia.

Reference 4 - 0.03% Coverage

¶26: such as ritual scarification

Reference 5 - 0.07% Coverage

¶105: Ritual in Early Bronze Age grave goods: an examination of ritual and dress equipment

Reference 6 - 0.06% Coverage

¶112: Picture Cave: unravelling the mysteries of the Mississippian cosmos.

Reference 7 - 0.05% Coverage

¶113: The fate of earthly things: Aztec gods and god-bodies.

Reference 8 - 0.02% Coverage

¶141: Technology, ritual

Reference 9 - 0.06% Coverage

¶142: the circumstances of its ultimate ritual deposition are explored

Reference 10 - 0.08% Coverage

¶142: the ritual actions of plough symbolism in an age of religious hybridity and transformation.

¶143:
Reference 11 - 0.08% Coverage

¶178: is interpreted as an active modification of the funerary symbolism during this period.

¶179:
Reference 12 - 0.14% Coverage

¶182: Their alignment on Stonehenge's solstitial axis (midwinter sunset–midsummer sunrise) raises questions about the early origins of this ritual landscape.

¶183:
Reference 13 - 0.08% Coverage

¶184: The ingots were previously interpreted as votive offerings inscribed with dedications.

Reference 14 - 0.09% Coverage

¶236: and contradict previous indications that pottery was created for the ritual processing of fish oil.

Reference 15 - 0.11% Coverage

¶242: The rock art of the Lovo Massif region in the Lower Congo offers a fascinating and understudied example of artistic traditions

Reference 16 - 0.07% Coverage

¶242: of the relationship between the rock art and the historical kingdom of Kongo.

Reference 17 - 0.05% Coverage

¶261: Gods and scholars: archaeologies of religion in the Near East

Reference 18 - 0.41% Coverage

¶262: reflect the continuing surge of interest in the archaeology of religious practice and belief. Over the past 20 years, archaeologists have turned their focus on the study of ritual and religion, challenging what Hawkes (1954: 162) considered the highest and most difficult to reach rung on his ladder of inference: “religious institutions and spiritual life”. Renewed interest in the archaeology of religion and ritual was largely inspired by Renfrew's (1985) work

Reference 19 - 0.60% Coverage

¶262: a seminal study that continues to guide archaeological interpretation based on the material correlates linked with ritual practice. Renfrew's focus on ritual (or ‘cult’) exposed the widespread perception that religion is archaeologically inaccessible. The recognition that a Durkheimian division between the sacred and the profane is less distinct in reality, particularly in small-scale rituals and domestic contexts, complicates the difficulty archaeologists face in the hazy area between quotidian life and religious praxis. Since Renfrew's publication of Phylakopi, these problems have been recognised and confronted in a variety of different volumes and synthetic articles.

¶263:
Reference 20 - 0.02% Coverage

¶291: ritual and community spaces

Reference 21 - 0.04% Coverage

¶297: Early Holocene ritual complexity in South America

Reference 22 - 0.16% Coverage

¶300: Far from being recycled ‘rubbish’, the ceramic containers may have reflected symbolic associations between pots, wombs and eggs, facilitating rebirth and transition into the afterlife.

¶301:
Reference 23 - 0.08% Coverage

¶304: a widespread belief system during the Neolithic period across much of Southeast Asia.

¶305:
Reference 24 - 0.11% Coverage

¶306: Representations and remains of sharks are found in Mesoamerican art and archaeology from the first millennium BC onwards

Reference 25 - 0.10% Coverage

¶306: shows how the ancient Maya drew on both evidence and myth to imagine and explain these unfamiliar marine creatures.

Reference 26 - 0.04% Coverage

¶311: from water technology to ritual offering

¶312:
Reference 27 - 0.24% Coverage

¶312: perhaps in connection with the ritual deposit of complete animal carcasses around the bath house. The symbolic associations of the boiler are suggested by decorative elements including the mask of a bearded man, argued to represent Okeanos, a divine personification of the sea

Reference 28 - 0.16% Coverage

¶318: Now, newly recorded motifs at the site—some only visible with digital enhancement—highlight the dangers of relating stylistic changes to the replacement of different cultures.

<Internals\\Antiquity 2017 abstracts> - § 44 references coded [3.27% Coverage]

Reference 1 - 0.04% Coverage

¶4: this does not integrate the abundant rock art that is present.

Reference 2 - 0.06% Coverage

¶8: in relation to the locations of ceremonial architecture and concentrations of ritual pottery.

Reference 3 - 0.15% Coverage

¶8: focused in part on ritual locations. The results support a role for Niuheliang as a place of pilgrimage, but within a nexus of settled communities that sustained its ceremonial activities.

¶9: From one ritual to another

Reference 4 - 0.09% Coverage

¶12: It is argued that for the people who created the Hypogeum, the acoustics must have had particular significance and ritual power.

¶13:
Reference 5 - 0.11% Coverage

¶26: The burial site is itself rich in symbolic associations, being close to a Neolithic burial cairn, the stones of which may have been incorporated into the grave.

¶27:

Reference 6 - 0.17% Coverage

¶29: suggest that lunar cycles were important in the orientation of structures and settlement layout. They further indicate that water played a significant role in the ritual activities associated with the closure and abandonment of individual structures.

Reference 7 - 0.07% Coverage

¶29: provides early evidence of the importance that the moon and water came to assume in Mississippian culture.

Reference 8 - 0.02% Coverage

¶40: the origins of Aegean ritual.

Reference 9 - 0.01% Coverage

¶56: Human motifs

Reference 10 - 0.04% Coverage

¶57: and reshaped ideological structures and artistic representations.

Reference 11 - 0.15% Coverage

¶57: It is decorated with two (possibly three) motifs in the form of human figures. For this date and region, such Neolithic iconography is rare, and this short article develops a comparative analysis to explore its significance.

¶58:

Reference 12 - 0.09% Coverage

¶61: The notion of ancient Maya ritual combat, beyond the well-known rubber-ball game played across Mesoamerica, was proposed 40 years ago

Reference 13 - 0.04% Coverage

¶70: The earliest directly dated rock paintings from southern Africa

Reference 14 - 0.02% Coverage

¶82: geoglyph as sun-horse

¶83:

Reference 15 - 0.16% Coverage

¶83: By reviewing the image's context within the broader archaeological landscape, the argument can now be made that the Uffington carving is a representation of the sun-horse found in iconography throughout later prehistoric Europe.

¶84:
Reference 16 - 0.05% Coverage

¶87: that not all interments at the Tophet were the result of sacrifice.

Reference 17 - 0.02% Coverage

¶100: Prehistoric rock art in Scandinavia

Reference 18 - 0.04% Coverage

¶101: Anthropomorphic representations in the Cucuteni-Tripolye culture

Reference 19 - 0.02% Coverage

¶102: ritual in Neolithic southeast Italy

Reference 20 - 0.03% Coverage

¶146: the development of Maya public rituals

¶147:
Reference 21 - 0.10% Coverage

¶147: It is argued, instead, that the caches of greenstone celts represent public rituals relating to the establishment of early Preclassic elites.

¶148:
Reference 22 - 0.06% Coverage

¶155: were components of the cultic practices of the southern Levantine Ghassulian culture.

Reference 23 - 0.03% Coverage

¶157: that carried metal maceheads during rituals.

Reference 24 - 0.04% Coverage

¶174: north European Bronze Age rock art and burial ritual

Reference 25 - 0.06% Coverage

¶183: Ritual violence in the ancient Andes: reconstructing sacrifice on the north coast of Peru

Reference 26 - 0.02% Coverage

¶198: Newly discovered rock art sites

Reference 27 - 0.05% Coverage

¶209: the symbolism related to grain storage, burial and the regeneration of life.

Reference 28 - 0.05% Coverage

¶211: Evidence of ceremonies and ritual activities, such as feasts and offerings,

Reference 29 - 0.05% Coverage

¶229: Although the rock art of southern Africa is overwhelmingly concerned with ritual

Reference 30 - 0.03% Coverage

¶229: there are few depictions of the initiation rites

Reference 31 - 0.15% Coverage

¶229: These links show that the beliefs underlying ritual practice also form part of everyday subsistence activity, extending the same precepts from mundane artefacts such as grindstones, to the habits of desert antelope.

¶230:
Reference 32 - 0.02% Coverage

¶251: the origins of Aegean ritual

Reference 33 - 0.09% Coverage

¶266: Nevertheless, depictions of the human form remain rare—only a few representations of the human face have been reported to date.

Reference 34 - 0.12% Coverage

¶266: The object provides a glimpse into Natufian conventions of human representation, and opens a rare opportunity for deeper understanding of the Natufian symbolic system.

¶267:
Reference 35 - 0.01% Coverage

¶290: of religious objects

Reference 36 - 0.03% Coverage

¶303: Iconographic and glyphic analysis of these panels

Reference 37 - 0.25% Coverage

¶361: The association of the fish-hooks with a human burial, combined with the lack of alternative protein sources on the island, suggest that fishing was an important part of the cosmology of this community. The Tron Bon Lei burial represents the earliest-known example of a culture for whom fishing was clearly an important activity among both the living and the dead.

¶362:
Reference 38 - 0.12% Coverage

¶363: These results reveal a widely shared practice of symbolic cattle use that persisted over a long period, but shifted with the beginning of animal management across the region.

¶364:
Reference 39 - 0.12% Coverage

¶379: The recovery of luxury gold ornaments from mortuary contexts shows that hierarchical social order and status were maintained through the bestowal of these items upon the dead

Reference 40 - 0.13% Coverage

¶379: The influence of external aesthetics on local production may have helped imbue these artefacts with the prestige and significance that they carried for the elites who bore them into the afterlife.

¶380:
Reference 41 - 0.03% Coverage

¶380: the engraved rock art of the Atures Rapids

¶381:
Reference 42 - 0.03% Coverage

¶384: Reverential abandonment: a termination ritual

Reference 43 - 0.06% Coverage

¶385: Archaeological evidence for Maya termination rituals has been reported from several sites

Reference 44 - 0.22% Coverage

¶385: to identify the participants and their behaviour in the termination ritual, along with associated public activities. Results suggest that participants were Guzmán Group inhabitants, who intentionally placed particular items in specific locations. The size and use-wear of vessels suggest repeated feasting events in the plaza

<Internals\\Antiquity 2018 abstracts> - § 46 references coded [5.51% Coverage]

Reference 1 - 0.05% Coverage

¶10: has yielded evidence of both parietal and mobiliary art

Reference 2 - 0.12% Coverage

¶10: now allow the age of the mobiliary art—an engraved aurochs—to be determined. At the same time, stylistic comparison of the parietal art

Reference 3 - 0.11% Coverage

¶10: with other broadly contemporaneous sites that demonstrate well-documented cave art allows a relative chronology to be proposed

Reference 4 - 0.19% Coverage

¶18: The mortuary context of the goat hair also suggests that animals played a significant role in the Corded Ware belief system.

¶19: El Médano rock art style: Izcuña paintings and the marine hunter-gatherers of the Atacama Desert

Reference 5 - 0.27% Coverage

¶20: El Médano-style rock art from the Atacama Desert coast in Chile provides one of the most spectacular and expressive representations of ancient marine hunting and maritime traditions. These red pictographs comprise hundreds of hunting scenes and portray a complex marine hunter-gatherer society. This study

Reference 6 - 0.27% Coverage

¶20: —and seeks to understand further the processes of marine hunting and the interspecies relationships between hunter and prey. When combined with archaeological evidence, this analysis provides important new information concerning the value and significance of this rock art to those ancient hunter-gatherers.

Reference 7 - 0.15% Coverage

¶24: The relative scarcity of ancient Arabian rock reliefs has been a significant barrier to understanding the development, function and socio-cultural context of such art.

Reference 8 - 0.47% Coverage

¶24: depicts, for the first time, life-sized camelids and equids carved in low- and high-relief. Analysis and stylistic comparison of the art suggest a distinct Arabian tradition, which perhaps drew upon Nabataean and Parthian influences. That this isolated and seemingly uninhabitable site attracted highly skilled rock-carvers is striking testimony to its importance for surrounding populations. Perhaps serving as a boundary marker or a place of veneration, the Camel Site offers important new evidence for the evolution of Arabian rock art.

Reference 9 - 0.10% Coverage

¶66: Symmetry is its own reward: on the character and significance of Acheulean handaxe symmetry in the Middle Pleistocene

Reference 10 - 0.05% Coverage

¶67: which they consider to be a deliberate, socially mediated act.

Reference 11 - 0.02% Coverage

¶70: Early art in the Urals:

Reference 12 - 0.08% Coverage

¶71: its significance for appreciating the complex symbolic world of Early Holocene hunter-gatherers.

Reference 13 - 0.12% Coverage

¶75: The importance of jade in the burnt offerings of the Shang Dynasty known as ‘Liao sacrifice’ has long been known from documentary evidence

Reference 14 - 0.19% Coverage

¶75: This provides the first scientific evidence that the Shang Dynasty used jade in Liao sacrifice, and confirms oracle bone inscriptions and later records concerning the ritual.

¶76: Symbolic equids and Kushite state formation

Reference 15 - 0.06% Coverage

¶77: illuminates the social significance of equids in the Nile Valley

Reference 16 - 0.08% Coverage

¶77: suggests that horses represented symbols of a larger social, political and economic movement,

Reference 17 - 0.09% Coverage

¶77: that the horse gained symbolic meaning in the Nile Valley prior to its adoption by the Kushite elite.

Reference 18 - 0.05% Coverage

¶84: ‘Differing in status, but one in spirit’: sacred space

Reference 19 - 0.08% Coverage

¶85: a ritual complex (AD 900–1100) developed as both an ascetic hermitage and a pilgrimage shrine.

Reference 20 - 0.17% Coverage

¶85: It is argued that monastic communities designed ritual infrastructure to promote ideologies of sacred hierarchy and affinity that legitimated their status and economic relations with lay worshippers.

Reference 21 - 0.02% Coverage

¶85: integration in ritual.

Reference 22 - 0.05% Coverage

¶88: Tradition and transformation in Sámi animal-offering practices

Reference 23 - 0.04% Coverage

¶89: Archaeological evidence for ritual animal offerings

Reference 24 - 0.07% Coverage

¶89: To explore the chronology of, and local variations in, Sámi animal-offering tradition

Reference 25 - 0.03% Coverage

¶89: in the history of Sámi religious ritual

Reference 26 - 0.08% Coverage

¶155: Human sacrifice has long been associated with the rise of hierarchical centralised societies.

Reference 27 - 0.12% Coverage

¶155: shows that state formation in Mesopotamia was accompanied by a fundamental change in the value of human life within local ritual economy

Reference 28 - 0.01% Coverage

¶157: Religion

Reference 29 - 0.12% Coverage

¶157: ritual activities and performance. We suggest that such enclosures represent complex metaphors, possibly representing cosmological geographies,

Reference 30 - 0.02% Coverage

¶168: The weight of ritual

Reference 31 - 0.26% Coverage

¶169: This paper considers the phenomenological role of jade jewellery, which would have encumbered Maya royalty greatly during public ceremonies. While such a perspective underscores the ritual work of elites, an analytical focus on weight also highlights the anonymous people who carried burdens.

¶170:

Reference 32 - 0.04% Coverage

¶176: From totems to myths: theorising about rock art

Reference 33 - 0.62% Coverage

¶190: For this issue of NBC, we investigate a range of different approaches to the archaeology of ritual. The attribution of unexplained phenomena to ritual practice is something of a cliché in public perceptions of archaeology (just try googling ‘ritual archaeology cartoon’!), and even within the discipline there are those who remain sceptical that we can ascend Hawkes's ladder of inference (1954) to such dizzy heights. Yet several recent books coming in to the Antiquity office show how both theory and method are advancing our understanding of this complex concept. Sparked by the publication of two major volumes from Cambridge, we here take the pulse of the archaeology of ritual, and find it in rude health.

Reference 34 - 0.02% Coverage

¶194: ritual predictability

Reference 35 - 0.07% Coverage

¶195: the role of ritual in facilitating responses to environmental unpredictability.

¶196:
Reference 36 - 0.13% Coverage

¶211: Significantly, it was found that Later Bronze Age core symbols associated with Central Plains civilisations were, in fact, created much earlier at Shimao.

Reference 37 - 0.07% Coverage

¶243: and increases our understanding of Late Iron Age ritual deposition practices.

¶244:
Reference 38 - 0.08% Coverage

¶247: represents the first pre-iconoclastic baptism-of-Christ scene to be found in the Holy Land.

¶248:
Reference 39 - 0.08% Coverage

¶273: Stone lines and burnt bones: ritual elaborations in Xiongnu mortuary arenas of Inner Asia

Reference 40 - 0.07% Coverage

¶274: were important statements of elite power and ritual commemoration in Inner Asia

Reference 41 - 0.29% Coverage

¶274: features that intimate substantial investments in, and ritual activities around, these mortuary arenas. This research provides an important contribution to the understanding of the social politics of ritual practices and the development of complex institutions in steppe pastoral societies.

¶275: The development of the Pictish symbol system

Reference 42 - 0.03% Coverage

¶276: The date of unique symbolic carvings,

Reference 43 - 0.19% Coverage

¶276: These symbols were probably an elaborate, non-alphabetic writing system, a Pictish response to broader European changes in power and identity during the transition from the Roman Empire to the early medieval period.

¶277:
Reference 44 - 0.15% Coverage

¶282: The results suggest that these pathways and geoglyphs were closely tied, forming part of travellers' rituals to propitiate local deities and ensure a successful journey.

¶283:
Reference 45 - 0.06% Coverage

¶309: funerary representations from one place in the classical world.

¶310:
Reference 46 - 0.07% Coverage

¶360: Rituals of the past. Prehispanic and colonial case studies in Andean archaeology.

<Internals\\Curator 1996> - § 1 reference coded [0.20% Coverage]

Reference 1 - 0.20% Coverage

¶10: secret/sacred material

<Internals\\Curator 2010 Abstracts> - § 1 reference coded [0.17% Coverage]

Reference 1 - 0.17% Coverage

¶9: An Aspect of the Infinite: New Zealand Talks

<Internals\\Curator 2017 abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶25: Living Symbols. Sacred Space

<Internals\\Curator 2018 abstracts> - § 1 reference coded [0.27% Coverage]

Reference 1 - 0.27% Coverage

¶23: dedicated to the ritual and symbolic use of ivory over the centuries

<Internals\\IJCP 2006 Abstracts> - § 1 reference coded [0.96% Coverage]

Reference 1 - 0.96% Coverage

¶58: Religion has inspired the creation of art throughout human history. Most religious works of art are not considered to be sacred objects. Instead, these works serve to express religious ideas, values or feelings. Some works of art are, however, considered sacred objects.

<Internals\\IJCP 2007 Abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶60: Ritual Ethnological Material

<Internals\\IJCP 2009 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶47: ritual purposes.

<Internals\\IJHS 1994-6 Abstracts> - § 1 reference coded [0.45% Coverage]

Reference 1 - 0.45% Coverage

¶20: Secrets of Ancient and Sacred Places: the world's mysterious heritage,

<Internals\\IJHS 2000 Abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶68: tree symbolism

<Internals\\IJHS 2003 Abstracts> - § 1 reference coded [0.75% Coverage]

Reference 1 - 0.75% Coverage

¶31: the artistic conventions, symbolism and iconography of the time; and the scripting and choreography of the ceremonial performance.

<Internals\\IJHS 2006 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶67: Sacred sites in India

<Internals\\IJHS 2012 Abstracts> - § 2 references coded [0.37% Coverage]

Reference 1 - 0.04% Coverage

¶15: Sacred natural sites

Reference 2 - 0.33% Coverage

¶63: There, in the late nineteenth and early twentieth centuries, Breton maritime culture invented a range of compensatory ritual objects, sites and practices

<Internals\\IJHS 2013 abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶14: that create the sacred and ritual geography of the city

<Internals\\IJHS 2015 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶141: it shows how ritual practices

<Internals\\IJHS 2017 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶163: art, archaeology & mythology

<Internals\\JCH 2001 abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶22: Icelanders' ritual practices

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶38: A symbolistic purpose of the pictures is also clearly evident.

<Internals\\JCH 2006 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶97: derived from a prehistoric rock pictograph

<Internals\\JCH 2008 Abstracts> - § 3 references coded [0.33% Coverage]

Reference 1 - 0.14% Coverage

¶197: These patinas have been formed during religious and ritual ceremonies, where different substances have been spread out at the surface of the objects

Reference 2 - 0.06% Coverage

¶197: and the techniques used for their application on ritual objects.

Reference 3 - 0.13% Coverage

¶200: The patina of the most recent statuettes presents a stratigraphy which can be related to successive uses of the objects for ritual purposes

<Internals\\JCH 2012 Abstracts> - § 2 references coded [0.10% Coverage]

Reference 1 - 0.01% Coverage

¶174: as a ritual space

Reference 2 - 0.08% Coverage

¶174: the ways in which it has been perceived and used, and the messages that it was meant to convey to its beholders

<Internals\\JCH 2013 abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶181: These representations seem to refer to a symbolism of fertility and sexuality, and their absence in medieval time can be explained only considering religion influences.

<Internals\\JCH 2016 abstracts> - § 2 references coded [0.22% Coverage]

Reference 1 - 0.08% Coverage

¶81: In addition, the observation of wushi shows that their orientations in the tomb are not completely in accordance with the Five Phases theory derived from Daoism.

¶82:
Reference 2 - 0.13% Coverage

¶160: Since traders sometimes closely replicating ceremonial tsantsa when shrinking and decorating heads for trade, limited certainty can be prescribed to this category. Minor deviations in ceremonial design resulted in 23 heads being defined as ambiguous in origin.

<Internals\\JCH 2017 abstracts> - § 7 references coded [0.63% Coverage]

Reference 1 - 0.02% Coverage

¶129: some symbolic, but others much more practical

Reference 2 - 0.09% Coverage

¶129: while a rigorous orientation to the cardinal points is evidenced for the Aesculapius sanctuary. Finally, for two temples having ‘anomalous’ orientations, a stellar and a lunar proposal respectively are made.

Reference 3 - 0.04% Coverage

¶200: New evidence from archaeoastronomy on Apollo oracles and Apollo-Asclepius related cult

Reference 4 - 0.24% Coverage

¶201: Apollonian temples with oracular function related to the cult of Apollo's son Asclepius, as well as, Asclepius temples, (both) appear to align with the heliacal rising of the constellation of the Crow (raven) by the sunrise of the Autumn Equinox. Some show to align with Ophiuchus, too. Both constellations are related with the mythological circle of the deities as a dual entity. This astronomical phenomenon is supported by myth, archaeological finds, historical texts, artistic representations and astronomical academic tradition.

Reference 5 - 0.16% Coverage

¶201: In our analytical work, Apollo and Asclepius function as complementary dualities who corroborate on religious prophecy and healing. On cult sites associated with ceremonial healing and curative practice, the alignment of the temples show the use of star markers in architectural planning: astronomical signs associated with myths of the actual gods, prevail.

Reference 6 - 0.03% Coverage

¶207: characterised by the presence of anthropomorphs and sun-forms.

Reference 7 - 0.05% Coverage

¶268: Headwear research is an integral part of costume study, which is regarded as a cultural symbol of human society.

<Internals\\JCH 2018 abstracts> - § 2 references coded [0.08% Coverage]

Reference 1 - 0.07% Coverage

¶226: Ceremonial tsantsa were most consistent in scale. Sample sizes were small, but the long-established and religious nature of applied techniques likely influenced this result.

Reference 2 - 0.01% Coverage

¶244: ritual offerings, among other uses.

Name: Nodes\\Archaeology\Scientific techniques and analysis

<Internals\\Antiquity 1994 abstracts> - § 30 references coded [9.68% Coverage]

Reference 1 - 0.07% Coverage

¶14: new radiocarbon dates

Reference 2 - 0.09% Coverage

¶18: A new model is developed.

¶19:

Reference 3 - 0.09% Coverage

¶27: DNA in charred wheat grains

Reference 4 - 0.10% Coverage

¶28: The genetic history of wheat

Reference 5 - 0.39% Coverage

¶28: Study of burnt spelt wheat from the British Iron Age shows DNA is present, and begins to shows the wheat's character.

¶29:

Reference 6 - 0.09% Coverage

¶37: Direct dating of rock art

Reference 7 - 0.12% Coverage

¶62: a geological and geochemical approach

Reference 8 - 0.23% Coverage

¶68: Making the most of radiocarbon dating: some statistical considerations

Reference 9 - 1.26% Coverage

¶69: The revised radiocarbon calibration curve, published last year, extends back into the Pleistocene the radiocarbon determinations that can be converted to real calendar years. For determinations of any age, the right judgements and statistical considerations must be followed if the real information held in the determinations is to be found. Here is advice with some worked examples.

Reference 10 - 0.12% Coverage

¶84: Radiocarbon and archaeomagnetic dates

Reference 11 - 0.33% Coverage

¶85: go beyond the single first radiocarbon date published for the country in ANTIQUITY in 1991, and permit

Reference 12 - 0.47% Coverage

¶85: the establishment of a radiocarbon and archaeomagnetic sequence.

¶86: Radiocarbon determinations, luminescence dating and Australian archaeology

¶87:
Reference 13 - 0.22% Coverage

¶87: made comment on recent Australian dates, by luminescence techniques

Reference 14 - 0.30% Coverage

¶87: (There are hints also from the Americas of a discrepancy between dates by the two methods.)

Reference 15 - 0.09% Coverage

¶87: radiocarbon determinations

Reference 16 - 0.04% Coverage

¶91: X-ray study

Reference 17 - 0.12% Coverage

¶106: Palaeoethnobotany: what's in a name?

Reference 18 - 0.59% Coverage

¶136: Phytoliths — the microscopic opal silica bodies inside plant tissue that often survive well in archaeological deposits— are becoming a larger part of the world of human palaeobotany

Reference 19 - 0.09% Coverage

¶142: has now been carbon-dated.

Reference 20 - 0.18% Coverage

¶147: Beyond the radiocarbon barrier in Australian prehistory

Reference 21 - 0.88% Coverage

¶148: The team that has been dating early Australian sites by luminescence methods replies to Allen's (1994) view of the continent's human chronology, published in the June ANTIQUITY (68: 339–43). They argue the strength of the long chronology with their new optical dates.

Reference 22 - 0.70% Coverage

¶152: Distinctive patterns in the nature and composition of early metal objects in Israel and Jordan make it possible to find a chronological order in the celebrated, and hard-to-date, copper-mining sites of the region

Reference 23 - 0.17% Coverage

¶177: with radiocarbon ages in excess of 12,500 years b.p.

Reference 24 - 0.24% Coverage

¶179: Radiocarbon dates on human bones from one cave show these to be Iron Age

Reference 25 - 0.20% Coverage

¶186: Pottery and p-values: ‘Seafaring merchants of Ur?’ re-examined

Reference 26 - 0.12% Coverage

¶187: a study of Neutron Activation Analyses

Reference 27 - 0.10% Coverage

¶200: Using radiocarbon: an update

¶201:

Reference 28 - 1.47% Coverage

¶201: four issues crucial to the successful use of radiocarbon in archaeology (Bowman & Balaam 1990): selection and characterization of material and context; determination of the radiocarbon result and error term; interpretation and publication; and strategic resourcing. Since then much has been published, particularly on quality control of radiocarbon measurements (‘determination’), and on the calibration of radiocarbon results (‘interpretation’).

Reference 29 - 0.20% Coverage

¶206: Are Bayesian statistics useful to archaeological reasoning?

¶207:

Reference 30 - 0.63% Coverage

¶207: the methods of Bayesian statistics to combine radiocarbon and stratigraphic information into a single considered view. But are they different kinds of information, more fairly kept separate?

¶208:
<Internals\\Antiquity 1995 abstracts> - § 39 references coded [10.37% Coverage]

Reference 1 - 0.11% Coverage

¶11: Survival and detection of blood residues

Reference 2 - 0.58% Coverage

¶12: A new field is opening up in biological archaeology, as it is found that ancient DNA and other bio-molecules may–under the right conditions–survive over the long term. Is the same true of blood residues on stone tools?

¶13:
Reference 3 - 0.29% Coverage

¶16: Mathematical modelling explores which considerations directed the placing of settlements in that landscape.

¶17:
Reference 4 - 0.19% Coverage

¶21: The contamination of Pleistocene radiocarbon determinations in Australia

¶22:
Reference 5 - 0.79% Coverage

¶22: Is the apparent limit in the region of 35–40,000 years ago visible in the radiocarbon determinations a real date for the human presence? Or is it an artificial result of the dating method? A comparative study of the dating pattern in archaeological as against non-archaeological contexts may inform.

¶23:
Reference 6 - 0.65% Coverage

¶24: First generation modelling of cultural systems, as applied in archaeology, frequently invoked linear, deterministic relationships as well as privileging concepts such as stability and an assumed cumulative evolution towards increasing complexity.

Reference 7 - 0.12% Coverage

¶30: the mineralogical analysis of their colours,

Reference 8 - 0.06% Coverage

¶35: Digging into our genes

¶36:
Reference 9 - 0.11% Coverage

¶47: Radiocarbon dating and Italian prehistory.

Reference 10 - 0.38% Coverage

¶61: Its Professor–whose own background was in physics and then chemistry before archaeology–explores the relationship of archaeology to the sciences

Reference 11 - 0.07% Coverage

¶61: Science and archaeology.

Reference 12 - 0.28% Coverage

¶68: Beyond lifetime averages: tracing life histories through isotopic analysis of different calcified tissues

Reference 13 - 0.06% Coverage

¶69: Stable-isotopic analyses

Reference 14 - 0.75% Coverage

¶69: now an established aid to dietary reconstruction in archaeology, represent the diet as averaged over many years. Separate analysis of different skeletal components enables changes in diet and place of residence to be tracked, giving a fuller life-history for long-dead individuals.

¶70:
Reference 15 - 0.10% Coverage

¶75: and the scientific means to study it.

¶76:
Reference 16 - 0.23% Coverage

¶78: Accelerator radiocarbon dating of the initial Upper Palaeolithic in southeast Siberia

¶79:
Reference 17 - 0.29% Coverage

¶79: In the Lake Baikal region of southeast Siberia, new radiocarbon determinations on sites of difficult history

Reference 18 - 0.06% Coverage

¶82: a petrological approach

Reference 19 - 0.19% Coverage

¶83: A geological look at the hard evidence of Roman stone in central Europe

Reference 20 - 0.16% Coverage

¶97: Reconstructing prehistory: scientific method in archaeology.

Reference 21 - 0.93% Coverage

¶122: and the analogy between faunal spectra and pollen analyses

¶123: The pollen record from an archaeological site provides the environmental background, while the animal bones illuminate its economy. Wild animal bones are also ecological indicators, and faunal spectra can clarify the status of animals whose place in the human economy is uncertain or changing.

Reference 22 - 0.23% Coverage

¶127: Radiocarbon dates from the cists now hint at their going back to the 3rd millennium BC,

Reference 23 - 0.06% Coverage

¶129: new radiocarbon dates

Reference 24 - 0.05% Coverage

¶134: radiocarbon dates

Reference 25 - 0.04% Coverage

¶138: Radiocarbon dates

Reference 26 - 0.56% Coverage

¶141: to automate and computerize the recording and analysis of artefacts from a very large salvage program in the western United States. Here is a follow-up that explains why the methods did not realize the ambitions

Reference 27 - 0.12% Coverage

¶142: A brief reinterpretation of the pollen record

Reference 28 - 0.07% Coverage

¶169: evidence of geomorphology

Reference 29 - 0.34% Coverage

¶201: validation of archaeological dating to the Palaeolithic and refutation of ‘scientific’ dating to historic or proto-historic times

Reference 30 - 0.41% Coverage

¶202: The dating studies of the ‘modern rock-art scientists’, when critically examined, are found not to show that the Côa valley petroglyphs are of recent age.

Reference 31 - 0.58% Coverage

¶204: One of the four researchers who this summer studied the age of the figures using ‘modern rock-art science’ summarizes the group's' conclusions, and states how they kill off the stylistic dating of Palaeolithic rock-art.

¶205:
Reference 32 - 0.18% Coverage

¶206: the thick ashy deposit, identified as the remains of burnt lichen,

Reference 33 - 0.15% Coverage

¶215: Getting to the core of the problem: petrological results

Reference 34 - 0.11% Coverage

¶220: The precision of a tree-ring date for them

Reference 35 - 0.06% Coverage

¶227: Chlorine-36 dating and

Reference 36 - 0.50% Coverage

¶228: New dates on Stonehenge material using the Chlorine-36 method have been reported as evidence that the bluestones were moved from their Welsh sources by human transport, not by glaciation.

Reference 37 - 0.15% Coverage

¶228: show that the Chlorine-36 dates have been misinterpreted.

Reference 38 - 0.10% Coverage

¶229: blood residue analysis in archaeology

¶230:
Reference 39 - 0.28% Coverage

¶230: experience with searching for blood-residue traces with the services of a commercial testing laboratory.

¶231:
<Internals\\Antiquity 1996 abstracts> - § 35 references coded [8.15% Coverage]

Reference 1 - 0.20% Coverage

¶6: Molecular biology is prompting a renewed interest in genetic histories of ancient peoples.

Reference 2 - 0.22% Coverage

¶23: Bioarchaeological and climatological evidence for the fate of Norse farmers in medieval Greenland

¶24:
Reference 3 - 0.18% Coverage

¶24: Environmental studies show why its occupation came to an end within five centuries

Reference 4 - 0.17% Coverage

¶30: The questions and the issues are old fundamentals of lithic research and analsis

Reference 5 - 0.38% Coverage

¶32: This evidence is further bolstered by chrono-stratigraphy, settlement patterns, inter- and intra-site organization and patterning, as well as other material culture residues

Reference 6 - 0.88% Coverage

¶36: Having recently analysed 12 Mushabian sites from Gebel Maghara, containing over 5000 microliths and 3000 microburins, and three new Geometric Kebaran sites from Sinai, containing over 800 trapeze/rectangles and no microburins, I can attest to the differences between these two assemblages in terms of reduction sequences, style of debitage, and the morphology of geometric and non-geometric microliths.

Reference 7 - 0.15% Coverage

¶65: Honor among thieves: a zoo-archaeological study of Neandertal ecology

Reference 8 - 0.07% Coverage

¶78: Trustworthy dates on charcoal

Reference 9 - 0.18% Coverage

¶92: the material for an archaeobotanical study of the last centuries BC and the first AD

Reference 10 - 0.13% Coverage

¶102: which has been studied in terms of stratigraphic succession?

¶103:
Reference 11 - 0.10% Coverage

¶108: Radiocarbon AMS dates identify human specimens,

Reference 12 - 0.13% Coverage

¶119: A slice through time: dendrochronology and precision dating

Reference 13 - 0.18% Coverage

¶138: Clovis and Folsom age estimates: stratigraphic context and radiocarbon calibration

Reference 14 - 0.95% Coverage

¶139: The events to do with peopling the New World archaeologically represented by ‘Clovis’ and ‘Folsom’ have been — tantalizingly — beyond the range of radiocarbon calibration. Now calibration extends further, one can ask if the aburptness of Clovis, of Folsom, and of the transition between them are realities. A calibrated chronology for those sites where the stratigraphic security is best shows these in truth are rapid human affairs.

¶140:
Reference 15 - 0.17% Coverage

¶144: Beyond the radiocarbon limit in Australian archaeology and Quaternary research

Reference 16 - 0.78% Coverage

¶145: noticing the pattern in early radiocarbon dates from Australia, have advanced the notion their limit records the human settlement of the continent. A critical analysis of context and content in those carbon determinations leads to a different view. The results may be disconcerting for every region which builds its late Pleistocene chronologies on radiocarbon!

Reference 17 - 0.26% Coverage

¶151: The important issues are set out in a simple mathematical treatment, and their varied consequences are shown for Greece

Reference 18 - 0.08% Coverage

¶153: A GIS study of the ditches' place,

Reference 19 - 0.16% Coverage

¶165: An expert description of their acoustic properties is the point to start.

Reference 20 - 0.32% Coverage

¶167: The spy satellites — by repute of the thriller writers — have such good image-resolution that they can read the letters on a vehicle licence-plate

Reference 21 - 0.17% Coverage

¶170: The use of immunological techniques in the analysis of archaeological materials

Reference 22 - 0.20% Coverage

¶171: discouraging results from experiments to see if blood traces reliably survive on stone tools.

Reference 23 - 0.08% Coverage

¶171: rather than a supposing simulation.

Reference 24 - 0.12% Coverage

¶189: Residues on stone artefacts: state of a scientific art

Reference 25 - 0.15% Coverage

¶190: It is a startling experience to look down a microscope at a stone tool

Reference 26 - 0.65% Coverage

¶190: see on its flint surface grubby brown-red stains that look the colour of old blood. Is a consensus emerging from the archaeological scientists as to just what traces of, especially, biological materials do survive on ancient stone surfaces, where they can be reliably characterized and identified?

Reference 27 - 0.09% Coverage

¶193: archaeology and thermoluminescence dating

Reference 28 - 0.15% Coverage

¶194: Stratigraphic integrity, the new science of luminescent dating and

Reference 29 - 0.09% Coverage

¶201: Science, stratigraphy and the deep sequence

Reference 30 - 0.24% Coverage

¶208: a study of prehistoric agriculture on one of the high Micronesian islands largely involves pollen and charcoal

Reference 31 - 0.17% Coverage

¶221: Canarium in the Southeast Asian and Oceanic archaeobotanical and pollen records

Reference 32 - 0.16% Coverage

¶222: that evidence and the palaeobotanical record largely deriving from pollen

Reference 33 - 0.08% Coverage

¶228: new radiocarbon dates for its sequence

Reference 34 - 0.08% Coverage

¶231: In defence of lead isotope analysis

Reference 35 - 0.06% Coverage

¶232: archaeometallurgical work

<Internals\\Antiquity 1997 Abstracts> - § 35 references coded [7.86% Coverage]

Reference 1 - 0.15% Coverage

¶23: The absolute age of the Côa valley rock-engravings: two physical-science studies

Reference 2 - 0.17% Coverage

¶24: two studies concerning the age of the Côa Valley rock-surfaces, and of the figures they bear

Reference 3 - 0.14% Coverage

¶25: Maximum ages of the Côa valley (Portugal) engravings measured with Chlorine-36

Reference 4 - 0.11% Coverage

¶26: according to 36Cl exposure ages of 16,000 to 136,000 years

Reference 5 - 0.15% Coverage

¶27: Constraining the age of the Côa valley (Portugal) engravings with radiocarbon dating

Reference 6 - 0.74% Coverage

¶28: Radiocarbon ages for the Côa petroglyphs are very similar to those obtained by Watchman (1995). Fundamental problems in the use of radiocarbon dating at Côa include evidence for the addition of younger carbon in an open system, and evidence of contamination from older sources of carbon. Radiocarbon measurements, therefore, cannot be used to decide whether the engravcings are or are not of Palaeolithic age.

Reference 7 - 0.13% Coverage

¶31: An approach to the study of ancient archery using mathematical modelling

Reference 8 - 0.43% Coverage

¶32: The archer's bow is a machine whose purpose is to impart stored energy effectively and accurately to propel the arrow. A mathematical modelling of different bow types shows how their engineering characteristics define their performances.

Reference 9 - 0.11% Coverage

¶38: Ground-penetrating radar and other geophysical techniques

Reference 10 - 0.06% Coverage

¶43: New optical and radiocarbon dates

Reference 11 - 0.23% Coverage

¶44: instead a range of luminescence methods are being turned to (such as thermoluminescence at Jinmium: December 1996 ANTIQUITY).

Reference 12 - 0.35% Coverage

¶44: now offers a good suite of radiocarbon determinations which match well a pair of optically stimulated luminescence (OSL) dates — encouraging sign that OSL determinations can be relied on.

¶45:

Reference 13 - 0.14% Coverage

¶90: Recent developments in radiocarbon and stylistic methods of dating rock-art

Reference 14 - 0.37% Coverage

¶91: The same issues continue in respect of the radiocarbon dating of rock art, where the sheer technical difficulty of securing a dating number in which one can have confidence, remains a large real obstacle.

Reference 15 - 0.08% Coverage

¶92: AMS dating of the Manx Ronaldsway Neolithic

Reference 16 - 0.21% Coverage

¶93: AMS radiocarbon determinations from carbonaceous deposits on Ronaldsway-style pots resolve chronological questions,

Reference 17 - 0.28% Coverage

¶96: On human blood, rock art and calcium oxalate: further studies on organic carbon content and radiocarbon age of materials relating to Australian rock art

Reference 18 - 0.53% Coverage

¶97: Minute biological traces, with their prospect of recovering even ancient DNA, are the most attractive of archaeological materials to work with. This supplementary report on field studies of rock-art first published in ANTIQUITY further explores how these studies may in truth be carried out.

Reference 19 - 0.16% Coverage

¶102: Accelerator radiocarbon dating of Natal Drakensberg paintings: results and implications

Reference 20 - 0.24% Coverage

¶103: the reconciliation of conventional chronologies for rock-art with the emergent radiocarbon-based dates is not proving an easy affair.

Reference 21 - 0.05% Coverage

¶120: Archaeological chemistry.

Reference 22 - 0.14% Coverage

¶121: Archaeological sediments and soils: analysis, interpretation and management.

Reference 23 - 0.14% Coverage

¶127: Archaeology and archaeometry: from casual dating to a meaningful relationship?

Reference 24 - 0.22% Coverage

¶128: Where does that place the archaeometrists who approach the materials with the methods of physical and biological sciences?

Reference 25 - 0.18% Coverage

¶132: Varied radiocarbon determinations need to be collated, and some stratigraphic complications resolved.

Reference 26 - 0.20% Coverage

¶138: A first rule of statistics is that the existence of a correlation does not itself prove a causal connection.

Reference 27 - 0.29% Coverage

¶142: This paper develops zooarchaeological methods to investigate whether similar processes occurred in the less well documented Norse colonies of northern Scotland

Reference 28 - 0.21% Coverage

¶159: An absolute dating contradicts that supposition in respect of a presumed image of the visible supernova of AD 1054

Reference 29 - 0.10% Coverage

¶171: Bayesian approach to interpreting archaeological data.

Reference 30 - 0.13% Coverage

¶197: Analyses of the fish remains from the stratified late Holocene deposits

Reference 31 - 0.47% Coverage

¶199: For half a century now — ever since radiocarbon dating began — there have been regional reconciliations between relative chronologies and the new absolute dating. Sometimes they have been friendly, some times less so when the two schemes have not matched well.

Reference 32 - 0.14% Coverage

¶215: Analysis of absorbed lipids preserved in the fabric of lamps and conical cups

Reference 33 - 0.47% Coverage

¶221: with characterization of the Sardinian sources, application of minimally destructive and inexpensive analytical techniques, analysis of complete or large parts of assemblages, and the integration of provenance data with reduction technology and use-wear traces.

Reference 34 - 0.17% Coverage

¶234: Using the World Wide Web is not unlike visiting an unfamiliar place to look at the archaeology.

Reference 35 - 0.18% Coverage

¶249: Publishing in the round: a role for CD-ROM in the publication of archaeological field-work results

<Internals\\Antiquity 1998 abstracts> - § 29 references coded [4.87% Coverage]

Reference 1 - 0.08% Coverage

¶7: the calibration of 14C dates beyond 10,000 BP

Reference 2 - 0.49% Coverage

¶9: Advances in our understanding of the Quaternary history of the earth's magnetic field provide the means to correct the radiocarbon time-scale for long-term (millennia) deviations from the calendrical one beyond the upper limit of the tree-ring-based calibration.

Reference 3 - 0.16% Coverage

¶12: produced radiocarbon determinations spanning an archaeological sequence of 30,000 years.

Reference 4 - 0.16% Coverage

¶34: The recognition of land degradation, through the application of new analytical methods

Reference 5 - 0.11% Coverage

¶51: However, some TL dating is notoriously difficult to interpret

Reference 6 - 0.08% Coverage

¶53: Stable isotopes and the seasonality of the

Reference 7 - 0.18% Coverage

¶55: Stable isotope analysis of human bones shows marine resources providing the majority of protein,

Reference 8 - 0.06% Coverage

¶56: new radiocarbon determinations

Reference 9 - 0.11% Coverage

¶57: rarely easy when using the direct evidence from carbon-dating

Reference 10 - 0.30% Coverage

¶57: throws up considerable discrepancies between typological seriation as a means to assign burials to the Mesolithic or to the Neolithic and the carbon evidence.

¶58:

Reference 11 - 0.15% Coverage

¶63: Some observations on the radiocarbon and cosmogenic isotope dating of petroglyphs,

Reference 12 - 0.09% Coverage

¶64: the light of studies by absolute-science methods

Reference 13 - 0.14% Coverage

¶100: A new study of Kamares ware, integrating stylistic and petrographic analysis

Reference 14 - 0.18% Coverage

¶101: New formulae for estimating prehistoric populations for lowland South America and the Caribbean

Reference 15 - 0.27% Coverage

¶102: new formulae for estimating prehistoric populations in lowland South America and the Caribbean using data derived from houses and settlements.

¶103:

Reference 16 - 0.12% Coverage

¶113: Recent strontium isotope analysis of Beaker burials from Bavaria

Reference 17 - 0.07% Coverage

¶135: Bioarchaeology: interpreting behaviour

Reference 18 - 0.10% Coverage

¶140: a series of OSL dates, from correlative aeolian sands

Reference 19 - 0.33% Coverage

¶178: Scholars have often asserted this hypothesis, but contributed very little scientific proof. Since 1960, archaeological (site location, radiocarbon and thermoluminescent dating)

Reference 20 - 0.14% Coverage

¶203: Geoarchaeology: the earth-science approach to archaeological interpretation

Reference 21 - 0.04% Coverage

¶223: new computer techniques

Reference 22 - 0.07% Coverage

¶225: together with over 40 radiocarbon dates

Reference 23 - 0.08% Coverage

¶234: Cosmogenic radiation nuclides in archaeology

Reference 24 - 0.36% Coverage

¶235: Various methods have been employed in the attempt to date rock-art. Here Robert Bednarik offers a critique of the cosmogenic radiation nuclides method, and its application to the Côa petroglyphs.

Reference 25 - 0.11% Coverage

¶242: The potential for heavy metal soil analysis on low status

Reference 26 - 0.14% Coverage

¶243: Here heavy metal soil analysis is tested in the search for aceramic sites.

Reference 27 - 0.04% Coverage

¶258: phytolith evidence from

Reference 28 - 0.13% Coverage

¶265: Some botanical characteristics of green foxtail (Setaria viridis) and

Reference 29 - 0.55% Coverage

¶266: dated to approximately 7900–7500 BP (Institute of Archaeology CASS 1991). Isozymic analysis and interspecific cross between S. viridis and S. italica (domesticated foxtail millet) demonstrated that S. viridis is the progenitor of domesticated foxtail millet (Gao & Chen 1988; Li et al. 1945).

<Internals\\Antiquity 1999 abstracts> - § 29 references coded [6.99% Coverage]

Reference 1 - 0.10% Coverage

¶5: The application of the distance-decay model

Reference 2 - 0.05% Coverage

¶8: Lead isotope analyses

Reference 3 - 0.08% Coverage

¶9: New research on lead isotope data

Reference 4 - 0.08% Coverage

¶11: Analysis of zooarchaeological data

Reference 5 - 0.18% Coverage

¶14: Muck 'n' molecules: organic geochemical methods for detecting ancient manuring

Reference 6 - 0.38% Coverage

¶15: Faecal biomarkers provide a reliable and highly diagnostic method for detecting ancient faecal inputs to soils irrespective of any morphological remnants of manuring.

¶16:
Reference 7 - 0.16% Coverage

¶20: Radiocarbon calibration for the Middle/Upper Palaeolithic: a comment

Reference 8 - 0.74% Coverage

¶21: a new 14C calibration curve covering the last 45,000 years (van Andel 1998). This reply challenges the curve, suggesting it is too simple, and that there is need for caution in applying new datasets for the purposes of prehistoric and environmental calibration.

¶22: Radiocarbon dating: avoiding errors by avoiding mixed samples

Reference 9 - 0.66% Coverage

¶23: Chronology and its refinement continues to be important, especially in the methods by which the dates are actually achieved. Here, the question of whether single object/bone samples provide more accurate dates than mixed samples is debated, and applied to samples from prehistoric Scotland.

Reference 10 - 0.09% Coverage

¶24: the recent radiocarbon dating of samples

Reference 11 - 0.26% Coverage

¶67: AMS and other dating methods have been applied to the problem of Upper Palaeolithic occupation in Central Europe.

Reference 12 - 0.22% Coverage

¶83: Isotopic analysis of human bone is used to aid in the reconstruction of actual food consumption.

Reference 13 - 0.26% Coverage

¶93: The lack of appropriate absolute dating has meant chronology has been poorly understood. New 14C dating of materials

Reference 14 - 0.23% Coverage

¶97: Here, a new scheme of dating is offered, which may help to remove gaps and anomalies in the sequence.

¶98:

Reference 15 - 0.14% Coverage

¶121: We present an analysis of the lithic spatial distribution in

Reference 16 - 0.08% Coverage

¶124: has also provided radiometric dates

Reference 17 - 0.08% Coverage

¶127: A generic geomorphological approach

Reference 18 - 0.34% Coverage

¶128: the integration of archaeological and geomorphological evidence, in building models for assessing potential archaeological preservation and erosion.

¶129:
Reference 19 - 0.04% Coverage

¶132: Radiocarbon dating

Reference 20 - 0.22% Coverage

¶132: It highlights the merits of obtaining radiocarbon determinations on otherwise undated burials.

¶133:
Reference 21 - 0.28% Coverage

¶188: Taphonomic analysis reveals four kinds of shell debris: ornaments, food refuse, marine sponge inclusions, and land snails.

Reference 22 - 0.41% Coverage

¶200: Palaeoethnobotanical evidence reveals that there was increasing emphasis on greater varieties of species and cropping practices in the changing subsistence of the Indus civilization

Reference 23 - 0.35% Coverage

¶204: Geochemical analyses of obsidian offer unexpected insights on the size and organization of the Hohokam regional system in the North American Southwest.

Reference 24 - 0.05% Coverage

¶216: Palynological data and

Reference 25 - 0.18% Coverage

¶218: This paper presents new evidence, from δ13C measurements of 78 radiocarbon-dated

Reference 26 - 0.34% Coverage

¶220: This study presents the archaeological context of the discovery and the various analytical techniques (XRF, SEM, 14C) that have been applied to it.

¶221:
Reference 27 - 0.06% Coverage

¶226: and analysis more refined,

Reference 28 - 0.08% Coverage

¶227: The concept of affordance and GIS

Reference 29 - 0.84% Coverage

¶228: Llobera (1996) seeks to utilize the concept of affordance in his GIS study of Wessex linear ditches. Unfortunately, he does not seem fully to appreciate what is implied in the concept of affordance, nor the role that it plays within Gibson's theory of direct perception. I offer this short note as an addendum to Llobera's discussion of affordance and its uses with GIS.

<Internals\\Antiquity 2000 abstracts> - § 29 references coded [4.11% Coverage]

Reference 1 - 0.22% Coverage

¶4: Recent study of the 1975 material (Wenban Smith et al. forthcoming) has demonstrated that the site is older than previously thought, dating to at least 200,000 BP and probably to nearer 400,000 BP

Reference 2 - 0.06% Coverage

¶6: dated to between 10,200 and 9400 radiocarbon years BP

Reference 3 - 0.03% Coverage

¶36: new techniques of analysis

Reference 4 - 0.03% Coverage

¶49: Radiocarbon calibration

Reference 5 - 0.26% Coverage

¶50:

Various methods of analysing the dating of the late Glacial suggest various interpretations. Here, in answer to a paper from 1997, radiocarbon dates are calibrated and used to reconsider the dating of this contentious period.¶51:

Reference 6 - 0.05% Coverage

¶100: the application of lead isotope analysis.

Reference 7 - 0.03% Coverage

¶114:

Direct AMS Radiocarbon dates

Reference 8 - 0.47% Coverage

¶121: The results of an extensive programme of lead-isotope analyses aimed at determining the provenance of these ingots have led some archaeologists to propose that most of the ingots were produced from the rich copper resources on the island of Cyprus. Based on the same results, the Oxford group has also discussed the possibility of a specialized centre for their production in the Skouriotissa region of the island

Reference 9 - 0.28% Coverage

¶128: Current research analyses sedimentary sequences from thrcc Neolithic lakeside villages on the northern rim of the European Alps using micromorphology, or the study of thin-sectioned in situ sediments from and around archaeologicals ites (FIGUR1E).

Reference 10 - 0.50% Coverage

¶128: . Features on lakeside villages are often distorted by wave action, sediment loading and/or erosional episodes.¶129:

Stratigraphy, Harris matrices & relative dating of Australian rock-art¶130:

Rock-art, despite much ingenious effort (e.g., among many, Watchman et al. 1997), remains difficult to date by absolute methods, so relative dating has a central importance much as applied to dirt archaeology in the era before routine radiometric dating.

Reference 11 - 0.31% Coverage

¶136: I analyse activity areas using a relatively new method - micro-debris analysis - which analyses small artefactual and ecofactual remains (Fladmark 1982; Rosen 1989; Matthews 1995). In my dissertation, 365 sediment samples (10litres each) were taken from over 20 structures.Th

Reference 12 - 0.03% Coverage

¶141:

Revised ‘absolute’ dating of

Reference 13 - 0.22% Coverage

¶141: , in the light of changes in the early Holocene tree-ring chronology¶142:

Recent revision of the radiocarbon calibration curve for the early Holocene has implications for the ‘absolute’ date of

Reference 14 - 0.02% Coverage

¶145:

New AMS dates

Reference 15 - 0.24% Coverage

¶150:

Work by the South Cadbury Environs Project shows that analysing the alignment and morphology of large-scale geophysical data plots can greatly enhance diachronic and synchronic interpretation of a landscape.

Reference 16 - 0.12% Coverage

¶160:

Archaeological, palynological and palaeolimnological evidence is combined with new AMS radiocarbon dates

Reference 17 - 0.03% Coverage

¶161: radiocarbon evidence¶162:

Result

Reference 18 - 0.02% Coverage

¶162: radiocarbon dating

Reference 19 - 0.12% Coverage

¶168:

Scanning electron microscopy provides an insight into the lapidary techniques of the ancient Near East.

Reference 20 - 0.35% Coverage

¶180: they assert that our critique of their two-stage re-colonization model rests solely upon radiocarbon calibration. Secondly, and consequently, they point to problems with Late Glacial calibration curves. Thirdly, they argue that radiocarbon calibration should be advanced only for sound archaeological reasons

Reference 21 - 0.08% Coverage

¶215: A rare and important AMS sample provides an Aurignacian date for Britain

Reference 22 - 0.06% Coverage

¶222:

Radiocarbon dating and marine reservoir correction o

Reference 23 - 0.02% Coverage

¶226:

Analysis and dating

Reference 24 - 0.05% Coverage

¶245: biological history and dental morphology

Reference 25 - 0.03% Coverage

¶322: IS:guide to good practice.

Reference 26 - 0.05% Coverage

¶344:

Digital enhancement of Torres Strait rock-art¶345:

Reference 27 - 0.12% Coverage

¶358:

Radiocarbon chronology of the Kalmykia Catacomb culture of the west Eurasian steppe¶359:

New calibration studies

Reference 28 - 0.15% Coverage

¶369: Variability and intensity of weathering probably introduces error into radiocarbon, rock varnis and micreoerosion dating methods.¶370:

Reference 29 - 0.13% Coverage

¶375:

High-resolution pollen and phytolith analyses can provide direct evidence for farming in archaeological landscapes

<Internals\\Antiquity 2001 abstracts> - § 40 references coded [6.03% Coverage]

Reference 1 - 0.13% Coverage

¶28: Dating Egypt's oldest ‘art’: AMS 14C age determinations of rock varnishes covering petroglyphs

Reference 2 - 0.11% Coverage

¶29: Direct dating, using the Accelerator Mass Spectrometry (AMS) 14C method, indicates

Reference 3 - 0.13% Coverage

¶31: A phylogenetic analysis of the genus Dactylopius, and the disjoint distribution of D. coccus

Reference 4 - 0.15% Coverage

¶41: New research fields and areas of scientific specialization often bring division and disciplinary divides.

Reference 5 - 0.07% Coverage

¶41: the impact of genetic research on archaeology.¶42:

Reference 6 - 0.04% Coverage

¶49: Investigation by xeroradiography

Reference 7 - 0.07% Coverage

¶50: evidence from fish bones and stable carbon isotopes¶51:

Reference 8 - 0.08% Coverage

¶51: Recent work on fish-bone ratios and stable carbon isotopes

Reference 9 - 0.04% Coverage

¶77: The use of 'SRT' in sampling

Reference 10 - 0.33% Coverage

¶107: Extensive radiocarbon data are examined, including results from short-lived samples contemporary with use-contexts. An absolute date range for the main Late Cypriot IIC period on Cyprus, from c. 1340–1315 BC to c. 1200 BC, is proposed.

Reference 11 - 0.12% Coverage

¶109: The remains of pearl millet (Pennisetum glaucum) dating to 3460±200 and 2960±370 BP

Reference 12 - 0.21% Coverage

¶111: Here AMS 14C dates and TL dates are reported which indicate that the moats date from a short period in the Mid to Late Iron Age, before being infilled.

Reference 13 - 0.13% Coverage

¶113: Burial data and stratigraphic and radiometric data are used to shed light on the Moche III phase

Reference 14 - 0.09% Coverage

¶120: Three-dimensional imaging in archaeology: its history and future

Reference 15 - 0.39% Coverage

¶121: Whilst digital cameras and computer graphics are starting to be used in archaeological recording, stereoscopic photography tends to be overlooked. This technique has been used successfully in three recent projects and could be beneficial as a means of 3D photographic recording.

Reference 16 - 0.05% Coverage

¶144: Radiocarbon dates on cremated bone

Reference 17 - 0.08% Coverage

¶152: Rings in Georgia and South Carolina date to c. 4200–3200 BP

Reference 18 - 0.20% Coverage

¶155: Radiocarbon (calibrated σ2) dating showed that this cremation dated from 1440–1140 BC, the date being firmly placed in the Irish Bronze Age.

Reference 19 - 0.25% Coverage

¶157: to obtain modern comparative material which could be elementally analysed and compared with samples of carnelian beads from archaeological contexts in West and West-Central Africa.

Reference 20 - 0.55% Coverage

¶157: it is hoped that the geochemical analysis of the carnelian samples from Gujarat will either prove or disprove a trade to West Africa. Following a successful pilot study at the NERC LA-ICP-MS facility at Kingston University, the full programme of analysis will now be completed in co-operation with Dr Dave Polya in the new LA-ICP-MS facility at the School of Earth Sciences, University of Manchester.

Reference 21 - 0.06% Coverage

¶159: Recent analysis of environmental samples

Reference 22 - 0.04% Coverage

¶159: with an age range of 1430±600 BC

Reference 23 - 0.28% Coverage

¶160: The cut was established as an incision and not a taphonomic feature based on observations under light microscopy and Scanning Electron Microscopy, where the cut could be seen scraping the outer tissue

Reference 24 - 0.07% Coverage

¶185: whose 14C age is about 8540 BP (c. 7500 cal BC),

Reference 25 - 0.12% Coverage

¶187: in association from buried soil dated to c. 10,200–10,450 BP.

¶188: AMS 14C age determinations

Reference 26 - 0.10% Coverage

¶189: Direct dating, using the Accelerator Mass Spectrometry (AMS) 14C method

Reference 27 - 0.06% Coverage

¶189: has given a date of about cal AD 1390–1480

Reference 28 - 0.03% Coverage

¶192: biomolecular evidence

Reference 29 - 0.54% Coverage

¶192:

W¶193: hile palaeobotanical remains provide clear evidence for the exploitation of the date at various locations in Egypt and Nubia, it is the detection amongst lipid residues in closed form vessels of fatty acid distributions dominated by diagnostic short-chain fatty acids, i.e. C12:0 and C14:0' that provides the first direct evidence for the processing of palm fruit in pottery vessels.

Reference 30 - 0.15% Coverage

¶205: This paper presents a revised chronology for the Linearbandkeramik and strontium isotope measurements of

Reference 31 - 0.14% Coverage

¶249: Dating of recently discovered hearths at Locality 2 places Shuidonggou firmly at 29,000–24,000 BP,

Reference 32 - 0.08% Coverage

¶251: A recent series of accelerator mass spectrometry dates from

Reference 33 - 0.24% Coverage

¶251: has allowed the origins of the site to be more precisely dated. These dates also provide a reliable basis for the construction of an overall intra-site chronological sequence.

Reference 34 - 0.04% Coverage

¶252: New AMS radiocarbon dates for

Reference 35 - 0.06% Coverage

¶254: A new series of radiocarbon measurements

Reference 36 - 0.24% Coverage

¶256: Low palynomorph concentrations probably result from the high sedimentation rate and mean that further work is needed on the methods for palynological study in the region.

Reference 37 - 0.05% Coverage

¶257: stratigraphic and palynological data

Reference 38 - 0.06% Coverage

¶258: Stratigraphic and palynological evidence from

Reference 39 - 0.11% Coverage

¶263: Why digital enhancement of rock paintings works: rescaling and saturating colours

Reference 40 - 0.36% Coverage

¶264: With the advent of relatively inexpensive image-handling computer programmes, digital image enhancement is more readily available to archaeologists. This paper describes the principles behind image enhancement and its application to rock-art in particular.

<Internals\\Antiquity 2002 abstracts> - § 39 references coded [6.80% Coverage]

Reference 1 - 0.49% Coverage

¶22: Radiocarbon dating at the British Museum — the end of an era

¶23: For nearly half a century, the Radiocarbon Lab at the British Museum was at the forefront of helping to develop and in applying this fundamental dating method. Thousands of samples were processed, and innumerable sites and objects dated. Now the lab has closed, and Sheridan Bowman, the Keeper of the Department of Scientific Research, assesses the lab's contributions.

Reference 2 - 0.02% Coverage

¶26: Problems of dating

Reference 3 - 0.39% Coverage

¶27: It is widely recognized that when marine resources form a significant proportion of the human diet, this results in radiocarbon ages for human remains that are significantly older than the contemporary atmosphere. While there has been widespread assessment of marine 14C reservoir ages, there has been little study of the freshwater equivalent.

Reference 4 - 0.08% Coverage

¶27: confirmed the existence of a large freshwater 14C reservoir effect.¶28:

Reference 5 - 0.31% Coverage

¶45: radiometric dating techniques have continually improved, DNA studies have contributed to the transformations of biological anthropology, and indeed the very process of human evolution has heen cast in new light by the changing boundaries between humanity and animality.

Reference 6 - 0.08% Coverage

¶134: Scientific analysis of archaeological ceramics: a handbook of resources

Reference 7 - 0.09% Coverage

¶190: The science and archaeology of materials: on investigation of inorganic materials.

Reference 8 - 0.02% Coverage

¶200: Infrared imaging

Reference 9 - 0.02% Coverage

¶208: Radiocarbon dates

Reference 10 - 0.03% Coverage

¶209: have been radiocarbon dated

Reference 11 - 0.08% Coverage

¶209: The radiocarbon date of that motif, however, dates only to 7370±50 BP.

Reference 12 - 0.45% Coverage

¶209: A charcoal pigment sample, a drawing of lines radiating from a central focus, has also been dated; its age was a few hundred years older than the 'mammoth': 7920±60 BP. A charcoal line has been dated with an age of 6030±110 BP. Although radiocarbon analysis was attempted on a red-pigmented painting of a woman, there was not enough organic material in the paint sample to obtain a viable date

Reference 13 - 0.02% Coverage

¶209: Radiocarbon dates

Reference 14 - 0.07% Coverage

¶213: Recent results of radiocarbon analyses from sites in Ukraine

Reference 15 - 0.12% Coverage

¶219: Bean and directly associated maize samples were subjected to accelerator mass spectrometry (AMS) dating.

Reference 16 - 0.17% Coverage

¶228: Radiocarbon evidence shows that there must have been two phases of use: the first around 5400 cal BC; the second, main phase around 5250–5050 cal BC

Reference 17 - 0.10% Coverage

¶230: On-site Geographic Information Systems (GIS) analyses of the finds provide new evidence

Reference 18 - 0.10% Coverage

¶230: Materials and lead isotope analyses of the metallurgical finds provide important data

Reference 19 - 0.03% Coverage

¶245: Oak dendrochronology:

Reference 20 - 0.68% Coverage

¶246: The European oak chronologies were completed back to 5000 BC during the 1980s, with demonstrable replication between Ireland and Germany using stepwise correlation through long English bog-oak series (Pilcher et al. 1984; Baillie 1995). Longer German oak chronologies extend the annual record back to 10,430 BP (Friedrich et al. 1999). This suite of chronologies, and their consti tnent site chronologies, even individual trees, can he analysed for changes in common response to the environment through time and of course can be cornpared with other well-dated time series from around the world.

Reference 21 - 0.05% Coverage

¶336: Contemporary themes in archaeological computing

Reference 22 - 0.07% Coverage

¶337: Geophysical data in archaeology: a guide to good practice

Reference 23 - 0.08% Coverage

¶406: Bone stable isotope evidence for infant feeding in Mediaeval England

Reference 24 - 0.08% Coverage

¶407: using bone stable isotopes in infants in a British palaeopopulation

Reference 25 - 0.11% Coverage

¶407: Nitrogen stable isotope analysis suggests cessation of breastfeeding between 1 and 2 years of age.

Reference 26 - 0.13% Coverage

¶428: report on radiocarbon data derived from carefully selected organic material from Late Minoan IA and IB contexts

Reference 27 - 1.69% Coverage

¶439: By far the commonest absolute date estimates come from radiocarbon ages converted to dates by comparing them with the ages of tree rings of known date. There are still many problems with the technique. The quoted errors attached to most of the dates obtained between 1950 and around 1982 have to be increased by factors between 1.4 and 4 (Baillie 1990; Ashmore et al. 2000). There are plateaux in the calibration curve which mean that some ages correspond to an unacceptably wide range of calendar dates. Many archaeological sites contain pieces of charcoal much older than the main period of activity on them. Many charcoal dates obtained before about 1999 were from bulk samples and some demonstrably reflect mixing of charcoal of very different age, providing a meaningless date somewhere in between (Ashmore 1999a). There is now fairly abundant evidence that dates from poorly preserved bone, whether buried or cremated, can be centuries out. The marine effect, which has been assumed to make all Scottish shell dates 405 years too old, may fluctuate (Harkness 1983; Cook & Dugmore pers. comm.). The bones of people who ate food from marine sources show the marine effect and calculation of the required change to an age measured by a laboratory depends on a measurement of the strength of the marine effect at the time the person lived (Barrett et al. 2000). Some dates from residues on pots seem to represent accurately the time they formed; others for unknown reasons do not.

Reference 28 - 0.08% Coverage

¶441: The value of dendrochronology as a precise dating tool is well established

Reference 29 - 0.08% Coverage

¶442: The radiocarbon dating programmes of The National Museums of Scotland

Reference 30 - 0.23% Coverage

¶443: Since 1991, the Archaeology Department of the National Museums of Scotland (NMS) has been undertaking programmes of AMS radiocarbon dating of organic items in its collections, particularly wetland finds.

Reference 31 - 0.05% Coverage

¶537: Encoded archival description on the Internet.

Reference 32 - 0.09% Coverage

¶580: Palaeolithic archaeology and 3D visualization technology: recent developments

Reference 33 - 0.22% Coverage

¶595: New radiocarbon dates from four Moravian and Bohemian sites are presented and linked to previous work on the depositional contexts of human fossils at similar sites in the region. Whilst dates

Reference 34 - 0.12% Coverage

¶595: confirm its early Upper Palaeolithic age, the chronologies of the other three sites require revision.

Reference 35 - 0.03% Coverage

¶604: through a GIS application

Reference 36 - 0.07% Coverage

¶605: A GIS intra-site application for the taphonomic interpretation

Reference 37 - 0.20% Coverage

¶605: allowed the automatic data processing of more than 12,000 lithic artefacts and faunal remains lying on a 100-sq. m excavated palaeosurface dating to about 1,500,000 years ago.

Reference 38 - 0.04% Coverage

¶608: AMS dates and stable isotope results

Reference 39 - 0.04% Coverage

¶611: new evidence—including new AMS dates

<Internals\\Antiquity 2003 abstracts> - § 22 references coded [9.69% Coverage]

Reference 1 - 0.20% Coverage

¶6: Here the authors present recent scientific research on his skeleton

Reference 2 - 0.32% Coverage

¶12: make use of a new database of radiocarbon dates from Mesolithic and Neolithic sites to map the transition.

Reference 3 - 0.19% Coverage

¶13: comparing broad scale genetic and local scale isotopic evidence

Reference 4 - 1.20% Coverage

¶26: to derive a new precise date for the eruption via “wiggle-matching” – matching the radiocarbon dates of a sequence of samples from the log with the Southern Hemisphere calibration curve. The

date obtained was 1314 ± 12 AD (2σ error), and the first environmental impacts and human occupation are argued to have occurred in the previous 50 years, i.e. in the late 13th – early 14th centuries AD.

Reference 5 - 0.10% Coverage

¶27: Dating resin coating on pottery:

Reference 6 - 0.08% Coverage

¶27: early ceramic dates revised

Reference 7 - 1.01% Coverage

¶28: a radiocarbon date of 7500 BP being obtained from associated charcoal. However radiocarbon dating of organic resin found on some of the sherds gave a date of around 3000 BP. This is another example of improved precision in dating by pin-pointing the context and using AMS. The authors describe how it was done and assess its validity¶29:

Reference 8 - 0.09% Coverage

¶30: have produced radiocarbon dates

Reference 9 - 0.25% Coverage

¶30: The authors warn that the radiocarbon dates may themselves need better validation.¶31:

Reference 10 - 0.38% Coverage

¶33: How reliable are radiocarbon laboratories? A report on the Fourth International Radiocarbon Inter-comparison (FIRI) (1998–2001)

Reference 11 - 1.08% Coverage

¶34: Radiocarbon laboratories undertake rigorous programmes of internal quality control (QC) and overall quality assurance (QA). In a laboratory “inter-comparison” samples of the same age are dated at different laboratories using a range of techniques and the results are then compared. The authors summarise the results of the fourth of these scientific audits.

Reference 12 - 0.23% Coverage

¶35: Direct dating of plaster and mortar using AMS Radiocarbon: a pilot project

Reference 13 - 0.84% Coverage

¶36: the potential for dating structures in Near Eastern archaeology by applying AMS radiocarbon to organic inclusions found in mortar and plaster. The method was successfully applied to date and sequence excavated walls and floors, and to spot-date structures exposed in surveys.¶37:

Reference 14 - 0.12% Coverage

¶59: new approaches to space-time modelling

Reference 15 - 0.95% Coverage

¶60: Radiocarbon dates from the earliest post-glacial contexts provide one answer: they offer a sequence in which the regions of Europe, from the Upper Rhine to Britain, saw the return of humans. The authors use Bayesian methods to model a chronology and thus arrive at a sequence with clear assessments of uncertainty

Reference 16 - 0.37% Coverage

¶76: were clustered by k-means and Principal Component Analysis to reveal areas dominated by particular tools or waste products.

Reference 17 - 0.30% Coverage

¶81: Imaging the past: recent applications of multispectral imaging technology to deciphering manuscripts

Reference 18 - 0.70% Coverage

¶82: Multi-spectral imaging (MSI), which was developed to explore the surface of the earth and other planets from space, has been adapted to read and record faded or burnt manuscripts. The authors show how MSI achieved new readings from

Reference 19 - 0.29% Coverage

¶82: The method has potential for investigating the degraded ornamental surfaces of other artefacts

Reference 20 - 0.13% Coverage

¶167: Recent radiocarbon results and King Solomon

Reference 21 - 0.33% Coverage

¶168: Radiocarbon dating and stratigraphy here offer a new chronological structure for the Iron Age in the Levant.

Reference 22 - 0.51% Coverage

¶172: studies prehistoric sea travel along the coast between West Mexico and Ecuador using a computer simulation incorporating the performance characteristics of sailing rafts.

<Internals\\Antiquity 2004 abstracts> - § 15 references coded [4.93% Coverage]

Reference 1 - 0.40% Coverage

¶4: The study of the proportions of stable isotopes of carbon and nitrogen which survive in ancient human and animal bones offers highly suggestive indications of ancient diets

Reference 2 - 0.21% Coverage

¶5: re-evaluation of stable isotope analysis of Mesolithic and Neolithic coastal populations

Reference 3 - 0.19% Coverage

¶22: Investigating population movement by stable isotope analysis: a report from Britain

Reference 4 - 0.28% Coverage

¶23: In a review of recent work in Britain the authors show the huge potential of this method for detecting population movement

Reference 5 - 0.34% Coverage

¶31: (7500BP) implied by radiocarbon dates from charcoal associated with some of the sherds. This was challenged by Lampert et al. who directly dated

Reference 6 - 0.06% Coverage

¶31: from its resin to 3000 BP

Reference 7 - 0.04% Coverage

¶118: radiocarbon dates

Reference 8 - 0.23% Coverage

¶135: Direct detection of maize in pottery residues via compound specific stable carbon isotope analysis

Reference 9 - 0.54% Coverage

¶136: Discovering what was cooked in a pot by identifying lipids trapped in the potsherds has been a highly successful method developed in recent years. Here the authors identify a compound which shows the pots had been used to process maize

Reference 10 - 0.98% Coverage

¶142: In volume 295 of Antiquity M. Gkiasta et al. (2003) discussed the results of two sets of analysis carried out on a "new" database of radiocarbon dates: one for the whole of Europe examining the spread of the Neolithic, and one regional approach looking at the relation between Mesolithic and Neolithic dates. Although we are convinced of the potential of both approaches, we do have some major comments on the methodology.

Reference 11 - 1.21% Coverage

¶143: First of all the analyses were conducted on a highly incomplete database. As the authors state on their p. 48, the analysed database currently includes over 2600 samples. Many of them, however, had already been collated in Gob's Atlas of 14C dates (1990). Although the authors have included new dates, we do not believe that this has been done very systematically. For the Belgian territory, for example, virtually all the dates used in the article were those published by Gob – 16 Mesolithic dates and 30 Neolithic dates.

Reference 12 - 0.18% Coverage

¶177: An international team of researchers show how high-precision radiocarbon dating

Reference 13 - 0.06% Coverage

¶179: using a differential GPS

Reference 14 - 0.15% Coverage

¶183: using multispectral satellite imagery and environmental analysis.

Reference 15 - 0.07% Coverage

¶183: Micropalaeontological analyses

<Internals\\Antiquity 2005 abstracts> - § 21 references coded [7.09% Coverage]

Reference 1 - 0.11% Coverage

¶12: This paper presents twelve new radiocarbon dates

Reference 2 - 0.17% Coverage

¶24: The authors show how this can be done using a Bayesian statistical analysis.¶25:

Reference 3 - 0.15% Coverage

¶31: Stable isotopes and faunal bones. Comments on Milner et al. (2004)

Reference 4 - 0.20% Coverage

¶32: The authors comment on ways of comparing the results of stable isotopes, on the one hand

Reference 5 - 0.01% Coverage

¶33: DNA

Reference 6 - 0.13% Coverage

¶35: Ancient DNA typing: methods, strategies and applications

Reference 7 - 0.38% Coverage

¶78: the author shows that radiocarbon dating cannot of itself presently support models of the primacy of art, industries or the arrival of modern humans at a particular place.

Reference 8 - 0.15% Coverage

¶95: Direct radiocarbon dating of megalithic paints from north-west Iberia

Reference 9 - 0.67% Coverage

¶96: Using plasma chemistry, carbon was extracted from charcoal paint samples collected from megalithic monuments in north-west Iberia. Nine accelerator mass spectrometric radiocarbon dates on these paints establish their age to be within 1000 14C years of each other, centred at approximately 5000 BP.

Reference 10 - 0.36% Coverage

¶98: The authors used optically stimulated luminescence dating of quartz buried when the stone lines were constructed to give new dates for contexts associated with

Reference 11 - 0.18% Coverage

¶129: Two hiatuses in human bone radiocarbon dates in Britain (17 000 to 5000 cal BP)

Reference 12 - 0.69% Coverage

¶130: Undertaking a comprehensive review of radiocarbon dates for the 12 000 years preceding the Neolithic in Britain, the author defines two periods when human remains become hard to find. One of these (already noted by Chamberlain) lies between 7-6000 BP; the other, a new addition, runs from 13 850 to 11 000 BP.

Reference 13 - 0.56% Coverage

¶134: Mike Parker Pearson and his team show that a combination of microstructural, contextual and AMS 14C analysis of bone allows the identification of mummification in more temperate and wetter climates where soft tissues and fabrics do not normally survive

Reference 14 - 0.02% Coverage

¶154: AMS dating

Reference 15 - 0.59% Coverage

¶154: protocols and results of recent research

¶155: The authors describe rock art dating research in Australia using the oxalate method. While the array of dates obtained (which range from c. 1200 to c. 25 000 BP) show a satisfactory correlation with other archaeological data

Reference 16 - 0.29% Coverage

¶210: In an exciting new application, the authors measured the varying signatures of strontium, oxygen and carbon isotopes in the teeth

Reference 17 - 0.32% Coverage

¶214: By extracting residues from pottery sherds the authors show that it is possible to say whether they had contained dairy or carcass fat residues.

Reference 18 - 0.06% Coverage

¶215: A geochemical investigation

Reference 19 - 0.44% Coverage

¶216: Although they appear similar to Mediterranean products, scientific tests by the authors show that Rouletted ware Arikamedu Type 10 and Sri Lankan Grey ware had a common geological origin in India.

Reference 20 - 1.47% Coverage

¶222: Rapid extension of 14C-age dating into the Last Glaciation due to a rising interest in high-resolution climate events is demanding ever greater emphasis on accurate stratigraphic placement of samples relative to events or objects to be dated. This shifts the primary responsibility for date quality from the producer of dates, who is responsible for their precision, to geological and archaeological consumers, who are responsible for their stratigraphic and calibrated accuracy. It is essential that both sides accept the partial switch of mutual roles and collaborate constructively and respect the traditional freedom of choice that marks basic research.

Reference 21 - 0.15% Coverage

¶247: Soil science and archaeology: Three test cases from Minoan Crete

<Internals\\Antiquity 2006 abstracts> - § 20 references coded [4.98% Coverage]

Reference 1 - 0.08% Coverage

¶21: an isotopic approach to colonisation¶22:

Reference 2 - 0.24% Coverage

¶22: In this project, the birthplaces of 90 early burials from Iceland were sought using strontium isotope analysis.

Reference 3 - 0.24% Coverage

¶26: The author applies modern digital mapping technology to the aerial photographs taken by the intrepid early pilots

Reference 4 - 0.11% Coverage

¶73: Using computers in archaeology: towards virtual pasts

Reference 5 - 0.06% Coverage

¶74: CAD: a guide to good practice

Reference 6 - 0.53% Coverage

¶92: The author undertakes a critical review of radiocarbon dates associated with the earliest pottery-making and eliminates a number of them where the material or its context are unreliable. Using those that survive this process of ‘chronometric hygiene’

Reference 7 - 0.23% Coverage

¶98: The method used is geometrical morphometric analysis – essentially classifying the olive stones by their shape.

Reference 8 - 0.16% Coverage

¶99: Using Shuttle Radar Topography to map ancient water channels in Mesopotamia

Reference 9 - 0.26% Coverage

¶100: The Shuttle Radar Topography Mission (SRTM) is currently producing a digital elevation model of most of the world's surface

Reference 10 - 0.14% Coverage

¶107: Stable isotope analysis has startled the archaeological community

Reference 11 - 0.05% Coverage

¶148: has been radiocarbon dated

Reference 12 - 0.45% Coverage

¶150: this is supported by the use of petrographic and geochemical analyses which suggest discrete patterns of raw material acquisition. A description of the technical methodology and appropriate data tables are available

Reference 13 - 0.09% Coverage

¶166: The author presents new radiocarbon dates

Reference 14 - 0.06% Coverage

¶181: Radiocarbon and Archaeology

Reference 15 - 0.10% Coverage

¶195: Raman Spectroscopy in Archaeology and Art History

Reference 16 - 0.12% Coverage

¶214: Developments in radiocarbon calibration for archaeology

Reference 17 - 1.79% Coverage

¶215: This update on radiocarbon calibration results from the 19th International Radiocarbon Conference at Oxford in April 2006, and is essential reading for all archaeologists. The way radiocarbon dates and absolute dates relate to each other differs in three periods: back to 12400 cal BP, radiocarbon dates can be calibrated with tree rings, and the calibration curve in this form should soon extend back to 18000 cal BP. Between 12400 and 26000 cal BP, the calibration curves are based on marine records, and thus are only a best estimate of atmospheric concentrations. Beyond 26000 cal BP, dates have to be based on comparison (rather than calibration) with a variety of records. Radical variations are thus possible in this period, a highly significant caveat for the dating of middle and lower Paleolithic art, artefacts and animal and human remains.

Reference 18 - 0.10% Coverage

¶221: Recent research including 781 radiocarbon dates

Reference 19 - 0.11% Coverage

¶236: Tracking animals using strontium isotopes in teeth

Reference 20 - 0.08% Coverage

¶237: Using strontium isotope measurements

<Internals\\Antiquity 2007 abstracts> - § 19 references coded [3.20% Coverage]

Reference 1 - 0.16% Coverage

¶6: Presenting a new edition of thirty radiocarbon dates, the authors offer models of short- or long-term construction

Reference 2 - 0.09% Coverage

¶23: Evaluation of Corona and Ikonos high resolution satellite imagery

Reference 3 - 0.04% Coverage

¶35: The Bible and Radiocarbon Dating

Reference 4 - 0.06% Coverage

¶47: New Genetic and Archaeological Paradigms

Reference 5 - 0.06% Coverage

¶71: Ethnobiology and the Science of Humankind

Reference 6 - 0.07% Coverage

¶129: Geotectonics, Sedimentology, Petrography, Provenance

Reference 7 - 0.17% Coverage

¶190: However recent stable isotope results show small-scale population changes associated with the arrival of Beaker practice

Reference 8 - 0.28% Coverage

¶192: Of crucial importance to future research is a sturdy chronological framework and in this contribution the authors offer 40 new radiocarbon dates spanning the conventional Bronze Age in the southern Urals.¶193:

Reference 9 - 0.27% Coverage

¶197: In the absence of any cultural material, the erection of the stones was dated by the diameter of the lichen spreads upon them, and corroborated by a study of the documents and radiocarbon dates.

Reference 10 - 0.04% Coverage

¶248: Rivista di Scienze Preistoriche

Reference 11 - 0.12% Coverage

¶361: Revisiting records of 100 years ago the authors demonstrate that the ambiguous dating of

Reference 12 - 0.13% Coverage

¶361: was based on samples taken from the wrong context, and can now be settled at 2600-2400 cal BC.

Reference 13 - 0.16% Coverage

¶362: AMS dates and social implications

¶363: The research team of this new project has begun the precision radiocarbon dating

Reference 14 - 0.69% Coverage

¶375: . Trials with digital IR reported here are very promising and especially useful for painted rock art¶376: .

Compound-specific stable carbon isotopic detection of pig product processing in British Late Neolithic potter¶377: y

By extracting lipids from potsherds and determining the δ13C of the most abundant fatty acids, degraded fats from ruminant animals, such as cattle, and non-ruminant animals, such as pigs, can be distinguished. The authors use this phenomenon to investigate Late Neolithic pig exploitati

Reference 15 - 0.13% Coverage

¶378: .

Dating the Neolithic of South India: new radiometric evidence for key economic, social and

Reference 16 - 0.07% Coverage

¶431:

Case studies in archaeological predictive modellin

Reference 17 - 0.05% Coverage

¶435:

Analytical Chemistry in Archaeology

Reference 18 - 0.32% Coverage

¶564: .

Moving on: the contribution of isotope studies to the early Neolithic of Central Europ¶565: e

Stable isotope analysis is a new, not-so-secret weapon which promises much in mapping population movement on a regional and local scale. Lini

Reference 19 - 0.29% Coverage

¶569: ? The author gathered up the current evidence for radiocarbon-dated first use of cereals, distinguishing between dates from charcoal in contexts with cereals, and dates from the charred grains themselves. Th

<Internals\\Antiquity 2008 abstracts> - § 20 references coded [7.31% Coverage]

Reference 1 - 0.17% Coverage

¶10: Using pyrolysis-gas chromatography/mass spectrometry and Fourier transform infrared spectroscopy

Reference 2 - 0.13% Coverage

¶24: Using a new approach that combines high-quality coring with AMS dating

Reference 3 - 0.09% Coverage

¶26: including direct scientific analysis of Maya Blue

Reference 4 - 0.64% Coverage

¶76: this research team has compared the distribution of rainfall with the distribution of Y-chromosome haplogroups. The extended families signalled by J1 and J2 haplogroups seem to have had different destinies in the era of agro-pastoralist experiment: J2 were the agricultural innovators who followed the rainfall, while J1 remained largely with their flocks.

Reference 5 - 0.07% Coverage

¶77: Isotopic signatures and hereditary traits

Reference 6 - 0.40% Coverage

¶78: The isotope signatures of strontium, oxygen and carbon, which gave information on diet and childhood region, showed up three groups which correlated with hereditary traits (derived previously from the analysis of the teeth)

Reference 7 - 0.17% Coverage

¶78: The variations of one type of isotope signature with another suggested subtle interpretations

Reference 8 - 0.18% Coverage

¶101: stable isotopes and grave goods compared

¶102: In this paper the authors investigate isotopic signatures

Reference 9 - 0.07% Coverage

¶105: Visualisation of LiDAR terrain models

Reference 10 - 0.31% Coverage

¶106: Here the author shows how the LiDAR picture can be enhanced so that features picked up by illumination from different directions can be combined in one comprehensive survey.

Reference 11 - 0.30% Coverage

¶140: Isotope evidence for the diet of the Neanderthal type specimen

¶141: Stable isotopes extracted from two hominins and a range of animals from the original Neanderthal site

Reference 12 - 0.19% Coverage

¶163: Direct dating of pottery from its organic residues: new precision using compound-specific carbon isotopes

Reference 13 - 0.61% Coverage

¶164: Techniques for identifying organic residues in pottery have been refined over the years by Professor Evershed and his colleagues. Here they address the problem of radiocarbon dating these residues by accelerator mass spectrometry (AMS) which in turn dates the use of the pot. Fatty acids from carcass and dairy products cooked in the pot

Reference 14 - 0.38% Coverage

¶164: and then dated by AMS. The results were very consistent and gave an excellent match to the dendrochronological date of the trackway. The method has wide potential for the precise dating of pottery use on sites.¶165:

Reference 15 - 0.23% Coverage

¶167: Stereo analysis, DEM extraction and orthorectification of CORONA satellite imagery: archaeological applications from the Near East

Reference 16 - 0.99% Coverage

¶168: Here the authors use new procedures to extend the competence and revelations of CORONA even further. Stereo pairs derived from images taken from fore and aft of the satellite give three dimensional images of landscapes and even individual sites. Techniques of modelling and rectification restore the sites to their original shape without recourse to survey on the ground – in many cases no longer possible since the sites have been buried, inundated or erased. The ingenuity shown here indicates that results from CORONA are only going to get better

Reference 17 - 0.20% Coverage

¶215: The bitumen was tracked to a source 40km away, using gas chromatography-mass spectrometry and carbon isotopes.¶216:

Reference 18 - 1.35% Coverage

¶239: The authors raise spatial analysis to a new level of sophistication – and insight – in proposing a mathematical model of 'imperfect optimisation' to describe maritime networks. This model encodes, metaphorically, the notion of gravitational attraction between objects in space. The space studied here is the southern Aegean in the Middle Bronze Age, and the objects are the 34 main sites we

know about. The ‘gravitation’ in this case is a balance of social forces, expressed by networks with settlements of particular sizes and links of particular strengths. The model can be tweaked by giving different relative importance to the cultivation of local resources or to trade, and to show what happens when a member of the network suddenly disappears

Reference 19 - 0.15% Coverage

¶241: Here the authors use stable isotope analysis to show what form that co-existence took

Reference 20 - 0.68% Coverage

¶243: The authors here offer an example from the frontiers of the art: the application of a package of remote sensing procedures not only designed to locate sites but to model the valley deposits which contain and cover them. The variation in success of different methods in different deposits offers a guide to the design of evaluation projects on sand and gravel terrain everywhere.¶244:

<Internals\\Antiquity 2009 abstracts> - § 22 references coded [3.47% Coverage]

Reference 1 - 0.10% Coverage

¶6: together with the precise radiocarbon dating that is now possible

Reference 2 - 0.04% Coverage

¶19: based on a Bayesian model

Reference 3 - 0.10% Coverage

¶20: based mainly on the Bayesian modelling of 75 radiocarbon dates

Reference 4 - 0.08% Coverage

¶62: Case studies in archaeological predictive modelling

Reference 5 - 0.39% Coverage

¶105: The authors show that while chemical composition can relate to vessel type, it is a combination of chemical compositions with strontium and neodymium isotope ratios that is most likely to lead to (a geological) provenance for its manufacture

Reference 6 - 0.05% Coverage

¶107: just using DNA and AMS dating

Reference 7 - 0.46% Coverage

¶109: The authors show how sites in upland Hawai‘i may be dated using uranium series radiogenic measurements on coral. The sites lie in a quarry, inland and at high altitude, with little carboniferous material around, and radiocarbon dating is anyway problematic here for the first millennium.

Reference 8 - 0.09% Coverage

¶119: the development of radiocarbon dating by Willard Libby.

Reference 9 - 0.05% Coverage

¶138: Magnetometry for archaeologists

Reference 10 - 0.06% Coverage

¶182: Thus the perils of relying only on DNA –

Reference 11 - 0.13% Coverage

¶199: A Bayesian approach to dating agricultural terraces: a case from the Philippines

Reference 12 - 0.20% Coverage

¶200: Here the author uses a Bayesian model applied to radiocarbon dates to date the tiered rice fields of the northern Philippines

Reference 13 - 0.23% Coverage

¶263: Dating and examination of plaster floor sequences by micromorphology at a tell site in Greece shows when they were made and how they were composed

Reference 14 - 0.30% Coverage

¶267: Using microscopy and spectroscopy, the authors were able to distinguish ivories from extinct Pleistocene elephants, Asian elephants and, mostly, from African elephants of the savannah type.

Reference 15 - 0.19% Coverage

¶270: Carbon and nitrogen isotopes show a marked change in the diet of British pigs between the Neolithic and the Iron Age

Reference 16 - 0.05% Coverage

¶281: Aristophanes and stable isotopes

Reference 17 - 0.32% Coverage

¶282: Stable isotopes in skeletons indicate changes in diet, and a sample of humans from Classical Thebes showed an unexpected increase in nitrogen values – usually associated with increased access to protein

Reference 18 - 0.04% Coverage

¶286: stable isotopes and now DNA

Reference 19 - 0.29% Coverage

¶288: Chemical extraction revealed the presence of brominated derivatives of indigo and indirubin, and more detailed characterisation showed that it likely came from Hexaplex trunculus.

Reference 20 - 0.04% Coverage

¶289: Isotopes and individuals

Reference 21 - 0.04% Coverage

¶290: Stable isotopes get personal

Reference 22 - 0.20% Coverage

¶290: These results, while not so surprising historically, lend much increased confidence that isotope analysis can successfully read

<Internals\\Antiquity 2010 abstracts> - § 17 references coded [4.16% Coverage]

Reference 1 - 0.04% Coverage

¶5: Radiocarbon chronology

Reference 2 - 0.08% Coverage

¶6: using new high precision radiocarbon dates

Reference 3 - 0.27% Coverage

¶18: located by GPS, their hearths are located by fluxgate survey and sampled for radiocarbon dating, and the results displayed in layered maps on GIS

Reference 4 - 0.13% Coverage

¶20: a multidisciplinary project use a combination of scientific techniques

Reference 5 - 0.10% Coverage

¶25: Ground-penetrating radar for anthropological research

Reference 6 - 0.13% Coverage

¶26: After summarising some recent research applications of magnetic mapping

Reference 7 - 0.12% Coverage

¶29: An investigation of Etruscan cremations by Computed Tomography (CT)

Reference 8 - 0.75% Coverage

¶30: evaluate the results on 35 Etruscan cremations, finding that CT not only provides an excellent guide for micro-excavation, but allows the degree of fragmentation to be appreciated inside the pot and maps those metal objects that have corroded to a crust and do not survive excavation. They emphasise the value of the method in making a 'first resort' primary record especially in commercial archaeology.

Reference 9 - 0.20% Coverage

¶93: Radiocarbon dating the Iron Age in the Levant: a Bayesian model for six ceramic phases and six transitions

Reference 10 - 0.90% Coverage

¶94: The Bayesian model presented in this article is the first attempt to produce a chronological framework for the Iron Age in the Levant, using radiocarbon dating alone. The model derives from 339 determinations on 142 samples taken from 38 strata at 18 sites. The framework proposes six ceramic phases and six transitions which cover c. 400 years, between the late twelfth and mid eighth centuries BC. It furnishes us with a new scientific backbone for the history of Iron Age Levant.

Reference 11 - 0.07% Coverage

¶118: Huaqueros and remote sensing imagery

Reference 12 - 0.04% Coverage

¶154: new radiometric evidence

Reference 13 - 0.26% Coverage

¶155: Precision radiocarbon dating continues to bring historical order into key moments of social and economic change, such as the use of metals

Reference 14 - 0.37% Coverage

¶165: proved to be well enough preserved in the early twenty-first century for the full armoury of modern scientific investigation to give its occupants and contents new identity, new origins and a new date

Reference 15 - 0.59% Coverage

¶169: a scientific chronological framework can be created and contribute an independent voice to the historical debate. They also show that, if archaeology is to complement history, such a framework requires an especially rigorous application of precision, in context definition, data handling and Bayesian radiocarbon dating

Reference 16 - 0.06% Coverage

¶248: a micromorphological investigation

Reference 17 - 0.04% Coverage

¶249: Using micromorphology

<Internals\\Antiquity 2011 abstracts> - § 31 references coded [6.42% Coverage]

Reference 1 - 0.06% Coverage

¶10: here combined with the latest radiocarbon dates

Reference 2 - 0.04% Coverage

¶11: through isotopic investigations

Reference 3 - 0.11% Coverage

¶18: that's not the whole story, and once again micro-archaeology reveals the true balance

Reference 4 - 0.18% Coverage

¶37: European Middle and Upper Palaeolithic radiocarbon dates are often older than they look: problems with previous dates and some remedies

Reference 5 - 0.46% Coverage

¶38: a period that unfortunately lies near the limit of radiocarbon dating. This paper shows that as many as 70 per cent of the oldest radiocarbon dates in the literature may be too young, due to contamination by modern carbon. Future dates can be made more secure — and previous dates revised — using more refined methods of pre-treatment described here

Reference 6 - 0.50% Coverage

¶42: takes another step forward with this method of modelling lidar data. The usual form of presentation, hill shade, uses a point source to show up surface features. Sky-view factor simulates diffuse light by computing how much of the sky is visible from each point. The result is a greatly improved visibility — as shown here by its use on a test site of known topography in Slovenia.

Reference 7 - 0.04% Coverage

¶91: Strontium isotope investigation

Reference 8 - 0.12% Coverage

¶92: strontium isotope analysis once again demonstrates its ability to eavesdrop on a community

Reference 9 - 0.19% Coverage

¶100: brings to bear archaeological and DNA evidence to emphasise the continuing role of hunter-gatherers in the later prehistory of Southeast Asia.

Reference 10 - 0.23% Coverage

¶108: shows how pollen and oribatid mites recovered from the small lake of Marcacocha provide a detailed proxy record of agro-pastoralism over the last 4200 years in the central Andes.

Reference 11 - 0.37% Coverage

¶110: Both were drawn from radiocarbon dates, the first of pottery, the second of bone. The authors cut the Gordian Knot by showing the earlier dates to be unreliable — but their study has implications way beyond Thailand. The direct dating of pottery, it seems, is full of pitfalls…¶111:

Reference 12 - 0.05% Coverage

¶121: Isotopes and impact: a cautionary tale

Reference 13 - 1.49% Coverage

¶122: There can be no doubt that isotopic studies have made a huge contribution to archaeology in recent years, so much so that isotope archaeology is now seen as an essential subdiscipline of archaeology in much the same way as isotope geochemistry is a key subdiscipline of geochemistry.

Ignoring for current purposes the contribution made by the measurement of a particular radioactive isotope of carbon (14C) since 1950, we can date the beginnings of isotope archaeology to the mid 1960s with the first measurements of lead isotopes in archaeological metals and slags by Brill and Wampler (1965, 1967). This was followed by carbon stable isotopes in human bone collagen in the late 1970s, building on previous work measuring σ13C in archaeological bone for radiocarbon determinations (Vogel & Van der Merwe 1977; Van der Merwe & Vogel 1978). Other isotopes followed rapidly, such as nitrogen, oxygen, sulphur and hydrogen for archaeological, palaeoecological or palaeoclimatological purposes and, more recently, the heavier radiogenic isotopes of strontium and neodymium for determining the provenance of organic and inorganic materials

Reference 14 - 0.30% Coverage

¶160: Radiocarbon dating of 32 stratigraphic samples aided by Bayesian analysis has allowed the author to produce a high precision chronology for the construction and development of a continental Neolithic long barrow for the first time

Reference 15 - 0.23% Coverage

¶176: the argument for infant sacrifice depends largely on a skewed age profile, and age is not easy to determine. The authors approach this problem with a battery of new techniques

Reference 16 - 0.07% Coverage

¶194: the authors mobilise their ingenious mathematical model

Reference 17 - 0.58% Coverage

¶196: Microstratigraphy — the sequencing of detailed biological signals on site — is an important new approach being developed in the Çatalhöyük project. Here the authors show how microscopic recording of the strata and content of widespread middens on the tell are revealing daily activities and the selective employment of plants in houses and as fuel. Here we continue to witness a major advance in the practice of archaeological investigation.

Reference 18 - 0.09% Coverage

¶234: is notoriously hard to date, being almost out of reach of radiocarbon.

Reference 19 - 0.05% Coverage

¶234: by dating humanly-modified material,

Reference 20 - 0.27% Coverage

¶236: A preliminary AMS radiocarbon date on associated faunal remains from the ochre-stained, galena speckled burial layer yielded a date of 15700 BP, while a hearth directly above the burial is dated to 15 100 BP

Reference 21 - 0.20% Coverage

¶238: Following a constructive bouleversement, the authors recommend a new chronometric foundation based on chains of evidence anchored by radiocarbon dates.

Reference 22 - 0.09% Coverage

¶239: securing the age of the Qurta petroglyphs (Egypt) through OSL dating¶240:

Reference 23 - 0.23% Coverage

¶240: The method used was optically stimulated luminescence (OSL) applied to deposits of wind-blown sediment covering the images. This gave a minimum age of ~15 000 calendar years

Reference 24 - 0.04% Coverage

¶242: supported by 19 radiocarbon dates

Reference 25 - 0.06% Coverage

¶246: with a rich sequence from 1300 BC to AD 800.

Reference 26 - 0.02% Coverage

¶247: isotope evidence

Reference 27 - 0.03% Coverage

¶248: use isotope analysis

Reference 28 - 0.18% Coverage

¶260: Using analysis of the residues trapped in the walls of these ‘kitchen blenders’ and comparing them with Iron Age and Roman cooking pots

Reference 29 - 0.02% Coverage

¶269: Proteomics and

Reference 30 - 0.12% Coverage

¶270: Identifying animals to species from relict proteins is a powerful new archaeological tool

Reference 31 - 0.02% Coverage

¶301: a methodology

<Internals\\Antiquity 2012 abstracts> - § 25 references coded [6.47% Coverage]

Reference 1 - 0.29% Coverage

¶20: These acts of devotion have now been accurately dated, thanks to Bayesian analyses of the contemporary stratigraphic sequence on the neighbouring islet of Dhaskalio

Reference 2 - 0.06% Coverage

¶58: Dated by AMS to c. 9400–8400 cal BP

Reference 3 - 0.03% Coverage

¶60: radiocarbon dating

Reference 4 - 0.16% Coverage

¶72: The cumulative power of botanical and chemical analysis is demonstrated here by our authors

Reference 5 - 0.11% Coverage

¶77: Spatial methods for analysing large-scale artefact inventories

Reference 6 - 0.71% Coverage

¶78: shows how distribution patterns can be validated, and sample bias minimised, through comparison with maps of known populations and by presenting the distributions more sharply by risk surface analysis. This not only endorses the routine recording of surface finds currently undertaken in every country, but opens the door to new social and economic interpretations through methods of singular power.

Reference 7 - 0.09% Coverage

¶79: as revealed by social network graphical analysis¶80:

Reference 8 - 0.35% Coverage

¶80: The quantity of obsidian received from different sources was calculated for 121 sites and the network analysis showed how the relative abundance of material from different sources shifted over time.

Reference 9 - 0.24% Coverage

¶136: Chemical analysis of the stunning Muisca metalwork shows that the alloys of copper and gold were especially composed for each offering

Reference 10 - 0.07% Coverage

¶137: Watchful realms: integrating GIS analysis

Reference 11 - 0.35% Coverage

¶138: Cost surface analysis predicts the easiest routes and viewshed analysis the territory visible from a staging point or destination. Applying these GIS techniques to the Buenavista Valley Corridor

Reference 12 - 0.24% Coverage

¶140: through the application of some highly ingenious dendrochronology our authors have been able to date the break-ins with some precision

Reference 13 - 0.19% Coverage

¶145: A new interpretative approach to the chemistry of copper-alloy objects: source, recycling and technology

Reference 14 - 1.13% Coverage

¶146: The metal composition of bronze alloys has been routinely examined as a means of inferring the source of the ore. But bronze is recycled, and the quantity of some components, such as arsenic, is depleted every time the alloy is melted down. Since the Early Bronze Age of the British Isles was largely supplied from a single mine on Ross Island, Co. Kerry, tracking arsenic content shows the number of re-melts and this gives the object a biography and a social context. Applying this ingenious new procedure to their large database, the authors also winkle out other sources of supply and new insights about the technology involved.

Reference 15 - 0.18% Coverage

¶147: Synchronising radiocarbon dating and the Egyptian historical chronology by improved sample selection

Reference 16 - 0.60% Coverage

¶148: But radiocarbon dates have only fulfilled expectations 66 per cent of the time. So why haven&t the two types of dating made a better match? The authors provide a dozen excellent reasons, which will sound the alarm among researchers well beyond Dynastic Egypt.

¶149: Three-dimensional recording of archaeological remains in the Altai Mountains

Reference 17 - 0.28% Coverage

¶150: Ghent University archaeologists have developed a simple and cost effective method for the rapid 3D imaging of rock art, standing stelae and surface monuments

Reference 18 - 0.12% Coverage

¶181: anchored in time by the application of Bayesian radiocarbon modelling

Reference 19 - 0.16% Coverage

¶191: were radiocarbon dated and further examined using stable isotope analysis on the human teeth

Reference 20 - 0.08% Coverage

¶193: the judicious application of phosphate analysis

Reference 21 - 0.15% Coverage

¶195: Using stratigraphic and taphonomic reasoning to decide which lines were contemporary

Reference 22 - 0.20% Coverage

¶202: Macrofractures on bone-tipped arrows: analysis of hunter-gatherer arrows in the Fourie collection from Namibia

Reference 23 - 0.11% Coverage

¶206: Bayes versus pragmatism: a debate about dating Hawaiian temples

Reference 24 - 0.50% Coverage

¶207: This important discussion about the use of radiocarbon to set up a narrative of temple construction on Hawai‘i arises from a recent paper published in Antiquity (2011: 927–41). It compares Bayesian and non-Bayesian solutions, and has implications that reach far beyond the Pacific.

Reference 25 - 0.07% Coverage

¶208: Hawaiian temples and Bayesian chronology

<Internals\\Antiquity 2013 abstracts> - § 34 references coded [7.23% Coverage]

Reference 1 - 0.27% Coverage

¶14: Their method involved the measurement of three sound levels of speech at various distances from the plaza, giving us an easy-to-use mode of on-site investigation, which will surely win wide application.

Reference 2 - 0.03% Coverage

¶16: Radiocarbon dates on

Reference 3 - 0.09% Coverage

¶19: Stable isotopes and diet: their contribution to Romano-British research

Reference 4 - 0.04% Coverage

¶20: The study of stable isotopes

Reference 5 - 0.64% Coverage

¶20: While samples from the bones report an average of diet over the years leading up to an individual's death, carbon and nitrogen isotope signatures taken from the teeth may have a biographical element—capturing those childhood dinners. In this way migrants have been detected—as in the likely presence of Africans in Roman York. While not unexpected, these results show the increasing power of stable isotopes to comment on populations subject to demographic pressures of every kind.

Reference 6 - 0.03% Coverage

¶22: biological analyses

Reference 7 - 0.02% Coverage

¶25: residue analysis

Reference 8 - 0.24% Coverage

¶26: use a combination of lipid biomarker and bulk and single-compound carbon isotope analysis to indicate the origin of the residues in these vessels.

¶27: Luminescence dating of brick stupas

Reference 9 - 0.78% Coverage

¶28: Since arguments for economic and political change depend on accurate dating, and since the stupas are largely composed of brick, the authors here assess the potential for dating building sequences by applying optically stimulated luminescence to brick fabric. As so often, good scientific dates obtained from specimens must be tempered by their context: brick may be replaced or recycled during repair and embellishment. Nevertheless, the method promises important insights by distinguishing different episodes of building, and so writing 'biographies' for stupas with different functions.

Reference 10 - 0.06% Coverage

¶78: : first AMS 14C dates of wooden artefacts

Reference 11 - 0.27% Coverage

¶79: are here dated by AMS and found to belong to the Aeneolithic and Bronze Age. In spite of a long sojourn in museums, and conservation with various chemicals, the dates obtained were consistent and reliable.

Reference 12 - 0.09% Coverage

¶89: The authors attack the problem using luminescence applied to pottery

Reference 13 - 0.13% Coverage

¶96: Reconsideration of the Copper Age chronology of the eastern Carpathian Basin: a Bayesian approach

Reference 14 - 0.46% Coverage

¶97: Understanding the prehistoric narrative of a region requires good dating, and in recent years good dating has moved increasingly from models drawn from types of artefacts to a framework provided by radiocarbon sequences. This in turn is bringing a change in the way events are described: from broad cultural histories to a network of local sequences

Reference 15 - 0.06% Coverage

¶97: In this new chronology based on radiocarbon

Reference 16 - 0.13% Coverage

¶131: but micromorphology and phytolith analysis, when used together, can provide secure interpretations.

Reference 17 - 0.15% Coverage

¶132: DNA evidence for multiple introductions of barley into Europe following dispersed domestications in Western Asia

Reference 18 - 0.28% Coverage

¶133: This study of barley DNA shows that the domesticated barley grown in Neolithic Europe falls into three separate types (groups A, B and C), each of which may have had a separate centre of origin in south-west Asia

Reference 19 - 0.20% Coverage

¶135: This study describes the architecture and function of these structures and presents the first optically stimulated luminescence ages for two of them

Reference 20 - 0.14% Coverage

¶137: Only recently, however, has AMS dating confirmed that some of the finds go back as far as the Neolithic.

Reference 21 - 0.34% Coverage

¶151: The systematic analysis of the graves and their occupants is carried out within a comparative framework which highlights the variable composition and distinguishing features of the different types of graveyard that are encountered within a colonial context

Reference 22 - 0.03% Coverage

¶154: A Bayesian chronology

Reference 23 - 0.30% Coverage

¶155: A number of radiocarbon dates are available, however, and in this study they have been combined with the limited stratigraphic information and with datable imports to provide a Bayesian chronology of the site and its structures.

Reference 24 - 0.21% Coverage

¶157: In a recent study, Hardy et al. (2012) identified compounds from two non-nutritional plants, yarrow and camomile, in a sample of Neanderthal dental calculus

Reference 25 - 0.27% Coverage

¶159: Recent analysis of fish remains from sites in Timor-Leste and on islands off the coast of Papua New Guinea have been held to include deep sea species that must have been obtained through pelagic fishing

Reference 26 - 0.09% Coverage

¶195: Greenland Isotope Project: diet in Norse Greenland AD 1000–AD 1450

Reference 27 - 0.07% Coverage

¶203: Large scale flotation of charred deposits from hearths

Reference 28 - 0.07% Coverage

¶206: Early seventh-millennium AMS dates from domestic seeds

Reference 29 - 0.15% Coverage

¶214: increasing temporal resolution in the isotope evidence

¶215: Stable isotope analysis has provided crucial new insights

Reference 30 - 0.21% Coverage

¶215: suggest that this general pattern may mask significant subtle detail. Analysis of juvenile dentine reveals the consumption of marine foods on an occasional basis

Reference 31 - 0.13% Coverage

¶215: This isotopic evidence is consistent with the presence of marine food debris in contemporary middens.

Reference 32 - 0.22% Coverage

¶217: To resolve that question, 10 grains of broomcorn millet were directly dated by AMS, taking advantage of the increasing ability to date smaller and smaller samples.

Reference 33 - 0.08% Coverage

¶230: Calculating ceramic vessel volume: an assessment of methods

Reference 34 - 0.93% Coverage

¶231: Calculating the volume of ceramic vessels found whole or in fragments on archaeological sites is a key analytical endeavour that can have implications for economic and social activity, including

storage and feasting. Established methods for estimating volumes are mostly based on the assumption that vessel shapes approximate to a circular form in plan-view. This new study shows that such an assumption may not be warranted and that methods that assume circularity produce less accurate volumetric estimates than approaches which accept that a less regular elliptical shape may be closer to reality. Statistical analysis allows the accuracy of the different methods to be compared and evaluated.

<Internals\\Antiquity 2014 abstracts> - § 38 references coded [9.89% Coverage]

Reference 1 - 0.25% Coverage

¶6: Laboratory examination reveals the techniques used in its manufacture and underlines the skill of its maker. AMS dates and Bayesian modelling suggest a cultural association with the Early Aurignacian period

Reference 2 - 0.22% Coverage

¶14: A re-examination of the chronology, assisted by new AMS determinations from Neolithic sites in Middle Egypt, has charted the detailed development of these new kinds of society.

Reference 3 - 0.15% Coverage

¶16: presents the results of carbon isotope analysis to identify and explain changes in subsistence over time and between sites

Reference 4 - 0.18% Coverage

¶26: gives the first conclusive analysis of the skeletal remains of these animals, involving osteological investigation and strontium isotope analysis.

Reference 5 - 0.06% Coverage

¶28: reports the AMS dating of four of these early khipus

Reference 6 - 0.09% Coverage

¶31: Making time work: sampling floodplain artefact frequencies and populations

Reference 7 - 0.46% Coverage

¶36: In this debate feature Paolo Cherubini and colleagues argue that the olive tree dating (which supports the older chronology) is unreliable on a number of grounds. There follows a response from the authors of that dating, and comments from other specialists, with a closing reply from Cherubini and his team.

¶37: The olive branch chronology stands irrespective of tree-ring counting

Reference 8 - 1.06% Coverage

¶38: Cherubini et al. (above) question the reliability of identifying annual growth increments in olive trees, and therefore voice caution against the result of the wiggle-match of the four sections of a branch of an olive tree to the 14C calibration curve. Friedrich et al. (2006) were well aware of the problematic density structure of olive trees, and therefore assigned rather wide error margins of up to 50 per cent to the ring count. This still resulted in a late seventeenth century BC youngest date for the modelled age range of the outermost section of wood (95.4% probability). One can even remove any constraint from ring counting altogether and model the four radial sections as a simple ordered sequence, in which only the relative position is used as prior information, in other words that outer sections are younger than inner ones in a radial section.

Reference 9 - 0.06% Coverage

¶39: Radiocarbon and the date of the Thera eruption

Reference 10 - 0.37% Coverage

¶40: The criticism of the date of the olive tree branch from Thera offered by Cherubini et al. (above) has to be fully supported. The attribution of the branch in question to the late part of the seventeenth century BC is by itself not unexpected, as most of the other radiocarbon dates of short-lived samples

Reference 11 - 0.41% Coverage

¶40: fall into the second half of that century. The attempt to produce a wiggle-match drawn from a succession of non-existent tree-rings in this branch, and to fit such a result into the general calibration curve to give the illusion of precision, however, does not pass the scientific test. Olive trees do not develop annual tree-rings.

Reference 12 - 0.27% Coverage

¶40: The other issue in this scientific discussion is that dating the Thera eruption by 14C is much more problematic than is acknowledged by scientists, since it clashes distinctly with historical and archaeological dating.

Reference 13 - 0.07% Coverage

¶41: comparing radiocarbon results of the Santorini eruption¶42:

Reference 14 - 0.11% Coverage

¶42: Cherubini et al. (above) strongly attack the radiocarbon dating by Friedrich et al. (2006

Reference 15 - 0.13% Coverage

¶42: However, they ignore other crucial publications with radiocarbon dates concerning the Santorini eruption.

Reference 16 - 0.02% Coverage

¶45: A disastrous date

Reference 17 - 0.20% Coverage

¶46: Thus, the single piece of evidence that might have persuaded some archaeologists to support the 'high' 1613±13 BC date for the Theran eruption is hors de combat

Reference 18 - 0.05% Coverage

¶47: The olive tree-ring problematic dating

Reference 19 - 0.03% Coverage

¶88: Stable isotope analysis

Reference 20 - 0.22% Coverage

¶106: Quantitative analysis of cod remains from London provides revealing insight into the changing patterns of supply that can be related to known historical events and circumstances

Reference 21 - 0.05% Coverage

¶111: Prehistory by Bayesian phylogenetics?

Reference 22 - 1.00% Coverage

¶112: Bayesian analysis has come to be widely used in archaeological chronologies and has been a regular feature of recent articles in Antiquity. Its application to linguistic prehistory, however, has proved controversial, in particular on the issue of Indo-European origins. Dating and mapping language distributions back into prehistory has an inevitable fascination, but has remained fraught with difficulty. This review of recent studies highlights the potential of increasingly sophisticated Bayesian phylogenetic models, while also identifying areas of concern, and ways in which the models might be refined to address them. Notwithstanding these remaining limitations, in the Indo-European case the results from Bayesian phylogenetics continue to reinforce the argument for an Anatolian rather than a Steppe origin.

Reference 23 - 0.12% Coverage

¶115: New applications of photogrammetry and reflectance transformation imaging to an Easter Island statue

Reference 24 - 0.23% Coverage

¶116: New methods of visualisation offer the potential for a more detailed record of archaeological objects and the ability to create virtual 3D models that can be made widely available online

Reference 25 - 0.12% Coverage

¶116: Of particular importance are the details revealed of the petroglyphs that decorate its surface.¶117:

Reference 26 - 0.07% Coverage

¶186: was analysed by instrumental neutron activation analysis.

Reference 27 - 0.09% Coverage

¶197: The data explosion: tackling the taboo of automatic feature recognition

Reference 28 - 0.13% Coverage

¶198: The increasing availability of multi-dimensional remote-sensing data covering large geographical areas

Reference 29 - 0.65% Coverage

¶198: To take advantage of this explosion of data, however, a paradigm change is needed in the methods used routinely to evaluate aerial imagery and interpret archaeological evidence. Central to this is a fuller engagement with computer-aided methods of feature detection as a viable way to analyse airborne and satellite data. Embracing the new generation of vast datasets requires reassessment of established workflows and greater understanding of the different types of information that may be generated using computer-aided methods.¶199:

Reference 30 - 0.14% Coverage

¶207: The argument is supported by a series of 14C and OSL dates, and by technical analysis of the stone tool assemblage.

Reference 31 - 0.13% Coverage

¶229: Ceramic petrography: the interpretation of archaeological pottery and related artefacts in thin section.

Reference 32 - 0.75% Coverage

¶250: Archaeologists have long sought appropriate ways to describe the duration and floruit of archaeological cultures in statistical terms. Thus far, chronological reasoning has been largely reliant on typological sequences. Using summed probability distributions, the authors here compare radiocarbon dates for a series of European Neolithic cultures with their generally accepted 'standard' date ranges and with the greater precision afforded by dendrochronology, where that is available. The resulting analysis gives a new and more accurate description of the duration and intensity of European Neolithic cultures.

Reference 33 - 0.29% Coverage

¶258: The postglacial recolonisation of Finland was tracked through space and time using radiocarbon dates and stone artefact distributions to provide a robust framework of evidence against which the genetic simulations could be compared.¶259:

Reference 34 - 0.29% Coverage

¶260: The use of diatom analysis to establish drowning as the cause of death adds a new weapon into the armoury of forensic archaeology.

¶261: Dating the Thera (Santorini) eruption: archaeological and scientific evidence supporting a high chronology

Reference 35 - 0.23% Coverage

¶262: the authors respond to those recent contributions, citing evidence that closes the gap between the conclusions offered by previous typological, stratigraphic and radiometric dating techniques

Reference 36 - 0.23% Coverage

¶264: Neutron Activation Analysis (NAA) has enabled the source area of this special ceramic to be located in a geologically highly localised and geochemically distinctive area of western Cyprus

Reference 37 - 0.06% Coverage

¶274: that can be traced through petrographic analysis

Reference 38 - 0.93% Coverage

¶278: Attempts to quantify the process by constructing spatio-temporal models have given a diversity of results. In this paper, a new approach to the problem of modelling is advanced. Data from over 300 Neolithic sites from Asia Minor and Europe are used to produce a global picture of the emergence of farming across Europe which also allows for variable local conditions. Particular attention is paid to coastal enhancement: the more rapid advance of the Neolithic along coasts and rivers, as compared with inland or terrestrial domains. The key outcome of this model is hence to

confirm the importance of waterways and coastal mobilities in the spread of farming in the early Neolithic, and to establish the extent to which this importance varied regionally.

<Internals\\Antiquity 2015 abstracts> - § 36 references coded [6.43% Coverage]

Reference 1 - 0.08% Coverage

¶23: Fragmenting times: interpreting a Bayesian chronology for the Late Neolithic occupation

Reference 2 - 0.13% Coverage

¶24: Bayesian analysis of 56 AMS radiocarbon dates from these layers allow the date and pace of these changes to be established in detail

Reference 3 - 0.19% Coverage

¶26: challenges that view; combining carbon and nitrogen isotope and lipid analysis, the authors argue that pottery was used selectively for storing or processing valued exchange commodities such as fish oil

Reference 4 - 0.04% Coverage

¶28: Using trace element and lead isotope analysis

Reference 5 - 0.13% Coverage

¶34: present results from a project comparing isotopes from Bronze Age artefacts with signatures from known Bronze Age mining localities.

Reference 6 - 0.17% Coverage

¶38: Yet whereas their work is an attempt at synthesis, not analysis, Ling and Stos-Gale have a stab at analysis, of the lead isotope variety. The question is how well they succeed.

Reference 7 - 0.17% Coverage

¶68: Using radiocarbon dating, X-ray diffraction and stratigraphic and chronological placement within the archaeological record, the authors place the ‘old shell’ effect into context

Reference 8 - 0.05% Coverage

¶76: Using compositional analysis of glass beads, the

Reference 9 - 0.09% Coverage

¶78: have produced new, direct AMS dates from burials, and analytical data from cultural materials

Reference 10 - 0.06% Coverage

¶83: integrating digital and 3D technologies at the trowel's edge

Reference 11 - 0.12% Coverage

¶84: Here, members of the team reflect on the use of digital technology on-site to promote a reflexive engagement with the archaeology.

Reference 12 - 0.14% Coverage

¶87: Flavouring food: the contribution of chimpanzee behaviour to the understanding of Neanderthal calculus composition and plant use in Neanderthal diets

Reference 13 - 0.11% Coverage

¶88: In a recent study, Hardy et al. (2012) examined ten samples of dental calculus from five Neanderthal individuals

Reference 14 - 0.34% Coverage

¶88: (occupation dates between 47300 and 50600 BP). In calculus from a young adult, they discovered the presence of compounds (dihydroazulene, chamazulene and methylherniarin) that occur in yarrow (Achillea millefolium) and camomile (Matriarca chamomilla). In preference to other hypotheses, the authors proposed that these two plants were used for self-medication

Reference 15 - 0.31% Coverage

¶112: Radiocarbon assays have been used to argue that the ‘black series’ charcoal drawings date to the Aurignacian period, more than 20 000 years earlier than traditional stylistic models would suggest. This paper questions the validity of the radiometric dating and cautions against reliance solely on the date of the charcoal.

Reference 16 - 0.19% Coverage

¶118: X-ray fluorescence analyses of the Hisarcık ores revealed the presence of minerals suitable for the production of complex copper alloys, and sufficient tin and arsenic content to produce tin-bronze.

Reference 17 - 0.12% Coverage

¶129: Characterising copper-based metals in Britain in the first millennium AD: a preliminary quantification of metal flow and recycling

Reference 18 - 0.46% Coverage

¶130: They have generally failed, however, to suggest a way of observing and quantifying this phenomenon. Here the authors propose a new methodology to rectify this. A large new database of chemical analyses of British copper alloys dating from the late Iron Age to the early medieval period demonstrates the potential of their approach; it shows that significant and measureable changes occur in metal circulation at the beginning of the first century AD and in the early Saxon period. ¶131:

Reference 19 - 0.26% Coverage

¶167: This comparative study of equine palaeopathology addresses the problem by analysing wild and domestic horses used for traction or riding. Osteological changes to the skull appear to be the result of mechanical and physiological stress from the use of horses for transport

Reference 20 - 0.17% Coverage

¶169: A new study using portable X-ray fluorescence refutes this ill-founded interpretation and reveals a scene characteristic of Barrier Canyon style, featuring an anthropomorphic figure.

Reference 21 - 0.04% Coverage

¶175: Analysis of aDNA has demonstrated that

Reference 22 - 0.24% Coverage

¶210: which employs 3D computer visualisation to test light levels in a variety of different architectural structures and weather conditions. The results reveal how opportunities for using domestic space for specific tasks changed at particular times of day

Reference 23 - 0.19% Coverage

¶212: Phytolith assemblages from three Neolithic sites in the Lower Yangtze valley reveal that in early rice fields the emphasis was on drainage to limit the amount of water and force the rice to produce seed

Reference 24 - 0.05% Coverage

¶213: The end of the affair: formal chronological modelling

Reference 25 - 0.31% Coverage

¶214: Bayesian statistical frameworks have been used to calculate explicit, quantified estimates for site chronologies, and have been especially useful for resolving the complex probability distributions of calibrated radiocarbon dates to the level of individual prehistoric lifetimes and generations. Here the technique is applied

Reference 26 - 0.10% Coverage

¶214: Modelled date estimates place the end of the site in the second half of the forty-sixth century cal BC.

Reference 27 - 0.04% Coverage

¶214:

D¶215: igital imaging and prehistoric imagery

Reference 28 - 0.14% Coverage

¶216: New analysis using Reflectance Transformation Imaging and photogrammetry has revealed evidence for previously unrecorded motifs, erasure and reworking

Reference 29 - 0.38% Coverage

¶218: Using lipid residue analysis, this paper identifies the preferential use of certain pottery types for the preparation of particular food groups and differential consumption of dairy and meat products between monumental and domestic areas of the site. Supported by the analysis of faunal remains, the results suggest seasonal feasting and perhaps organised culinary unification of a diverse community.¶219:

Reference 30 - 0.33% Coverage

¶222: Combining locational, hydrological and rainfall data with the archaeological evidence, this study of the moated mounds of the Khorat Plateau seeks to resolve the question through statistical analysis. The results suggest that water storage may have been the primary purpose of the moats, enabling communities to survive dry seasons and droughts.¶223:

Reference 31 - 0.07% Coverage

¶234: together with a new series of AMS radiocarbon determinations from key sites

Reference 32 - 0.21% Coverage

¶238: for the simple reason that archaeologists at that time were prone to sending small scattered fragments of charcoal to C14 laboratories without really trying to understand exactly how and where the charcoal originated.

Reference 33 - 0.26% Coverage

¶244: applying Bayesian analysis to large, third-generation sets of radiocarbon determinations. Three of my respondents agree not only with this proposition, but also with the results of the AMS dating of bone, shell and charcoal from the five prehistoric sites in question

Reference 34 - 0.13% Coverage

¶274: Radiocarbon assays show that the site was occupied across the Middle to Late Archaic period transition between 8000 and 6700 cal BP.

Reference 35 - 0.48% Coverage

¶296: . This paper offers an overview of this diluvian information landscape and aims to foster debate about its wider disciplinary impact. In particular, I would argue that its consequences: a) go well beyond the raw challenges of digital data archiving or manipulation and should reconfigure our analytical agendas; b) can legitimately be read for both utopian and dystopian disciplinary futures; and c) re-expose some enduring tensions between archaeological empiricism, comparison and theory-building.

Reference 36 - 0.13% Coverage

¶306: Finally, two have a scientific bent: collections of papers on bioarchaeology/population studies and archaeoastronomy respectively.

<Internals\\Antiquity 2016 abstracts> - § 62 references coded [10.82% Coverage]

Reference 1 - 0.18% Coverage

¶10: Geochemical analysis of material from the quarry distinguishes it from other basaltic rock sources in Israel, allowing stone tools from a variety of sites and dated contexts to be assigned a provenance

Reference 2 - 0.35% Coverage

¶14: Stable isotope analysis of human bone collagen from Late Neolithic and Copper Age cemeteries in eastern Hungary provides new insights into this question by exploring dietary changes during this key transitional period. Results show that diet did not change significantly over time, and there was no evidence that individuals of different sex or social status were consuming privileged diets

Reference 3 - 0.14% Coverage

¶16: The rich archaeological datasets from these sites may be further complemented by methods such as nitrogen isotope (δ15N) analysis of charred crop remains

Reference 4 - 0.13% Coverage

¶16: this method has been used to provide a unique insight into strategies of cultivation such as manuring on both a spatial and temporal scale.¶17:

Reference 5 - 0.05% Coverage

¶25: Weapons of war? Rapa Nui mata'a morphometric analyses

Reference 6 - 0.16% Coverage

¶26: Morphometric analysis shows, however, that mata'a were not specifically designed for interpersonal violence but were general purpose tools that may have been used for peaceful tasks

Reference 7 - 0.10% Coverage

¶29: A fragmented past: (re)constructing antiquity through 3D artefact modelling and customised structured light scanning

Reference 8 - 0.60% Coverage

¶30: Many archaeological objects are recovered as fragments, and 3D modelling offers enormous potential for the analysis and reconstruction of large assemblages. In particular, structured light scanning provides an accurate record of individual artefacts and can facilitate the identification of joins through details of breakage surfaces and overall morphology. The creation of 3D digital models has the further advantage of enabling the records to be accessed and manipulated remotely, obviating the need for prolonged access to the original materials in museums or repositories. Here, the authors detail the use of structured light scanning to produce a corpus of 3D models

Reference 9 - 0.05% Coverage

¶57: Neanderthals, trees and dental calculus: new evidence

Reference 10 - 0.22% Coverage

¶58: Analysis of dental calculus is increasingly important in archaeology, although the focus has hitherto been on dietary reconstruction. Non-edible material has, however, recently been extracted from the dental calculus of a Neanderthal population

Reference 11 - 0.35% Coverage

¶58: in the form of fibre and chemical compounds that indicate conifer wood. Associated dental wear confirms that the teeth were being used for non-dietary activities. These results highlight the importance of dental calculus as a source of wider biographical information, and demonstrate the need to include associated data within research, in particular tooth wear, to maximise this valuable resource.¶59:

Reference 12 - 0.13% Coverage

¶64: New radiocarbon dates and Bayesian analysis indicate that cremated remains were deposited over a period of around five centuries from c. 3000–2500 BC

Reference 13 - 0.59% Coverage

¶66: , and new analysis of metal composition enables long-distance networks to be identified. Primary circulation from source areas where copper was mined can be distinguished alongside the secondary circulation of alloy types with high proportions of tin-bronze or leaded tin-bronze. The relative presence of trace elements, depleted during recycling events, provides a proxy for the flow of metal between regions. The localised seasonal movements characteristic of these mobile steppe societies underlie some of these patterns, but the evidence also indicates more extensive transfers, including the direct movement of finished objects over considerable distances.

Reference 14 - 0.17% Coverage

¶68: Here, the HYDE 3.1 database of past population and land-use is used to offer insights into key aspects of Mauryan political geography through the locational analysis of the Ashokan edicts

Reference 15 - 0.34% Coverage

¶68: The known distribution of rock and pillar edicts across the subcontinent can be combined with HYDE 3.1 to generate predictive models for the location of undiscovered examples and to investigate the relationship between political economy and religious activities in an early state.

¶69: Roman bazaar or market economy? Explaining tableware distributions through computational modelling

Reference 16 - 0.12% Coverage

¶70: Agent-based computational modelling allows various such processes to be explored, and also identifies areas for further investigation.¶71:

Reference 17 - 0.03% Coverage

¶97: As radiocarbon dates were announced

Reference 18 - 0.28% Coverage

¶118: A combination of analyses indicated that these had been heated to 400–600°C, compatible with burning. Inspection of the sediment and hydroxyapatite also suggests combustion and degradation of the bone. The results provide new insight into Early Palaeolithic use of fire and its significance for human evolution.

Reference 19 - 0.09% Coverage

¶119: Modelling the diffusion of pottery technologies across Afro-Eurasia: emerging insights and future research

Reference 20 - 0.37% Coverage

¶120: Where did pottery first appear in the Old World? Statistical modelling of radiocarbon dates suggests that ceramic vessel technology had independent origins in two different hunter-gatherer societies. Regression models were used to estimate average rates of spread and geographic dispersal of the new technology. The models confirm independent origins in East Asia (c. 16000 cal BP) and North Africa (c. 12000 cal BP).

Reference 21 - 0.05% Coverage

¶121: new isotopic insights from Portugal's Atlantic coast

Reference 22 - 0.16% Coverage

¶122: For the past 15 years, a succession of stable isotope studies have documented the abrupt dietary transition from the Mesolithic to the Neolithic in Western and Northern Europe

Reference 23 - 0.04% Coverage

¶123: New information on Melides stable isotopes

Reference 24 - 0.17% Coverage

¶124: In 1994 we published the unexpected result of an extreme Mesolithic stable isotope signal from a Neolithic context (Lubell et al. 1994; Table 1). The sample, identified as Gruta de Lagar I,

Reference 25 - 0.13% Coverage

¶124: gave results consonant with our Neolithic samples from north of the Tagus River. Lagar I, on the other hand, had stable isotope values similar to

Reference 26 - 0.06% Coverage

¶129: Rome in the Bronze Age: late second-millennium BC radiocarbon dates

Reference 27 - 0.59% Coverage

¶132: The application of new analytical techniques to investigate chemical composition, however, is offering important new insights. The use of one such method (electron probe microanalysis) to study bronze artefacts from the Hanzhong basin in central China shows a level of diversity that implies much greater complexity in the extended landscape networks of the Bronze Age than was previously

thought. The ability to appreciate these finds from a new perspective allows progression beyond older, simplistic models, and demonstrates that the Hanzhong region held greater importance within the power structure of Bronze Age Central China than has previously been recognised

Reference 28 - 0.03% Coverage

¶133: new evidence from stable isotopes¶134:

Reference 29 - 0.11% Coverage

¶134: Isotope analysis of human hair offers new potential for studying individual mobility patterns within these communities

Reference 30 - 0.27% Coverage

¶134: (third to fourth centuries AD) reveal variations in diet during the last months of their lives. Millet and fish were important in summer and autumn, C3 plants and meat and dairy products at other times of year. The results indicate strong seasonal shifts in diet, and seasonal movement between different areas.

Reference 31 - 0.02% Coverage

¶137: Multispectral imaging

Reference 32 - 0.05% Coverage

¶138: Multispectral visual analysis has revealed new information

Reference 33 - 0.12% Coverage

¶142: Investigative conservation, high-resolution recording and metallographic analysis illuminate the form, function and use-life of the coulter.

Reference 34 - 0.12% Coverage

¶146: advances in genotyping have caused scholars to reconsider the extent of the devastation and to revise estimated mortality rates upwards

Reference 35 - 0.03% Coverage

¶148: Compositional analysis was performed

Reference 36 - 0.15% Coverage

¶174: New methods of whale bone identification will shed light on which species were previously present in the Mediterranean and thus on the probability of ancient whaling

Reference 37 - 0.05% Coverage

¶175: First chronometric results for ‘works of the old men’

Reference 38 - 0.16% Coverage

¶176: Optically stimulated luminescence (OSL) dating has provided the first absolute dates for the prehistoric stone arrangements known as ‘wheels’, found in Jordan's Black Desert region

Reference 39 - 0.06% Coverage

¶185: Isotopic provenancing of the Salme ship burials in Pre-Viking Age Estonia

Reference 40 - 0.08% Coverage

¶186: stable isotope analysis is consistent with that being the probable homeland of the crew.¶187:

Reference 41 - 0.07% Coverage

¶217: Micromorphological analysis of activity areas sealed by Vesuvius’ Avellino eruption

Reference 42 - 0.57% Coverage

¶232: Analysis of variables describing 71 sites revealed a spectrum extending between two distinct settlement types that can be regionally and chronologically situated. The very early ‘Anatolian village’ in the south-east exhibits multi-level organisation, reflected in concentrated residence and temporal stability; the younger (post 6000 BC) ‘Balkan village’ in the north-west represents a new model with less centralised control of space and a less permanent layout. Between these types is a transitional domain of more heterogeneous, and ever-changing settlement layouts, which is characterised as a ‘third space’ of hybridised traditions.¶233:

Reference 43 - 0.34% Coverage

¶234: By heating experimental bricks of different sizes, shapes and compositions to high temperatures, the minimum duration of an ancient conflagration can be calculated. The resulting equations were applied to bricks from the destruction of Tel Megiddo at the end of the Iron Age I, and indicate that the burning lasted a minimum of two to three hours: a much shorter period than expected.¶235:

Reference 44 - 0.16% Coverage

¶236: Why was pottery developed and adopted? Food residues on ceramic material from three sites in the Upper Great Lakes region of North America suggest that there is no single answer,

Reference 45 - 0.22% Coverage

¶240: Archaeobotanical analysis of various cereals, beans and other crops from these assemblages sheds light on the spread and adoption of these species for local agriculture. There is also early evidence for the trade of key commodities such as cotton

Reference 46 - 0.06% Coverage

¶242: obtained radiocarbon dates that facilitate new interpretations

Reference 47 - 0.03% Coverage

¶245: A GIS-based viewshed analysis

Reference 48 - 0.05% Coverage

¶253: The application of quick response (QR) codes in archaeology

Reference 49 - 0.06% Coverage

¶254: To mitigate these outcomes, quick response (QR) codes were used

Reference 50 - 0.06% Coverage

¶254: The QR codes were used to store important contextual information.

Reference 51 - 0.09% Coverage

¶254: We demonstrate the tool's potential by presenting an overview and critique of our use of QR codes

Reference 52 - 0.09% Coverage

¶256: Chemical traces of these plants had been detected in samples of dental calculus from Neanderthals

Reference 53 - 0.22% Coverage

¶256: along with traces of bitumen and wood smoke, as well as starch granules that showed evidence of roasting (Hardy et al. 2012). Subsequently, the presence of traces of resin and a piece of non-edible conifer wood were also identified from these samples

Reference 54 - 0.19% Coverage

¶260: A century ago, discussion of the chronology of Stonehenge relied on everyday language to describe the order in which the stones were put up; now it depends on Bayesian statistics applied to calibrated radiocarbon dates

Reference 55 - 0.10% Coverage

¶302: The first direct absolute dates for the exploitation of several summer crops by Indus populations are presented here

Reference 56 - 0.03% Coverage

¶310: Analysis of organic residues

Reference 57 - 0.05% Coverage

¶310: The analytical results are supported by textual evidence

Reference 58 - 0.05% Coverage

¶321: Exploring morphological bias in metal-detected finds

Reference 59 - 0.08% Coverage

¶323: Closing the seams: resolving frequently encountered issues in photogrammetric modelling

Reference 60 - 0.46% Coverage

¶324: Photogrammetry provides an accessible, cost-effective means of creating a high-resolution, digital 3D record of archaeological artefacts. The methodology has been widely adopted, but a number of issues remain, especially in relation to model variability, and to misalignments that result in gaps in the models generated. Two new approaches are presented here that have been shown to increase standardisation during data capture and processing routines. This ensures that models are seamless and quantitatively accurate.

Reference 61 - 0.91% Coverage

¶326: The recently concluded ‘People of the British Isles’ project (hereafter PoBI) combined large-scale, local DNA sampling with innovative data analysis to generate a survey of the genetic structure of Britain in unprecedented detail; the results were presented by Leslie and colleagues in 2015. Comparing clusters of genetic variation within Britain with DNA samples from Continental Europe, the study elucidated past immigration events via the identification and dating of historic admixture episodes (the interbreeding of two or more different population groups). Among its results, the study found “no clear genetic evidence of the Danish Viking occupation and control of a large part of

England, either in separate UK clusters in that region, or in estimated ancestry profiles", therefore positing "a relatively limited input of DNA from the Danish Vikings", with 'Danish Vikings' defined in the study, and thus in this article, as peoples migrating from Denmark to eastern England in the late ninth and early tenth centuries

Reference 62 - 0.08% Coverage

¶353: Delphi4Delphi: first results of the digital archaeology initiative for ancient Delphi, Greece

<Internals\\Antiquity 2017 abstracts> - § 72 references coded [8.41% Coverage]

Reference 1 - 0.15% Coverage

¶6: Combining studies of petrography with trace element composition and chaîne opératoire analysis, the authors present the first diachronic study of ceramic manufacture throughout the extended cultural history of Nubia

Reference 2 - 0.02% Coverage

¶11: An archaeoacoustic study

Reference 3 - 0.21% Coverage

¶12: A systematic, methodical approach has now been applied to measure the acoustic properties of the site, and to test earlier assertions. The results confirm some, but not all, prior observations, and demonstrate how a sound-based approach can contribute to an understanding of the archaeological context.

Reference 4 - 0.06% Coverage

¶16: Dendrochronological analysis of timbers from the grave chamber dates the burial to 583 BC

Reference 5 - 0.07% Coverage

¶18: Combining new scientific approaches with earlier observations and traditional archaeological analysis

Reference 6 - 0.07% Coverage

¶19: Polychromy in Africa Proconsularis: investigating Roman statues using X-ray fluorescence spectroscopy

Reference 7 - 0.07% Coverage

¶20: were examined using techniques including XRF analysis, and a variety of pigments were detected.

Reference 8 - 0.06% Coverage

¶26: Isotopic analysis of the teeth hints at a possible Scandinavian origin for the deceased

Reference 9 - 0.03% Coverage

¶31: New analysis of shavings from the object

Reference 10 - 0.05% Coverage

¶38: Geoarchaeology and radiocarbon chronology of Stone Age Northeast Asia.

Reference 11 - 0.09% Coverage

¶53: Great progress has been made in several domains, particularly palaeogenetics, which have revealed the complex ancestry of early Eurasians.

Reference 12 - 0.01% Coverage

¶55: predictive modelling

Reference 13 - 0.57% Coverage

¶65: nuclear physicist Hans Suess unveiled the first calibration curve for radiocarbon dates. The crucial paper, 'Bristlecone pine calibration of the radiocarbon time scale from 4100 B.C. to 1500 B.C.', pushed back conventional radiocarbon ages by several centuries and so ushered in the Second Radiocarbon Revolution, soon leading to a new interpretation of European prehistory that severed the long-held connections between Europe and the Near East. Hitherto, diffusionism had held centre stage, with maps full of arrows showing people and artefacts incessantly on the move. With radiocarbon calibration, independent regional development became the order of the day for explaining cultural change. Fifty years on, however, a range of promising new techniques have become available that seem to reinstate some of the earlier narratives.¶66:

Reference 14 - 0.15% Coverage

¶67: was compared against the average facial variation of datasets from recent populations. The analysis indicated that the Tham Lod facial approximation was neither overtly recent in facial morphology, nor overtly European

Reference 15 - 0.11% Coverage

¶69: New light is now thrown on this formative period by combining new and older radiocarbon dates with contextual information in a Bayesian modelling framework.

Reference 16 - 0.02% Coverage

¶70: new AMS radiocarbon dates

Reference 17 - 0.30% Coverage

¶71: Rock art worldwide has proved extremely difficult to date directly. Here, the first radiocarbon dates for rock paintings in Botswana and Lesotho are presented, along with additional dates for Later Stone Age rock art in South Africa. The samples selected for dating were identified as carbon-blacks from short-lived organic materials, meaning that the sampled pigments and the paintings that they were used to produce must be of similar age.

Reference 18 - 0.06% Coverage

¶73: stable isotope data suggest that exogamy provided a mechanism facilitating their integration.

Reference 19 - 0.10% Coverage

¶75: Two recent palaeogenetic studies have identified a movement of Yamnaya peoples from the Eurasian steppe to Central Europe in the third millennium BC.

Reference 20 - 0.14% Coverage

¶93: The study also presents results from the analysis of nearby speleothem laminae, which indicate that severe episodes of flooding and droughts may have contributed to a collapse in the population around AD 850.

Reference 21 - 0.12% Coverage

¶116: by analysing, for example, the macro- and micro-botanical remains of fruits and grains for morphometric and taxonomic variation (Colledge & Conolly 2007) and genetic history

Reference 22 - 0.61% Coverage

¶118: Portable energy-dispersive X-ray fluorescence (pXRF) has become a widely used tool for the chemical characterisation (source identification) of obsidian found in archaeological contexts. While laboratory techniques such as neutron activation analysis (NAA) and inductively coupled plasma mass spectrometry (ICP-MS) can analyse more elements and have lower detection limits, pXRF can provide quantitative data of sufficient resolution to be able to match obsidian artefacts with their volcanic sources. At the same time, pXRF offers several advantages for obsidian research: (i) it can be deployed ‘in the field’ (i.e. on site or in a museum) without the need to bring samples back to a laboratory for analysis; (ii) information on elemental composition can be obtained relatively quickly;

and (iii) measurements require no special preparation of samples and cause no visible damage to materials.

Reference 23 - 0.02% Coverage

¶119: Archaeometric analysis

Reference 24 - 0.06% Coverage

¶120: Archaeometric analysis of ceramics is used to explore the development of communication networks

Reference 25 - 0.03% Coverage

¶134: the Mesolithic and Neolithic radiocarbon chronology

Reference 26 - 0.21% Coverage

¶135: Results of new AMS dating and Bayesian modelling of extant short life samples now date the Late Mesolithic deposits to c. 6460–6200 cal BC, and the Cardial deposits to c. 5260–4860 cal BC. The long gap within the stratigraphic sequence is interpreted as a consequence of erosion during the mid sixth millennium BC

Reference 27 - 0.02% Coverage

¶137: a new series of radiocarbon dates

Reference 28 - 0.04% Coverage

¶139: indicated that the wool had been obtained from beyond Denmark.

Reference 29 - 0.28% Coverage

¶139: strontium isotope and organic dye analyses were conducted on textiles from a variety of selected burial contexts. Strontium isotope analysis revealed that at least 75 per cent of the Bronze Age wool samples originated outside present-day Denmark. Results also showed no evidence for the use of organic dyes, thereby supporting the hypothesis that no dyestuffs were used in Nordic Bronze Age textile production

Reference 30 - 0.15% Coverage

¶141: Analysis of new archaeozoological data from Turkmen sites and re-examination of published data from Uzbekistan and Turkmenistan reveal considerable economic flexibility and adaptive responses to the variety of ecosystems.

Reference 31 - 0.14% Coverage

¶143: Sourcing the leaded tin-bronze has, however, proved to be a challenge. A new systematic approach to metal chemistry uses trace elements and isotopes to characterise the underlying circulation pattern.

Reference 32 - 0.07% Coverage

¶147: Furthermore, microwear analysis suggests that the majority of celts did not have a practical function.

Reference 33 - 0.17% Coverage

¶151: The recovery of glass beads and associated production materials has enabled compositional analysis of the artefacts and preliminary dating of the site, which puts the main timing of glass-working between the eleventh and fifteenth centuries AD.

Reference 34 - 0.02% Coverage

¶153: Compositional analysis

Reference 35 - 0.25% Coverage

¶153: reveals a south Asian origin of the majority of the beads. Combining stratigraphic data and morphological analysis with innovative compositional XRF and Raman spectroscopy approaches, the research was able to assign the Baranda beads accurately to their correct chronological range. This coincides with the period of Portuguese dominance of Indian Ocean trade.¶154:

Reference 36 - 0.05% Coverage

¶204: A stable relationship: isotopes and bioarchaeology are in it for the long haul

Reference 37 - 0.18% Coverage

¶213: A programme of chemical characterisation, digital imaging, and geo-lithological and epigraphic analyses were conducted to determine its age and significance, and the results were integrated with data from archaeological investigations of the surrounding area

Reference 38 - 0.31% Coverage

¶219: This new study compares the results of microscopic analysis of the life-sized clay statues to other ceramic artefacts recovered from the mausoleum. By focusing on their original raw materials and clay paste recipes, it proves that the terracotta warriors were made near the site. Compositional, technological and spatial links between different artefacts suggest that clay was processed centrally before being distributed to different local workshops

Reference 39 - 0.09% Coverage

¶225: The combination of stratigraphic data with absolute dating methods has now provided a date of AD 751–789 for construction of the church

Reference 40 - 0.02% Coverage

¶232: Re-dating the Ingombe Ilede burials

Reference 41 - 0.17% Coverage

¶233: The burials were indirectly dated to the fourteenth to fifteenth centuries AD, prior to the arrival of the Portuguese on the East Coast of Africa. New AMS dates on cotton fabric from two of the burials now relocate them in the sixteenth century.

Reference 42 - 0.11% Coverage

¶235: provides additional information that supports McIntosh and Fagan's new dating of burials 3 and 8, and that also clarifies the chronology of some of the other burials

Reference 43 - 0.08% Coverage

¶235: The beads were chemically analysed using LA-ICP-MS, as part of a larger project on ancient African glass bead chemistry

Reference 44 - 0.07% Coverage

¶239: The new radiocarbon dates by McIntosh and Fagan provide welcome confirmation of this inference.¶240:

Reference 45 - 0.04% Coverage

¶241: The late fifteenth- to early seventeenth-century dates

Reference 46 - 0.06% Coverage

¶243: Such reconsiderations are made possible by more sophisticated and precise radiocarbon dating

Reference 47 - 0.07% Coverage

¶243: and by the use of chemical analyses to identify differently sourced groups of glass beads and metals

Reference 48 - 0.01% Coverage

¶284: Radiocarbon dating

Reference 49 - 0.03% Coverage

¶285: This is now addressed by new AMS dating

Reference 50 - 0.04% Coverage

¶287: Chemical and microscopic analysis of hafting residues

Reference 51 - 0.33% Coverage

¶287: has, for the first time, yielded evidence for the use of beeswax as a major component of adhesive during the later stages of the LGM. Analysis also confirmed that the beeswax was tempered with crushed charcoal. AMS dating of the Bergkamen barbed point suggests direct association with the Final Pleistocene Federmessergruppen, approximately 13000 years ago. Furthermore, the adhesive provides the first direct evidence of the honeybee, Apis mellifera, in Europe following the LGM.¶288:

Reference 52 - 0.11% Coverage

¶289: The authors analysed a large body of radiocarbon and luminescence dates, formally modelled in a Bayesian framework, to address the timescape of Orkney's Late Neolithic

Reference 53 - 0.04% Coverage

¶296: Bayesian analysis and free market trade within the Roman Empire¶297:

Reference 54 - 0.34% Coverage

¶297: Here, the authors present a Bayesian analysis quantifying the extent to which four previously proposed hypotheses match the evidence for the market system in Roman olive oil. Results suggest that the size of economic agents involved in this network followed a power-law distribution, strongly indicating the presence of free market structures supplying olive oil to Rome. This new analysis offers an important tool to researchers exploring the impact of trade on the dynamics of past societies.¶298:

Reference 55 - 0.13% Coverage

¶299: Artefacts from the Nahuange period in Colombia (c. AD 100–1000) were subject to metallographic, chemical and microscopic analyses to provide regional comparative data on metalworking traditions.

Reference 56 - 0.01% Coverage

¶304: New radiocarbon dates

Reference 57 - 0.08% Coverage

¶305: The refined programme of radiocarbon dating presented here sheds further light on the different phases of occupation.

Reference 58 - 0.12% Coverage

¶307: We present the first structural analysis and radiocarbon dating of the sculpture (modelled at AD 1492–1524), and a brief discussion of the materials from which it is comprised.

Reference 59 - 0.08% Coverage

¶310: Semi-automated detection of looting in Afghanistan using multispectral imagery and principal component analysis

Reference 60 - 0.04% Coverage

¶314: The case for computational modelling of the Roman economy

Reference 61 - 0.05% Coverage

¶359: A new programme of radiocarbon dating has provided a revised age estimate

Reference 62 - 0.24% Coverage

¶359: This study reviews the need for redating the remains, and contextualises the age of the burial in relation to other Upper Palaeolithic funerary sites in Europe and Russia. The new date, obtained using a method that avoided the problems associated with previous samples conditioned with glue or other preservatives, is older than previous estimates

Reference 63 - 0.05% Coverage

¶364: organic residue analysis of early hunter-gatherer pottery from Sakhalin Island¶365:

Reference 64 - 0.04% Coverage

¶365: This article presents the results of organic residue analysis

Reference 65 - 0.18% Coverage

¶367: Macroscopic analysis and micro-computed tomography suggests the presence of two communities of practice, and thus two distinct social groups in the northern Mediterranean: one of southern Balkan tradition, the other (associated with SPT) of as yet unknown origin

Reference 66 - 0.14% Coverage

¶373: New radiocarbon dates suggest long-term use of the cave for both mortuary activity and small-scale marine foraging that may slightly precede the accepted date for the earliest human occupation of Palau

Reference 67 - 0.02% Coverage

¶376: Revisiting lead isotope data

Reference 68 - 0.04% Coverage

¶377: Lead is a major component of Chinese ritual bronze vessels

Reference 69 - 0.37% Coverage

¶377: A new, simplified method has been developed for examining data, thereby providing insight into diachronic change in the origins of lead sources used in artefacts. Application of this method to the existing corpus of lead isotope data from the Erlitou (c. 1600 BC) to the Western Zhou (c. 1045–771 BC) periods reveals changes in the isotope signal over this time frame. These changes clearly reflect shifts in the sourcing of ores and their use in metropolitan foundries. Further data are required to understand these complex developments.¶378:

Reference 70 - 0.02% Coverage

¶383: Using high-resolution AMS dating

Reference 71 - 0.09% Coverage

¶385: but spatial analyses based on quantitative data have not previously been undertaken. This study uses spatial analysis of deposits

Reference 72 - 0.07% Coverage

¶392: the broader development of biocultural models has contributed more fully to archaeological research

<Internals\\Antiquity 2018 abstracts> - § 66 references coded [7.49% Coverage]

Reference 1 - 0.03% Coverage

¶10: Developments in dating techniques

Reference 2 - 0.07% Coverage

¶11: Lithic analysis and the transition to the Neolithic in the Upper Tigris Valley

Reference 3 - 0.07% Coverage

¶16: New radiocarbon dates suggest that these houses experienced short lifespans.

Reference 4 - 0.04% Coverage

¶18: New microscopic analyses of soil samples

Reference 5 - 0.12% Coverage

¶18: have, however, revealed preserved Neolithic animal hairs. Despite mineralisation, the species of animal has been successfully identified

Reference 6 - 0.04% Coverage

¶21: Radiocarbon dating and Bayesian modelling

Reference 7 - 0.08% Coverage

¶22: Previous radiocarbon dating placed this sequence of burial and occupation at c. 3000 cal BP

Reference 8 - 0.26% Coverage

¶22: To provide a more robust chronological framework, Bayesian modelling was applied to construct probability ranges for the date and duration of activity at the site, assisted by a suite of new 14C determinations. The results provide more secure evidence for burial activity dating back to c. 3000 cal BP

Reference 9 - 0.20% Coverage

¶26: radiocarbon results have tended to disagree. Recent re-dating of the remains, applying the appropriate marine reservoir correction, has clarified the relationship between the interments, and has resolved the previous uncertainty.¶27:

Reference 10 - 0.11% Coverage

¶34: In addition to summarising existing knowledge, the volumes also provide new information coming from modern scientific analysis

Reference 11 - 0.05% Coverage

¶49: Molluscs in archaeology: methods, approaches and applications

Reference 12 - 0.09% Coverage

¶54: have further characterised its stratigraphy through analysis of the rich lithic complex recovered.

Reference 13 - 0.24% Coverage

¶60: A new model, using ArcGIS to collate various sources of data relating to processes of erosion over time along the south coast of Cyprus, is showcased here, with the hope that it can be expanded and adapted for use elsewhere in prioritising sites according to rates of destruction.¶61:

Reference 14 - 0.16% Coverage

¶65: dated to 61.7±1.5kya, has provided important new insights. High-resolution CT scanning revealed heat and impact damage in both the Sibudu point and in experimentally produced arrow points

Reference 15 - 0.02% Coverage

¶68: wood charcoal analysis

Reference 16 - 0.33% Coverage

¶69: Charcoal samples were taken systematically from features associated with the two main occupation phases (Aurignacian and Gravettian). Analysis showed it to be composed almost entirely of pine (Pinus sp.), indicating the harsh climatic conditions at this period. No distinction in wood species was found between either the two occupation episodes or the various depositional contexts

Reference 17 - 0.15% Coverage

¶71: Recent application of new analytical techniques has led to the discovery of new imagery on its surface, and has pushed the date of the piece back to the earliest Holocene

Reference 18 - 0.08% Coverage

¶75: but has yet to be scientifically verified. We present the results of non-destructive analyses

Reference 19 - 0.11% Coverage

¶75: Analyses revealed the presence of diopside, an outcome of phase transition from tremolite resulting from heating in antiquity

Reference 20 - 0.06% Coverage

¶80: Trichuris trichiura in the mummified remains of southern Siberian nomads

Reference 21 - 0.15% Coverage

¶81: Despite the removal of the intestines as part of the mummification procedure, the residual eggs of Trichuris trichiura, a non-indigenous species of whipworm, were detected

Reference 22 - 0.14% Coverage

¶89: we provide a synthesis of archaeozoological data and radiocarbon dates from 17 offering sites across Norway, Sweden and Finland. Analysis reveals new patterns

Reference 23 - 0.11% Coverage

¶107: with its emphasis on new and exotic scientific analytical techniques, rigorous theoretical approaches and data analysis,

Reference 24 - 0.05% Coverage

¶120: Fibres: microscopy of archaeological textiles and furs

Reference 25 - 0.09% Coverage

¶141: Progress, problems, and possibilities of GIS in the South Caucasus: an international workshop summary

Reference 26 - 0.15% Coverage

¶142: a recent workshop has addressed important issues in applying GIS to the study of heavily modified landscapes in the former Soviet republics of Armenia, Azerbaijan and Georgia.

Reference 27 - 0.12% Coverage

¶149: This study presents the results of an infrared spectroscopic analysis of seven artefacts from the Volgu cache conducted to test this assumption

Reference 28 - 0.09% Coverage

¶151: Evidence from microscopic analyses of stone tools, including use-wear, starch and phytolith analyses, however

Reference 29 - 0.02% Coverage

¶160: new AMS 14C dates

Reference 30 - 0.10% Coverage

¶161: have provided 52 new AMS dates, which allow the creation of Myanmar's first reliable prehistoric radiometric chronology.

Reference 31 - 0.06% Coverage

¶165: AMS dating supports the ceramic chronology proposed for the site,

Reference 32 - 0.13% Coverage

¶173: While respectable for its time, the results of these new analyses, combined with a thorough checking of the archived samples consulted by Thomas

Reference 33 - 0.05% Coverage

¶174: Boots on the ground in Africa's ancient DNA ‘revolution’

Reference 34 - 0.14% Coverage

¶175: Recent methodological advances have increased the pace and scale of African ancient DNA (aDNA) research, inciting a rush to sample broadly from museum collections

Reference 35 - 0.26% Coverage

¶195: Using optically stimulated luminescence dating of sediments and LiDAR imaging, the authors located Bonito Phase canal features at the far west end of the canyon. Additional ED-XRF and strontium isotope (87Sr/86Sr) analyses confirm the diversion of waters from multiple sources during Chaco’s occupation

Reference 36 - 0.17% Coverage

¶199: Using a total viewshed approach, they provide new evidence to suggest that great houses, but not great kivas, were often placed to be highly visible to individuals in the surrounding landscape

Reference 37 - 0.23% Coverage

¶201: Dynamic social network analysis allows for evaluation of several migration scenarios, and demonstrates that Chaco’s earliest ninth-century networks show interaction with areas to the west and south, rather than migration to the Canyon from the Northern San Juan

Reference 38 - 0.07% Coverage

¶208: Isotopic evidence for mobility at large-scale human aggregations in Copper Age Iberia

Reference 39 - 0.09% Coverage

¶209: The authors' research examines the origins and trajectory of such aggregations through isotope analysis

Reference 40 - 0.08% Coverage

¶209: The results indicate that eight per cent of 115 sampled individuals are of non-local origin

Reference 41 - 0.09% Coverage

¶215: This article provides results from a full morphological, use-wear and microfossil residue analysis

Reference 42 - 0.05% Coverage

¶234: through a comprehensive programme of radiocarbon dating.

Reference 43 - 0.06% Coverage

¶243: has refined the chronology for the manufacture of such rare artefacts

Reference 44 - 0.05% Coverage

¶256: based primarily on use-wear and residue analyses of artefacts

Reference 45 - 0.21% Coverage

¶256: suggest that by embracing new integrated analytical approaches, including underused methods such as the study of parenchymatous tissue, the investigation of early domestication and cultivation in this region can make significant advances.¶257:

Reference 46 - 0.18% Coverage

¶260: Geochemical analyses of North and East African raw amazonite outcrops and artefacts found at the Neolithic cemetery of R12 in the Sudanese Nile Valley reveals southern Ethiopia as the source of the R12 amazonite

Reference 47 - 0.13% Coverage

¶262: Excellent organic preservation conditions permit extensive dendrochronological analyses of structures and the precise phasing of building activity

Reference 48 - 0.18% Coverage

¶266: Recent palaeogenomic data have expanded the debate concerning the direction of cultural transmission during the European Chalcolithic by suggesting the western movement of people from the Eurasian Steppe

Reference 49 - 0.05% Coverage

¶270: This evidence, combined with new dates and palaeoclimatic data

Reference 50 - 0.01% Coverage

¶276: direct dating

Reference 51 - 0.07% Coverage

¶282: To investigate, the authors performed spatial analysis and simulation modelling

Reference 52 - 0.03% Coverage

¶297: Predictive modelling has identified

Reference 53 - 0.05% Coverage

¶299: A programme of radiocarbon dating aims to correlate

Reference 54 - 0.02% Coverage

¶301: Geochemical analysis

Reference 55 - 0.13% Coverage

¶316: Here, an analytical experiment is used to explore the ways in which machine action can affect a test assemblage resembling a typical Stone Age scatter

Reference 56 - 0.17% Coverage

¶320: The analysis and systematic comparison of material from 11 Neolithic sites in the Western Balkans (c. 6100–4500 cal BC) provides the earliest direct evidence for the use of cattle for such a purpose.

Reference 57 - 0.13% Coverage

¶322: Although collagen preservation was insufficient for direct radiocarbon dating, samples obtained from surrounding deposits date the burial to c. 3900 BC

Reference 58 - 0.33% Coverage

¶324: To investigate the evolution of, and regional variation in, this technology, the authors deploy a range of techniques to analyse a sample of Paracas ceramics curated in museum collections. The results indicate diachronic and regional variations in the paint binders and colourants used by the Paracas potters, which correlate with changes in vessel form and iconography over time.¶325:

Reference 59 - 0.10% Coverage

¶327: A new chronological model for the Bronze and Iron Age South Caucasus: radiocarbon results from Project ArAGATS, Armenia

Reference 60 - 0.29% Coverage

¶328: Concentrating on the Tsaghkahovit Plain of north-western Armenia, Project ArAGATS's multi-site radiocarbon dataset has now produced Bayesian modelling, which provides tight chronometric support for tracing the transmission of technology, population movement and social developments that shaped the Eurasian Bronze and Iron Ages.¶329:

Reference 61 - 0.08% Coverage

¶338: The authors combine archival research with wood-species identification and tree-ring analysis

Reference 62 - 0.11% Coverage

¶340: In a recent Antiquity article, Ammerman et al. (2017) suggest that three radiocarbon dates on seventh- or eighth-century AD samples

Reference 63 - 0.18% Coverage

¶340: have yielded in situ settlement remains at least as old as the peach stones, some of which are securely dated by a floating tree-ring chronology and radiocarbon dates from stratified structural samples.

Reference 64 - 0.05% Coverage

¶356: Isotopic investigations of pastoralism in prehistory

Reference 65 - 0.02% Coverage

¶363: Microscopic examination

Reference 66 - 0.14% Coverage

¶364: Microscopic examination revealed traces of shaping and intentional ornamentation on the stones when compared to experimentally worked sandstones of similar quality.

<Internals\\Curator 1995> - § 1 reference coded [0.49% Coverage]

Reference 1 - 0.49% Coverage

¶40: The Use of Radiography in the Analysis of Resin-Embedded Lizards

<Internals\\Curator 2013 abstracts> - § 2 references coded [0.60% Coverage]

Reference 1 - 0.38% Coverage

¶38: integrate high-resolution digital archeological datasets (photography and 3D architectural models)

Reference 2 - 0.22% Coverage

¶38: with a full-scale augmented digital facsimile of Cave 220

<Internals\\IJCP 2009 Abstracts> - § 7 references coded [2.80% Coverage]

Reference 1 - 0.70% Coverage

¶20: Such projects owe their origins to significant advancements in biomolecular research and technology studies, which have not only resulted in a genetic revolution in archaeology and related studies

Reference 2 - 0.44% Coverage

¶25: In May 2007, I gave a talk at the Institute for Public Health Genetics (IPHG) at the University of Washington (UW), Seattle.

Reference 3 - 0.25% Coverage

¶26: Implications of the Genographic Project for Molecular Anthropologists

Reference 4 - 0.79% Coverage

¶27: Many molecular anthropologists no longer incorporate a field component into their research; rather, they rely on analyzing existing data sets and/or on collaborating with field researchers to obtain samples for analysis.

Reference 5 - 0.07% Coverage

¶28: Science and Humanity

Reference 6 - 0.10% Coverage

¶31: yet not quite genetics either

Reference 7 - 0.45% Coverage

¶31: —but one does not have to secure the goodwill of the fruit fly, Drosophila melanogaster, to study its DNA haplotypes in depth

<Internals\\IJHS 1998 Abstracts> - § 2 references coded [0.60% Coverage]

Reference 1 - 0.18% Coverage

¶52: Radiography of Cultural Material

Reference 2 - 0.42% Coverage

¶59: Geoarchaeology: the Earth-science Approach to Archaeological Interpretation

<Internals\\JCH 2000 abstracts> - § 18 references coded [5.58% Coverage]

Reference 1 - 0.27% Coverage

¶11: the as yet unpublished results of the chemical analysis carried out by ICP and the observations obtained by SEM/EDX and discuss briefly the significance of the data and the problems encountered while studying the items of the newly discovered civilization.

Reference 2 - 0.11% Coverage

¶31: Multispectral and multiscale remote sensing data for archaeological prospecting in an alpine alluvial plain

Reference 3 - 0.59% Coverage

¶32: Remotely sensed images taken from space orbiting satellite at different wavelengths of the electromagnetic spectrum, from visible up to thermal infrared, were used to delineate landscape features not easily detected on ground. Geomorphological study of the area was improved by means of historical aerial b/w photographs taken before the Second World War by the Royal Air Force. Ground surveys and proximal sensing measurements, using portable spectral radiometers operating at the same wavelengths as the satellite sensors, were conducted at some experimental sites.

Reference 4 - 0.08% Coverage

¶33: Microfacies analysis and endogenic decay causes of carbonate building stones

Reference 5 - 2.03% Coverage

¶34: The carbonate building stones from the Asklepeion, Epidaurus, used to construct the monuments of Gymnasium, Tholos and Avaton can be grouped into 12 microfacies types, according to their microfacies characteristics such as the type of groundmass, the different kinds of particles, the facies-diagnostic fossils, the depositional and solution textures. Two of them, oocalcarenite (MF type I) and biocalcarenite (MF type II) belong to the marine Plio-Pleistocene carbonate sediments from Korinthos (ancient quarries in Kechries) and the northern part of the island of Aegina, respectively. Most of them, calcrete (MF type III), red biomicrites (MF type IV and V), oolitic grainstone (MF type VI), bio-grainstone (MF type VII), boundstone (MF type VIII), intrabreccia limestone (MF type IX), cherty biomicrite (MF type X) belong to the sedimentary carbonate formations of Mesozoic age of the adjacent areas in Argolis peninsula. The black lime-biomicrite (MF type XI) comes from a more distant sedimentary lithological formation, most probably from Dervenakia area (Tripolis zone). Finally, one belongs to the metamorphic carbonates (marbles of Naxos?). The endogenic decay causes are controlled by both sedimentary and diagenetic processes reflected in the microfacies type. So, the main endogenic factors of the oocalcarenite and biocalcarenite facies, which were used for the upper architectural members, are high porosity and the quantitative–qualitative mineralogical composition of the insoluble residue, which is mainly composed of swelling clay minerals (smectites). The calcrete facies, which was used in the foundations of all monuments, shows the heaviest decay problems which are related to the high structural irregularities, the high porosity and the quantitative–qualitative mineralogical composition of the non-carbonate minerals. The other facies appear with a weaker degree of decay whose endogenic causes are also investigated.

Reference 6 - 0.10% Coverage

¶148: Study of archaeological areas by means of advanced software technology and statistical methods

Reference 7 - 0.77% Coverage

¶149: The aim of this work is to show how the most advanced technology together with spatial analysis can be usefully employed to investigate historical and archaeological phenomena. In this note some preliminary results are shown. Two geographical information systems (GIS) were structured in an integrated way. The first GIS is a vector-like system while the other is a raster-like one. Moreover, some applications regarding the environmental reconstruction of a part of the investigated area are proposed. Then the identification and the modeling of archaeological site maps by means of point pattern analysis are proposed. Finally, an auto-logistic model to predict archaeological site is presented. This topic is currently under investigation.

Reference 8 - 0.15% Coverage

¶153: Relevant information on the technology employed in the production of concotto and coarse pottery was derived mainly by 57Fe Mössbauer spectroscopy.

Reference 9 - 0.21% Coverage

¶153: Both the ancient firing techniques were substantially reconstructed by comparing the Mössbauer patterns of the artefacts with those of the replica samples produced from local clay fired in the laboratory.

Reference 10 - 0.13% Coverage

¶165: Euganean trachytes: discrimination of quarried sites by petrographic and chemical parameters and by magnetic susceptibility

Reference 11 - 0.36% Coverage

¶166: This paper reports petrographic and chemical data and magnetic susceptibility values for trachytes of quarries recognizable within the Euganean Hills and sets out diagnostic parameters for these rocks. The diagnostic scheme proposed is basic for the definition of provenance of trachytes used in ancient artefacts spread over northern Italy.

Reference 12 - 0.30% Coverage

¶166: have been characterised petrographically, chemically and also using magnetic susceptibility data. The discriminating scheme proposed here for the Euganean trachytes has been applied to the data obtained for basoli and thus the provenance of each investigated block has been inferred.

Reference 13 - 0.13% Coverage

¶183: The potential contribution of molecular genetics towards the linguistic and population history of the Mediterranean islands

Reference 14 - 0.06% Coverage

¶186: mtDNA haplogroups in human populations and disease studies

Reference 15 - 0.04% Coverage

¶188: Towards a genetic history of Sicily

Reference 16 - 0.10% Coverage

¶189: Mutations and polymorphisms of the PAH gene in Sicily: comparison with other DNA polymorphisms

Reference 17 - 0.08% Coverage

¶190: A molecular approach to the study of the ancient populations of southern Italy

Reference 18 - 0.08% Coverage

¶192: The genetic picture of Europe: comparison between classic and new markers

<Internals\\JCH 2001 abstracts> - § 15 references coded [12.39% Coverage]

Reference 1 - 0.21% Coverage

¶6: a chemical characterization with methods of multivariate analysis¶7:

Reference 2 - 1.67% Coverage

¶7: The group formed by means of fuzzy c-means cluster analysis applied on chemical data have been tested by principal component analysis and finally subjected to discriminant analysis to estimate the relative weights of original variables and classify new elements. Correlations among the data of the major chemical elements confirm the reliability of the complex of chemical data. The aim of this research was to obtain a chemical characterization of Roman bricks (and later, of the medieval ones) coming from the lagoon of Venice

Reference 3 - 0.30% Coverage

¶8: In situ analysis of biofilms on historic window glass using confocal laser scanning microscopy

Reference 4 - 0.31% Coverage

¶24: was studied from the chemical-mineralogical point of view, in order to define a new reference group

Reference 5 - 1.48% Coverage

¶24: The analysed Nyon wasters may be divided into two groups, differing in CaO content. Most of the samples are characterised by high CaO concentrations and the Fronto stamped piece (ZA 165) is similar to this group. Nine samples form a small cluster characterised by lower CaO and MgO contents. Stamped wasters from Augst show a very different chemical pattern compared with the TSI of Nyon. One new reference group is proposed, consisting of CaO-rich samples from Nyon.

Reference 6 - 0.74% Coverage

¶28: The methodological approach is that commonly applied to the study of the rocks and consists of textural analyses, at a different observational scale, combined with X-ray powder diffraction, X-ray fluorescence and microprobe analyses.¶29:

Reference 7 - 0.33% Coverage

¶38: Thermoluminescence (TL) dating of burnt flints: problems, perspectives and some examples of application

Reference 8 - 1.98% Coverage

¶39: Thermoluminescence (TL) dating is a powerful tool in archaeology, and its reliability has been checked since the early 1970s. It is, in principle, specific for ceramic, but it can also be successfully applied to other materials of archaeological interest, provided that they have been submitted in the past to some kind of heating up to several hundreds of degrees centigrade. This is the case of prehistoric flint deliberately or accidentally burnt by ancient man. Illustrating the specific aspects of this application, we report the TL dating results of a group of burnt flints from three prehistoric sites in northern Italy.

Reference 9 - 0.13% Coverage

¶42: and from their ancient origin quarries¶43:

Reference 10 - 2.33% Coverage

¶43: Samples were taken directly from these columns. The specimens underwent petrographic investigation through optical microscopy, X-ray diffraction analysis (XRD) and Fourier transform infrared spectroscopy (FTIR) and chemical analyses of major and trace elements through X-ray fluorescence (XRF). Some trace element (Sr, Rb, Y, Zr and Nb) concentrations were assessed through non-destructive analyses, performed with a portable X-ray device which can detect homogeneous concentrations of such elements on the columns of the cathedral. According to chemical data, these rocks can be classified as mugeariites whose mineral assemblage is given by plagioclase (mostly andesinic), augitic pyroxene, olivine, magnetite and, occasionally, apatite.

Reference 11 - 0.13% Coverage

¶48: Mineralogical and chemical composition of

Reference 12 - 0.15% Coverage

¶49: Mineralogical, petrographic and chemical analyses

Reference 13 - 1.71% Coverage

¶49: Examination of thin sections by the polarizing microscope and of X-ray powder diffraction patterns suggested that most of the amphorae could be assigned to local workshops since fossils and minerals as well as rock fragments are compatible with the crystalline basement of the Calabrian-Peloritanian arc. Chemical analysis, performed by ICP and flame atomic emission spectroscopy followed by multivariate treatment of data, further suggested that three groups of composition may gather most of the amphorae and the local reference products.

Reference 14 - 0.46% Coverage

¶54: An analysis of building methods: chemical-physical and archaeological analyses of micro-layer coatings on medieval facades in the centre of Genoa

Reference 15 - 0.47% Coverage

¶55: The present research is an attempt to create a link among different disciplines and to confirm stratigraphic observations through chemical analyses.

<Internals\\JCH 2002 abstracts> - § 14 references coded [9.25% Coverage]

Reference 1 - 0.75% Coverage

¶7: In this respect an accurate stratigraphic analysis was made down to a 25-meter depth to obtain and describe the environmental history of this lagoon site since the Late Pleistocene Epoch. By analyses on the micro-fauna, pollen, and radiocarbon dating it was possible to know and complete the paleogeographic reconstruction of the area.

Reference 2 - 0.60% Coverage

¶45: The kinematic GPS method has been applied in order to reach the needed accuracy in representing the geometric properties of the objects, to preserve the geometric properties between the structures and to document the relations with the ground morphological aspects.¶46:

Reference 3 - 0.87% Coverage

¶63: the results of the analyses performed on transport amphorae found in Messina are reported. In particular, the so-called “Corinthian B”, “ionio-massaliote” and “pseudo-chiote” amphorae have been studied. From a microscopic point of view, their fabric is not homogeneous, and a relevant part of the analysed samples is not distinguishable from locally produced ceramic from the Messina area.

Reference 4 - 0.17% Coverage

¶64: Infrared spectroscopy in the mineralogical characterization of ancient pottery

Reference 5 - 0.64% Coverage

¶65: to explore the full potentialities of Fourier transform infrared (FT-IR) spectroscopy in assessing the chemical and mineralogical composition of ancient pottery, with the final goal of building up a reference databank based on IR spectral transitions. A representative pool of 75 shards

Reference 6 - 1.54% Coverage

¶65: was analysed. A detailed attribution of all the spectroscopic frequencies in the spectra recorded in the 4000–400 cm–1 region was attempted and their assignment to different minerals was accomplished, with the support of both literature references and standard materials. In order to demonstrate the reliability of IR attributions, X-ray diffraction analysis was performed on

representative samples of the pool. Some information on the firing temperatures, one of the most intriguing aspects in the investigations on ancient pottery, could also be inferred by the FT-IR/XRPD data. The basis is laid for a possible use of IR transitions in assessing the provenance of pottery production.

Reference 7 - 0.13% Coverage

¶66: Chemical and textural characterisation of medieval slags

Reference 8 - 2.18% Coverage

¶67: Twenty-seven slag specimens were sampled at Marsiliana, Arialla and Rocchette Pannocchieschi. Slags have been analysed by X-ray fluorescence spectrometry, X-ray powder diffraction, optical microscopy, scanning electron microscopy and energy dispersive X-ray spectrometry. The slags from the three sites differ in chemical composition. The most abundant pyrometallurgic phases in the glassy matrix are calcic clinopyroxene, kirschsteinite, melilite, accompanied by spinel, wüstite, sulphides, metals and metal alloys. The three sites produced more than 2000 t of copper, 6000 t of lead and 2 t of silver. Copper was mostly smelted at Marsiliana, and silver-bearing lead was smelted at Arialla and Rocchette Pannocchieschi. The minerals underwent only a mild roasting prior to smelting. Flux lime was added to the mineral charge, and the resulting viscosity index of the melts (from 0.9 to 3.7) assured effective metal segregation. Furnace temperatures reached 1150–1300 °C.

Reference 9 - 0.06% Coverage

¶83: the chemical composition

Reference 10 - 0.32% Coverage

¶83: is determined by X-ray microanalysis in order to throw new light on the glassmaking technology in the early centuries of the Venetian tradition.

Reference 11 - 0.25% Coverage

¶90: Characterisation of painting materials from Eritrea rock art sites with non-destructive spectroscopic techniques

Reference 12 - 1.13% Coverage

¶91: Rock painting samples from Eritrean archaeological sites were studied by means of micro-Raman spectroscopy and proton-induced X-ray emission technique (PIXE). Hematite and manganese oxides/hydroxides were determined in red and black paints, respectively. Since colours do not contain carbon, the paintings cannot be dated with 14C. Moderate amounts of calcium carbonate or sulphate were also observed in most red drawings, while traces of phosphorus were found by PIXE only in a few red and black samples.

Reference 13 - 0.24% Coverage

¶94: An approach of a study of the interaction between collagen and sulphur dioxide by using ESI and MALDI-TOFMS

Reference 14 - 0.37% Coverage

¶99: Analysis of the glass by electron microprobe showed a composition consistent with early Egyptian blue glass with high sodium oxide and low potassium oxide content.

<Internals\\JCH 2003 Abstracts> - § 14 references coded [6.07% Coverage]

Reference 1 - 0.04% Coverage

¶19: Chemical characterisation of degraded wood in ships

Reference 2 - 0.71% Coverage

¶20: Chemical analysis was performed on wood of two ships, C and L (I cent. A.D. and II cent. B.C., respectively), using the international standard methods of wood analysis TAPPI and other instrumental methods such as XRD, GC–MS, FT-IR. Comparison with recently cut reference wood species points to drastic degradation since the holocellulose contents are reduced to very low values and lignin contents exhibit consequently marked increases. Crystallinity evaluation of residual cellulose shows that its degradation has occurred with an ordinate mechanism. Inorganic content is very high with respect to literature: the most abundant elements are Ca, and Fe, mostly associated with sulphates; Fe is also present as amorphous oxides. Organic extractive composition and cation exchange capacity measurements give evidence of oxidative degradation of lignin

Reference 3 - 0.14% Coverage

¶22: The measurements are performed with a methodology specifically set up for the archaeological wet material, not applicable as standardised international methodologies.

Reference 4 - 0.31% Coverage

¶22: Results confirm the high decay of wood samples, probably due to the almost complete loss of the cellulose fraction of the cell walls, shown by the very low basic density (average value less than 0.2 g/cm3) and the high water content (more than 500%). The parameter of the residual basic density seems less useful for the identification of the consolidation strategy.

Reference 5 - 1.17% Coverage

¶35: The rate of metal catalyzed oxidation of sulfur dioxide in collagen surrogates

¶36: Oxidation of sulfur dioxide (SO2) in gelatine gels has been used as a model for the process in leather and other collagen artifacts. Oxidation rate constants for 5–30% w/w gelatine gels at 25 °C had a mean first order rate constant of 3.25 × 10–6 s–1 (i.e. t12 = 60 h). The water content of the

gelatine has no effect on the observed rate of SO2 oxidation. Copper can act as a catalyst, but is often rendered ineffective because it is bound to the gel. Significant rate increases only emerge at low gel concentrations and high free copper concentrations. Three copper ions bind to a single gel unit and it is all bound when the protein material (% w/w)/free copper (mol kg–1) value exceeds 100,000. The availability of free copper to promote catalysis is dramatically reduced as the gelatine concentration approaches 30% w/w. Concentrations of likely catalysts together with total sulfur were determined in 11 samples of historical parchment and leather using inductively coupled plasma (ICP) emission analysis: iron 0.058–1.513; copper 0.002–0.065; manganese 0.002–0.091; sulfur 1.962–28.273 (g kg–1 dry leather). Although sulfuric acid (5% w/w) causes degradation of gelatine, the presence of metals did not alter the rate of this process. Gelatine appeared to be a useful good surrogate for leather in this study.

Reference 6 - 0.03% Coverage

¶60: Chemical and isotope characterization

Reference 7 - 0.48% Coverage

¶61: have been examined. Their chemical composition has been determined using the ICP-MS plasma-mass technique (Cu, Fe, As, Ag, Sn, Sb, Bi, Zn, Cs, Tl, Mo, Cd, In, Te, W, Th, U, Li, Se). Lead isotope ratios (208/206, 207/206, 206/204) have also been determined. The results are discussed in relation to the mineral source and some aspects of the metal extraction processes. The finds are composed of high purity lead obtained using a smelting at low temperature. Based on the isotope ratios it has been possible to establish that the metal originated from Sardinian ore deposits type.

Reference 8 - 0.08% Coverage

¶72: provenance inferred by petrographic and chemical parameters and by magnetic susceptibility¶73:

Reference 9 - 1.02% Coverage

¶77: was studied by different physico-chemical investigations (SEM–EDS, ICP, Mössbauer spectroscopy, XRD, XRF, TG-DTA) in order to contribute to clarify the production methodology and the pre-industrial glass manufacture technology. The studied samples are mainly non-vitreous finds as production waste, refractory materials, crucibles and raw materials; also vitreous finds as frits, skims, glasses (glass masses, glass working waste and finished products) have been taken into consideration. The obtained petrographic and physico-chemical data strongly suggest that both Gambassi and Germagnana glass manufactures were strictly connected with the sources of vitrifiable materials, situated in Tuscan sand quarries. In particular a comparison between sands from the neighbouring quarries and appropriate finds of the two archaeological sites evidences that the employed vitrifiable materials possibly belong to La Casina La Cava resort. The archaeological classification, based on macroscopic observation and stratigraphic position, was compared and verified with the scientific classification of the examined finds of Germagnana and Gambassi sites based on their composition, morphology and physico-chemical properties.

Reference 10 - 0.86% Coverage

¶79: For this purpose, an effective two-step procedure has been used, consisting of: (a) 3D static and dynamic linear analyses of the structural complex, and (b) 2D nonlinear push-over analysis of the single macro-elements. The results obtained through push-over analyses have been compared to the collapse loads derived from limit analysis, proving the ability of finite element (F.E.) nonlinear model to provide reliable simulation of the actual response of masonry elements. Then, the strength demand on each single structural macro-elements, resulting from the 3D linear analyses, has been compared to the macro-element ultimate strength capacity. The comparison demand vs. capacity has been carried out for all transversal and longitudinal macro-elements of the church, allowing a direct, though approximate, assessment of the seismic safety level of the church. The comparison demand vs. capacity confirms the susceptibility of this type of buildings to extensive damage and possibly to collapse, as frequently observed.

Reference 11 - 0.05% Coverage

¶80: An NDT electro-optic system for mosaics investigations

Reference 12 - 0.54% Coverage

¶81: Electronic speckle pattern interferometry (ESPI) is a well-known tool in cultural heritage diagnostics. It is also suitable to reveal cracks and debondings of tiles in ancient mosaics of Roman and Medieval age. This paper describes a portable electro-optic system as a diagnostic tool to evaluate the state of conservation of ancient mosaics. The proposed system is based on the integration of ESPI and local speckle correlation techniques. Some experiments have been carried out on real, ancient, mosaics in laboratory and in situ. The different features of each technique are outlined and a comparison with holographic interferometry is also given.

Reference 13 - 0.11% Coverage

¶184: Characterisation of lustre and pigment composition in ancient pottery by laser induced fluorescence and breakdown spectroscopy

Reference 14 - 0.54% Coverage

¶185: performed by means of different spectroscopic and optical techniques. Two types of ancient lustre have been considered: red and gold, coming from Deruta and Gubbio. The time resolved laser induced fluorescence (LIF) signatures of the red and gold lustre were identified by applying a laser excitation at 355 nm. Laser induced breakdown spectroscopy (LIBS) technique was applied on all the ceramic layers, i.e. bisque, glaze, and both lustre and blue coloured decorations, to determine semi-quantitatively their elemental composition. The results of colorimetric measurements are also compared to the measured composition of decorative layers.

<Internals\\JCH 2004 Abstracts> - § 16 references coded [17.49% Coverage]

Reference 1 - 0.82% Coverage

¶3: Controversy still exists about the beginning of marble exploitation in the area. Three 14C-age determinations performed on charcoal-rich levels embedded in an old ravaneto help us to better understand the beginning of this exploitation. The older dates (2470 ± 45 and 2290 ± 45 years BP, in term of calibrated ages: 763–409 BC and 405–205 BC) indicate that marble exploitation began well before the Roman conquest.

Reference 2 - 1.03% Coverage

¶9: were investigated for the accessory minerals, never treated systematically before, and were studied also petrographically and analysed for C and O isotopes. The accessory minerals, investigated by scanning electron microscopy and analysed quantitatively by energy dispersive spectrometry, include: quartz, plagioclase, apatite, sulphides and oxides, different types of micas (muscovite, phlogopite, aspidolite, paragonite, margarite), chlorite, kaolinite, pyrophyllite, montmorillonite, epidote, amphibole, organic substance

Reference 3 - 0.22% Coverage

¶10: A non-destructive methodology for the characterization of white marble of artistic and archaeological interest

Reference 4 - 5.78% Coverage

¶11: We describe the main features of a simple and strictly non-destructive methodology for the measurement of some physical parameters related to the internal structure of white marble. Some of these parameters, like texture and luminosity, or transparency, are correlated to the marble features that are also roughly perceptible at glance. Other parameters, like internal anisotropy and non-homogeneity, are less observable at sight. A preliminary comparison has been performed between the data obtained with this methodology and the data obtained on the same samples of white marble with well-established petrographic methods, and a good correlation has been found. The characterization of the examined white marbles, provided by the set of all the quantities measured with this methodology, can be used not only in the field of quality tests of materials, but also in the field of cultural heritage. For instance, it can assess the pertinence of the different parts in the case of a composite work, and can contribute to identify the quarry of origin, together with the data obtained with other consolidated, even if more or less destructive, methodologies. It is also helpful to enlighten the criterion of choice possibly adopted by the author, a capability useful in a study of modalities of artistic expression. The instrumentation is simple and inexpensive since it is mainly composed of a laser-diode, a charged coupled device (CCD) camera with its lens and an interference filter. A movable mechanical support allows the correct positioning of these devices relative to the object to be measured. A notebook computer contains the management program of the CCD camera and the software of data analysis. Since the instrumentation is portable and self-contained, its use is possible in museums and archaeological and architectural sites. Measurements have no cost beyond that of the instrumentation and the results of the measurements are almost immediate. The cheap and simple use of this method has allowed, in a rather short time, a collection of data large enough to permit statistically valid data analyses. As a consequence, a database has been built designed expressly to include any information suitable to describe quarry samples and artifacts of archaeologic and artistic interest made of white marble. In addition to quantitative data

that characterize their internal structure, the database also contains some pertinent images and the available humanistic and technical information. The database is managed by an application that also allows to select the recorded data in a large number of ways and to extract and to arrange in tables their properties that are considered most meaningful. These tables can be exported into other commercial programs to perform statistical analyses. The structure of the application can be modified in order to make it suitable to the recording and the analysis of data of other types.

Reference 5 - 0.62% Coverage

¶27: the authors put their interest in the checking of the different recipes leading to the synthesis of Egyptian blue. In order to deepen the study of the mechanism of Egyptian blue formation, the synthesis in molten carbonates was tried, but it did not lead to Egyptian blue but to azurite and in the end malachite.

Reference 6 - 0.23% Coverage

¶32: Various techniques such as Raman spectroscopy, X-ray diffraction, and thermal expansion measurement have been applied

Reference 7 - 0.77% Coverage

¶32: The experimental results highlight the microstructure and technological processing of these potteries. Sa Huynh potteries technology is based on iron-rich clay-based body and feldspar fluxing agents. The firing is made in more or less strong reducing conditions. The Cham potteries were made from high-temperature fired silica-rich bodies covered with thin colourless to black–brown glazes.¶33:

Reference 8 - 0.26% Coverage

¶34: This study describes the results of petrographical, mineralogical and chemical analyses carried out on coarse tempered cooking pottery

Reference 9 - 3.15% Coverage

¶34: Two groups of clayey sediments of different nature (alluvial and marine) sampled in the neighbouring of the archaeological sites were also analysed. By means of the petrographical analyses, all cooking pottery and the two kiln fragments were grouped in the same coarse tempered group, characterised by the scarce presence of trachytic and glassy fragments, anhedral and zoned augitic pyroxenes and feldspars. PXRD analyses show an abundant presence of quartz and feldspars, followed by pyroxenes and variable quantities of calcite and hematite. Among clay minerals, illite plus muscovite are more abundant than smectite. XRF analyses data display SiO_2, Al_2O_3, Fe_2O_3 and K_2O as main oxides, with variable quantities of CaO. In the case of the clayey samples, petrographical investigations on thin-section of psammitic fractions outlined the differences between Argille subappennine (Marine group—Pleistocene) and the alluvial deposits of Celone River (Alluvial group—Holocene). The occurrence of volcanic products, chert, garnet, quartzarenites and limestones in the archaeological materials and in the alluvial samples, let us suppose that cooking

pottery was made with alluvial clayey silt. The apparent chemical discordance between pottery and alluvial samples bulk compositions can be due to textural and compositional variability of the alluvial deposits. All ceramics were fired in oxidising conditions, although in many cases a “dark core” was still present. Textural features, observed through petrographical microscope, and PXRD analyses suggested a firing temperature between 600 and 800 °C.

Reference 10 - 0.07% Coverage

¶43: Archaeometallurgical characterisation

Reference 11 - 0.20% Coverage

¶44: Chemical physical analyses where carried out using neither destructive nor microdestructive techniques

Reference 12 - 0.86% Coverage

¶59: As a preliminary step, a mineralogic petrographic characterization of the materials was carried out. Optical Microscopy (OM), X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Fourier Transform Infrared Spectroscopy (FTIR), Differential Scanning Calorimetry (DSC) and Thermo-Gravimetric (TG) analyses were performed on samples of bricks, plasters and mortars. At the same time, ground penetrating radar (GPR) investigations

Reference 13 - 0.54% Coverage

¶59: Lastly, by collecting and collectively interpreting all the results obtained by in situ drillings and tomographic prospections, it was possible to reproduce the substratum behaviour and to localise areas with electric anomalies confirming the existence of hidden structures.

Reference 14 - 2.22% Coverage

¶65: The results of these computations are usually distributed over many sites that can be viewed by VRML and Java technology, which are well-suited for describing and visualizing geometrical models and data interaction over the Internet. Unfortunately, the poor quality of VRML real time rendering is a bottleneck for any analysis based on accurate image synthesis methods. Another problem in reproducing images with photorealistic rendering derives from the adaptation mechanisms of the human visual system. We describe a method and its implementation for providing high quality photorealistic image synthesis of ancient building materials, considering also a final adaptation stage able to simulate the lighting and color adaptation phases of a human observer. In this method, a network based Java application manages geometric 3D models of ancient buildings to provide an editing interface and to manage high quality photorealistic snapshots. Simple 3D VRML data are enhanced with radiometric data derived by gathering measurements on the actual material taken from the site to reproduce. In the example presented in this paper

Reference 15 - 0.60% Coverage

¶65: A server-based optimized rendering application computes photorealistic images on radiometric data, that are subsequently applied as input to an algorithm simulating the human visual system perception. This latter phase is able to emulate the human local lightness, and chromatic adaptation mechanisms.

Reference 16 - 0.11% Coverage

¶83: Experimental results evidenced that the gun is of bronze

<Internals\\JCH 2005 abstracts> - § 14 references coded [11.70% Coverage]

Reference 1 - 0.65% Coverage

¶10: were performed. In order to collimate the fluorescence X-rays emitted by the samples, an X-ray polycapillary conic collimator (PCC) has been used in front of the detector. This device arrangement is compact, versatile, and portable. The nature of the pigments, the compositional elements, and the thickness of the fragment layers have been studied

Reference 2 - 1.11% Coverage

¶14: have been investigated mainly by optical and scanning electron microscopy equipped with EDS, X-ray fluorescence, X-ray powder diffractometry, inductively coupled plasma atomic spectroscopy and, where possible, by Mössbauer spectroscopy in order to distinguish and classify them on the basis of their physico-chemical and/or mineralogical-petrographic properties. The mean composition of the different finds, their morphology, the included particles, the presence of crystalline phases, are reported. The role of the Fe(II)/Fe(III) ratio and of Mn in the production technology was estimated.

Reference 3 - 0.58% Coverage

¶16: Both samples were found to have a lime-based binder medium and aggregates composed of pottery sherds and pozzolana. Permeability to water of the two mortars varies significantly and can be correlated with the pore microstructure of the constituent phases, determined using the mercury intrusion technique.¶17:

Reference 4 - 0.17% Coverage

¶19: using various techniques such as soil micromorphology, image analysis and soil chemistry

Reference 5 - 0.50% Coverage

¶19: The analyses of different anthropogenic levels in thin sections, the measurements of carbonate, phosphorus, carbon organic contents and soil porosity (image analysis) provided accurate information about the presence of an earlier garden made up of imported soil.

Reference 6 - 1.30% Coverage

¶31: The results show an impressive juxtaposition of various metal alloys (gold, gold–silver and gold–copper) used to obtain a polychrome effect. The detailed examination and the analyses have evidenced for the first time the presence of an intentional patina on the inlays present in the wing quills of the statue and on the inlaid hieroglyphs of the base. This black patina, referred in the Egyptian texts as Hmty-km, was in general observed as a background on the Egyptian objects but is here reported for the first time on inlays. It is moreover demonstrated that several copper–gold alloys and perhaps several recipes are used to obtain a blackish coloration on various copper–gold alloys.

Reference 7 - 1.35% Coverage

¶44: Optical, SEM-EDS and TEM microscopy, Mössbauer and UV–Vis spectroscopy, SIMS spectrometry and ICP spectroscopy, were carried out on sixty vitreous finds, with particular attention to the trace elements, in order to correlate them to the raw materials, the working instruments and the technology employed. The colours of these vitreous finds have been studied in detail to establish the presence and kind of chromophores, the redox conditions used for obtaining of the vitreous mass during the fusion process, the role of the oxidation state and chemical environment of the different metal ions, etc. Eight crucibles and one refractory material were also investigated by XRD diffractometry and TG-DTA thermogravimetry.

Reference 8 - 0.17% Coverage

¶54: FTIR-chemometric tools as aids for data reduction and classification of pre-Roman ceramics

Reference 9 - 0.11% Coverage

¶55: Fourier transform infrared spectra of a representative pool

Reference 10 - 1.90% Coverage

¶55: were analyzed by principal component analysis (PCA) and soft independent modeling of class analogy (SIMCA) with the aim to establish reference groups for the purpose of assigning future samples. PCA analysis using the spectral data comprised between 1260 and 440 cm−1 (410 wave numbers or data points) showed that the first three principal components (PC) describe most of the total spectral variance. By means of PCA, most of the information related to firing temperature and temper type was explained by the first PC: the score plot on the first and second PCs confirmed the same grouping of the samples as previously performed according to classification criteria determined by means of a detailed attribution of all the mid infrared absorbance peaks. SIMCA modeling carried out at 95% confidence level on second derivative pre processed data were successful too, but one object, which was assigned to a wrong class. Interestingly, SIMCA proved to be a promising tool to rapidly classify ceramic samples.

Reference 11 - 1.15% Coverage

¶57: the relative production cycle is proposed on the basis of a physico-chemical investigation, carried out especially by optical and SEM-EDS microscopy, Mössbaüer and ICP spectroscopy, XRD diffractometry and TG-DTA thermogravimetry. It was verified that the glasses can be divided according to their mean composition in two groups: one sodic–calcic in nature (three glass fragments and two glass masses) similar to that found for the coeval Germagnana glasses, the other sodic-potassic in nature (four glass masses) with a significantly different composition. Furthermore, a relevant number of vitreous samples,

Reference 12 - 0.69% Coverage

¶57: , has been completely characterized. These pale yellow-fumé glasses have a sodic–calcic composition. They have been obtained by melting together ashes from coastal plants with non-particularly pure sand and have been decolorized by the intentional addition of manganese (IV) dioxide. They do not reach the purity grade of the coeval Santa Cristina sodic–calcic glasses.

Reference 13 - 0.03% Coverage

¶81: mtDNA analysis

Reference 14 - 2.01% Coverage

¶82: The analysis of mtDNA from bone samples taken from the three skeletons was successful in only one of the two labs involved. The HVR1-mtDNA sequence (region: from nt 16,035 to nt 16,395), obtained from the bone samples of Federico II and “The Third Individual” appear identical but bear double peaks at the same nucleotide positions, suggesting mixing (i.e. contamination) of different mtDNA types. The HVR1 sequence obtained from the bone sample of Pietro II di Aragona does not present double peaks and differ from the Cambridge Reference Sequence (CRS) at six nucleotide positions. Cloning experiment of the Federico II amplicon demonstrated that the mixed mtDNA types are only two: one identical to CRS, the other identical to the sequence of Pietro II di Aragona. A reconstruction of these data are proposed in the Discussion. Due to the problematic context in which this study was carried out (mixed and deteriorated biological material, failure to replicate results in two different labs), our results and reconstruction can only be offered on a tentative basis.

<Internals\\JCH 2006 Abstracts> - § 14 references coded [11.55% Coverage]

Reference 1 - 0.24% Coverage

¶4: A global approach to the authentication of ancient bronzes based on the characterization of the alloy–patina–environment system

Reference 2 - 0.99% Coverage

¶5: The aim of this paper is to propose a general framework for improving authentication practice of ancient bronze artefacts. In a first part, the article comprehensively reviews the different approaches usually performed to authenticate bronzes, but also evidences their limitations. It is shown that even if numerous technical and fundamental scientific improvements have overcome some of the

limitations encountered in the characterization of materials, properties, metal and patina are always considered as independent systems.

Reference 3 - 0.17% Coverage

¶8: Fine-grain TL dating of archaeometallurgical furnace walls

¶9: Thermoluminescence (TL) signals

Reference 4 - 0.13% Coverage

¶9: were investigated using an additive dose fine-grain polymineral protocol

Reference 5 - 0.72% Coverage

¶9: Additionally, the mineralogy of the fragments was examined to study the relation between their TL characteristics and the temperatures they were exposed to during the pyrometallurgical process. The results presented here highlight sources of additional error in TL dating of ancient furnace remains, like varying sensitivity characteristics and potential mineralogical alterations.¶10:

Reference 6 - 1.79% Coverage

¶49: The aim of this research study is to show how a geographical information system (GIS) based methodology can be useful in developing a forecasting model for maps of archaeological site locations. Previous studies about these topics referred to log/autolog models that had, however, connections with outliers in calculating parameters and estimating specific hypotheses on the cases under investigation. In line with recent studies on predictive modeling, in this paper a solution is presented that is based on a combined use of statistics with GIS technology. Geographic information also from remotely sensed data helps to identify the presence of unknown sites in the area under study. This approach was tested on the Cures Sabini archaeological area with good results. One of the most interesting aspects of this methodology is the possibility of converting into an automatic tool the process that produces probability maps of archaeological site locations.

Reference 7 - 0.07% Coverage

¶75: Chemical and lead isotope compositions

Reference 8 - 1.58% Coverage

¶76: Using inductively coupled plasma–atomic emission spectrometry (ICP-AES), atomic absorption spectrometry (AAS) and instrumental neutron activation analysis (INAA) the concentration of Ag, As, Au, Bi, Cu, Fe, Ga, In, Ni, Sb, Sn, and Zn in 53 samples taken from archaeological finds dated to 4th–2nd century BC and found in the territory of ancient Thracia was determined. Additionally using inductively coupled plasma–mass spectrometry (ICP-MS) and MS for determination of the lead isotope ratios in the samples was carried out. On the basis of these analytical results using cluster analysis for grouping the samples on the bases of the similarity in chemical and isotopic content and

the available data from the literature for lead ore deposits in the Balkan Peninsula, the geological origin of the investigated archaeological finds was evaluated

Reference 9 - 1.08% Coverage

¶84: were analyzed by petrographic, mineralogical and chemical techniques in order to assess the temperature reached in the melting chamber and to find out which raw materials were used to make the crucibles and the melting furnace. Since the crucibles were used in the melting furnace, the temperature estimations were based on both the crucibles and the refractory fragments, as they were parts of the same system. The temperature range in the melting chamber, estimated by the structural order of the new-formed cristobalite, points to a temperature range between 1350 and 1500 °C

Reference 10 - 0.30% Coverage

¶85: a physico-chemical investigation on the painting materials

¶86: Optical and SEM-EDS microscopy, X-ray powder diffraction and micro FT-IR spectroscopy investigations

Reference 11 - 2.28% Coverage

¶86: identified the original materials and painting technique, as well as synthetic materials used as consolidants during past restoration treatments. The original organic binders and the superficial modern coatings have been identified by micro FT-IR spectroscopy applied directly to the sampled powders or tiny fragments and to their solvent—soluble fractions. The pigments identified on the couch of Amphipolis are: red and yellow ochre, cinnabar, Madder lake, paratacamite and antlerite, carbon black, calcium carbonate, kaolin and gypsum. The identification of egg and animal glue confirms the application of tempera and secco techniques. The detection of polymers such as polydimethylsiloxane, polyvinyl acetate and alkyd resins, is related to modern restoration products. The pigments attested on the paintings of the Tragilos' sarcophagus are: red and yellow ochre, Egyptian blue, malachite, carbon black, calcium carbonate and gypsum. The absence of organic binders combined with the constant presence of calcium carbonate in all the examined samples suggests the use of lime as the binding medium in the painted decoration of the sarcophagus. The presence of Paraloid B72 is related to recent conservation treatments.

Reference 12 - 0.12% Coverage

¶96: Chemical characterization and AMS radiocarbon dating of the binder

Reference 13 - 0.11% Coverage

¶97: The analysis of the amino acid (AA) content in fragments

Reference 14 - 1.97% Coverage

¶97: revealed the presence of material containing peptides differing in solubility in hot acidic or alkaline solutions, as well as in AA composition and racemization. Water-soluble components were constituted of low molecular weight peptides with high racemization of aspartic acid and alanine, whereas the water insoluble material consisted of species of a more complex AA composition and a different degree of racemization. The proteinaceous materials were assumed to originate from matter that had undergone over time different diagenetic processes. The water insoluble peptide-containing material was separated from the rock substrate by acid hydrolysis, dried and the resulting residue submitted to radiocarbon analysis. Accelerator mass spectrometry (AMS) yielded an approximate age of 6145 ± 70 years B.P. (before present), which is consistent with archaeological inference and the climatic reconstruction of central Sahara. To our knowledge the present work represents the first attempt of direct radiocarbon dating of rock art in the Sahara desert.

<Internals\\JCH 2007 Abstracts> - § 23 references coded [11.11% Coverage]

Reference 1 - 0.17% Coverage

¶18: Investigating the spectral capability of QuickBird data to detect archaeological remains buried under vegetated and not vegetated areas

Reference 2 - 0.28% Coverage

¶19: The spectral capability of satellite QuickBird imagery for the identification of archaeological marks linked to the presence of buried remains is here discussed for two medieval archaeological sites in the South of Italy.

Reference 3 - 0.23% Coverage

¶29: This study is based on geomorphological surveys and is integrated by accurate interpretations of aerial photos, and of high-resolution geophysical surveys and stability analyses.

Reference 4 - 0.31% Coverage

¶35: In this study, we have processed the GPR records in three different ways: the radargrams were processed in a standard manner, a detailed spectral analysis of all anomalous areas was carried out, and finally a 3D representation was generated.

Reference 5 - 0.74% Coverage

¶52: The geological samples show variable trace element and REE compositions, and differences in Cs, Y, Zr, Nb, Ba, La, Nd, Ho, Er and Yb were great enough to allow the various source areas to be distinguished. The fragments fall into seven compositional groups. Three, which are homogeneous but clearly distinct from each another, include the Lipari, Palmarola and Pantelleria samples. The other four groups refer to the obsidian of Monte Arci in Sardinia, already known in the literature as SA, SB1, SB2 and SC. LA-ICP-MS established the definite origin and source areas of the artefacts.

Reference 6 - 0.33% Coverage

¶53: Analytical results indicate that, for obsidian samples from the peri-Tyrrhenian area, significant geochemical differences exist in their trace and REE compositions, which identify their source areas and establish their provenance for archeometric purposes.

Reference 7 - 0.91% Coverage

¶71: derived by microgravimetric 2D modelling

¶72: The microgravity method is one of the geophysical tools used in engineering and environmental and archaeological researches, where the detection of subsurface cavities or buried structures is essential. In this study, this technique has been revealed to be an efficient and respectful tool for use in Cultural Heritage restoration studies, such as those carried out in the restoration of historical sites in which the elements to be examined are beneath a shallow coating of material. Therefore, the aim of this microgravimetric survey is to define the exact position and dimensions of a subsurface structure (rainwater cistern) through microgravity response of the medium.¶73:

Reference 8 - 0.73% Coverage

¶73: A rectangular grid of microgravity measurement station points was designed to cover the entire surface of the cloister. In addition, a microgravimetric profile was acquired along a hillside close to the Carthusian buildings in order to obtain the density value of the medium.

¶74: The study was performed using a LaCoste&Romberg D203 gravimeter to detect and to map the shallow subsurface rainwater cistern that probably exits beneath it. This gravimeter has a sensitivity of approximately 1 µgal (µgal = 1.10−8 ms−2) and an accuracy of 3–5 µgal for relative gravity measurements.

Reference 9 - 0.16% Coverage

¶75: Two contour maps were calculated (observed gravity and Bouguer gravity values) in order to improve the interpretation results.

Reference 10 - 0.25% Coverage

¶76: Also, a microgravimetric inversion was performed and the subsurface is split into 7 prisms and the depth and height of each is to be estimated separately. As a result of this inversion we can estimate

Reference 11 - 0.54% Coverage

¶77: Finally, the 2D modelling derived by microgravimetric data has allowed us to determinate the shape, dimensions and location of the cistern accurately. In addition we have calculated the cistern capacity (288 m3, that is, 2880 Hl). This capacity was quite enough for the water necessities of 13 monks who lived there permanently, even for making it through the drought periods frequent in this kind of Mediterranean areas.

Reference 12 - 0.15% Coverage

¶98: Non-invasive spatial tissue discrimination in ancient mummies and bones in situ by portable nuclear magnetic resonance

Reference 13 - 0.44% Coverage

¶99: have been investigated extensively by modern diagnostic imaging using computed tomography. But magnetic resonance imaging (MRI) has never been applied successfully to mummies in a non-invasive way without tissue rehydration. The aim of this study is to show the feasibility and diagnostic impact of mobile MR technology to historic human tissues.

Reference 14 - 1.13% Coverage

¶100: have been analysed by non-invasive, single sided NMR with the NMR-MOUSE®. We acquired high-resolution depth profiles and T2 relaxation curves of the head region of the Iceman mummy in situ in the storage room at the Museum and of the cadaver in the hospital. A spatial differentiation of surface ice layer, cutis, and skull bone up to a depth of 5 mm was possible. In ancient Egyptian mummified specimens, the thickness of a fingernail and a differentiation of a single bandage layer versus the skin underneath were possible. A comparison of depth profiles through different foreheads of mummies, skulls, and living people gives strong evidence, that single-sided NMR with the NMR-MOUSE is a non-invasive technique to determine bone density. Our results demonstrate for the first time the feasibility of non-clinical MRI to visualize historic human tissues in a non-invasive approach.

Reference 15 - 2.86% Coverage

¶105: For this purpose the airborne Multispectral Infrared and Visible Imaging Spectrometer images were analysed. Each single band of the entire data set and different processing technique products were interpreted to identify any tonal anomalies. Since every analysed image exhibited marks different in terms of size and intensity, two indexes were defined for assessing the potential of anomalies detection of each image. Such parameters were: the Detection Index, used for counting the number of pixels related in each image to marks, and the Separability Index, applied for measuring the tonal difference of the marks with respect to the background. These indexes were tested on two areas within the Selinunte Archaeological Park where the presence of remains, not yet excavated, was supposed by archaeologists. For the test sites any extracted anomalies were evaluated by an expert in order to determine their archaeological relevance. The comparison among the index values, derived from each single band of the spectrometer and from different image processing by-products, allowed to determine which spectral range and which processing method are the most valuable to quickly highlight the anomalies. The analysis pointed out that, where vegetation cover is dominant, the Visible near infrared is the spectral region more sensitive to variations of spectral properties related to buried structures, while, where soil cover becomes relevant, the Short-wave infrared and the Thermal-infrared regions resulted more sensitive. As far as the applied processing methods are concerned, the Spectral Angle Mapper classifier and, secondly, the Minimum Distance algorithm stressed the highest archaeological information content. The results of this work showed that the archaeological information content derived by analysing the outputs of the applied image processing techniques is more significant than the information

obtained by interpreting each single band and the available historical aerial photos. As a final remark, the data processing flow chart, applied to the entire remote hyperspectral data set over Selinunte Archaeological Park, appeared encouraging for detection of anomalies related to the presence of the buried archaeological structures.

Reference 16 - 0.08% Coverage

¶106: Provenance hypothesis through lead isotope ratio analysis¶107:

Reference 17 - 0.16% Coverage

¶107: has been studied by EDS, XRF and lead isotopic ratio analysis in order to address provenance hypothesis and compositional issues

Reference 18 - 0.05% Coverage

¶120: PIXE analysis of V–XVI century glasses

Reference 19 - 0.05% Coverage

¶149: Physico-chemical and mineralogical study

Reference 20 - 0.18% Coverage

¶150: were sampled and studied from a scientific point of view, in order to classify them on the basis of their materic and technological content.

Reference 21 - 0.67% Coverage

¶151: Different physico-chemical and analytical methodologies have been used for a detailed study of the mineralogical composition and the texture of the ceramic body, the material employed for coatings (slips, glazes and enamels) and decorations (chromophores and pigments). Optical (OM) and Scanning Electron Microscopy (SEM–EDS or WDS) measurements, carried out on thin and cross-sections, allowed an evaluation of the state of conservation of the findings, together with the presence of neo-formation phases (i.e. phosphates).

Reference 22 - 0.66% Coverage

¶158: On the basis of mineralogical, petrographic and micropalaeontological analyses, two groups of these lithotypes employed in Roman age were distinguished: “monogenic carbonatic breccias” only constituted by clasts of the Maiolica Unit (Late Jurassic – Early Cretaceous) and “polygenic carbonatic breccias” made of fragments (in different proportions) of Calcare Massiccio (Early Jurassic), Corniola (Early Jurassic), Maiolica (Late Jurassic – Early Cretaceous) and Scaglia Rossa (Late Cretaceous – Early Paleogene) Units

Reference 23 - 0.03% Coverage

¶159: Conservation Science

<Internals\\JCH 2008 Abstracts> - § 20 references coded [8.73% Coverage]

Reference 1 - 0.17% Coverage

¶7: was performed by non-destructive analyses. The work aimed at finding the composition of the glasses and decorations, and relating these with the corresponding production periods.

Reference 2 - 0.40% Coverage

¶8: The chemical compositions of the glass fragments were obtained by micro X-Ray Fluorescence Analysis (μ-XRF), completed with the distribution maps obtained from selected cross-sections by means of micro-beam Particle Induced X-ray Emission Analysis (μ-PIXE). Colour characterisation was performed by optical absorption spectroscopy in the UV–vis range, while corrosion products were characterised with optical microscopy and μ-Raman.

Reference 3 - 0.19% Coverage

¶15: Furthermore, analytical investigation of glass pieces and mosaic tesserae was performed in order to ascertain which melting, colouring and opacifying techniques were adopted to prepare these materials.

Reference 4 - 0.26% Coverage

¶17: After a survey operated by a portable digital microscope, a reduced number of samples were collected to perform a laboratory characterization (OM, SEM–EDS, XRD). Data have been completed by an isotope ratio characterization (SIMS) to investigate the glasses raw materials provenance.¶18:

Reference 5 - 0.67% Coverage

¶19: It was found by Micro-Raman studies that yellow and white colours were the usual antimony bearing compounds, but red was produced with hematite pigments. Surprisingly, powdered lapis lazuli is responsible for the opaque blue colour. Investigation of the glass medium used for binding the enamel pigments by Micro-X-ray Fluorescence provided indications that beside the yellow lead antimonate, none of the enamel layers contained high lead contents. So the principle of enamelling upon Roman glass seems to be similar to the firing process of short duration observed on Islamic and Venetian enamelled glasses. Analytical results demonstrate that the vessel glass is effectively refined and decolourized by means of antimony

Reference 6 - 0.32% Coverage

¶21: have been object of an archaeometric characterization to determinate the chemical composition. Moreover the oxygen isotope ratio has been calculated to hypothesize the provenance

of the sands used to melt the glass. Bricks and charcoals, elements linked to the kiln structure, were analyzed by thermoluminescence and radiocarbon respectively.¶22:

Reference 7 - 0.03% Coverage

¶25: Sr–Nd isotopic analysis of glass

Reference 8 - 0.20% Coverage

¶26: The Nd isotopic composition of an ancient glass is typical of the (heavy) non-quartz fraction in the silica raw material. The Sr isotopic composition is considered typical for the lime component in the raw material.

Reference 9 - 0.05% Coverage

¶28: The present work describes the analytical study performed

Reference 10 - 0.09% Coverage

¶29: On-site Raman identification and dating of ancient glasses: A review of procedures and tools

Reference 11 - 0.42% Coverage

¶30: The potential of on-site Raman microspectroscopy for the analysis of colorless and colored amorphous silicates is reviewed. We present the experimental procedures and models used to characterize the glassy silicate network from the structural and compositional point of view. Examples illustrate the potential of the technique, among which the identification of fakes/copies and the quantification of the corrosion degree, results in a dating capability.

Reference 12 - 0.07% Coverage

¶91: Mineralogical, petrological, XRF and radioactivity measurements were carried out

Reference 13 - 1.35% Coverage

¶91: as an integrated archaeological sciences project concerning Egyptian cultural heritage with a threefold aim: (a) the multifold analysis of construction material (granite, limestone, sandstone, gypsum), providing new data, (b) a detailed radioactivity survey of the monuments, and (c) the development of a new optical stimulated luminescence dating approach for limestone buildings. Regarding the aim (a), hypotheses that large building stones used in the monuments were cast, as opposed to carved out of natural stone, are not supported by (i) the presence of undamaged fossils, (ii) lack of zeolite peaks in X-ray patterns, which would be expected if CaO was used in making cement, and (iii) random emplacement and strictly homogeneous distribution of fossil shells in the whole rock in accordance with their initial in situ settling in a fluidal sea bottom environment. Moreover, statistical clustering of chemical composition indicated five rock sub-categories and XRF analysis reported inhomogeneity of rock composition. In aim (b) a detailed dose rate survey of the

studied monuments and of the radioisotope content (U, Th, K, Rb) of specimens is reported that form a unique data-base for any undertaken dating project. Regarding aim (c), quartz separation from limestone powder presents a new way to date limestone blocks by the single aliquot Optical Stimulated Luminescence (OSL) dating protocol, and three indicative dating cases are presented.

Reference 14 - 1.10% Coverage

¶94: Spectroscopic identification of kaolin

¶95: The present work reports on a spectroscopic study of white colour samples collected from Etruscan polychromes on terracotta from the Cerveteri area. In particular, both white-on-red potsherds of the Orientalising period and high-value polychromes of the Archaic period were considered. The white pigment, a fundamental element in this class of artworks, was not clearly identified in previous archaeological and analytical studies, although the use of kaolin was tentatively proposed. Therefore, samples from the Monte Sughereto kaolin quarry in the Cerveteri area were also studied. The results of detailed analyses carried out using micro-Raman spectroscopy, X-ray diffraction, and Fourier transform infrared spectroscopy first show that the quarry material is a high-purity kaolin containing quartz. Raman results strongly suggest that the same kind of kaolin was employed in the polychromes of the Archaic period. As to white-on red potsherds, infrared results have a key role in showing that the white pigment is a kaolin closely corresponding to the quarry material since a particular kaolin polytype (dickite) is dominant in both cases.

Reference 15 - 0.77% Coverage

¶109: We took several on-site measurements of the wave velocity in the different materials in known areas to determine as accurately as possible the depth of the contact point. The velocity was calculated by measuring the depth in these areas and the two-way travel time of the wave. The measurements were taken from the walls and the tiers as the thicknesses of the materials were known in these areas. The recorded values were compared with the velocities reported by other authors and with the information from diffraction hyperbolas recorded in the radar data, which are caused by small objects inserted in the medium. We used these velocities to determine the exact point of contact between the Roman remains and the materials used in later restorations. The contact points cause the reflections that can be seen in the GPR data

Reference 16 - 0.20% Coverage

¶113: The chemical characterisation of the paint medium was performed through an analytical procedure based on GC-MS. The proteinaceous binder was identified for the first time through a desalting procedure used in proteomics.

Reference 17 - 0.12% Coverage

¶149: Detailed analysis of historical and recent cartography, together with landscape, geological and archeo-mining investigations

Reference 18 - 0.03% Coverage

¶163: The role of Mössbauer spectroscopy¶164:

Reference 19 - 2.04% Coverage

¶164: More interesting information is obtained by analysing the glossy layers of the two classes. Three groups of glosses have been evidenced in which the differences are related to the different amounts of potassium, iron and aluminium oxides. The glosses of the Al-group present values of aluminium higher than the corresponding pastes; in the AlFe-group glosses the quantities of aluminium and iron are very high, and finally in the third group (KAlFe) all three elements are more abundant than in the pastes. Practically all the BSW glosses fall in the AlFe group, while the NPBW glosses are distributed in the three groups. Other information regarding working techniques, in particular the firing conditions of the artefacts, have to be clarified in order to assess the whole manufacturing process. The detailed reconstruction of the firing techniques of such artefacts with the usual analytical methodologies (XRF, XRD and observation in thin section) is highly problematic due to the peculiar features of the samples. The low calcium content gives rise to an extremely simple mineralogical composition, without any of the calcium silicates which usually form during firing, and give indications on the firing temperature. Moreover, the absence of crystalline iron oxides in the diffractograms limits the possibility to evaluate the firing temperature to the sole estimate of illite content. The determination of the firing atmosphere is mainly based on a visual examination of the colour of the sample pastes and slips. In an attempt to better define the range of firing temperatures, we have chosen to use Mössbauer spectroscopy on the basis of the high content of iron of the samples. In fact, 57Fe Mössbauer spectroscopy allows the identification of mineral phases to be used as a “mineralogical thermometer”, such as spinel phases, hercynite and metallic iron. Also, the calculation of the reduction index (Fe2+/FeTOT) yields interesting information regarding the firing technology, and particularly the control of the firing atmosphere by the potter. These results seem to be possibly linked to previous data obtained from the EDS chemical analyses of the above-mentioned three groups of slips.

Reference 20 - 0.24% Coverage

¶197: better understanding of the chemical composition of these patinas could explain details of the ceremonial practices realized throughout the centuries. An important challenge is to extract unequivocal information about the original constituents of these patinas,

<Internals\\JCH 2009 Abstracts> - § 45 references coded [17.72% Coverage]

Reference 1 - 0.15% Coverage

¶5: by means of remote sensing techniques is a challenge as difficult as engaging, since the adobe has a composition quite similar to the neighbouring earth material.

Reference 2 - 0.06% Coverage

¶6: Comparative cluster analysis to localize emergencies in archaeology

Reference 3 - 0.59% Coverage

¶7: This analysis was carried out in open source environment implementing and performing two different classification algorithms and comparing the final results. As we had at our disposal no set of reliable ground truth of the study area it was necessary to follow an unsupervised classification approach. The off-line clustering techniques have been: K-means and Fuzzy K-means. Both approaches rely on minimizing a cost function of dissimilarity (distance) measure. We have overcome the problem of data group overlapping in a hard classification testing a fuzzy approach where each observation belongs to a cluster with a fuzzy membership degree.

Reference 4 - 0.15% Coverage

¶7: We performed every phase by the software Integrated Land and Water Information System (ILWIS) 3.4 developed by the ITC of Enschede and open source from July 2007.

Reference 5 - 0.05% Coverage

¶8: Space observation for generating 3D perspective views

Reference 6 - 0.04% Coverage

¶9: The present work is a 3D visualization analysis

Reference 7 - 0.03% Coverage

¶9: using space based observation.

Reference 8 - 0.19% Coverage

¶9: led us to carry out 3D visualization through virtual reconstruction of this landscape. Analyses of spatial distribution of monuments in this area together with slope, aspect and visibility analysis were conducted

Reference 9 - 0.09% Coverage

¶9: Three different methods of generating Digital Elevation Model (DEM) are discussed in this paper.

Reference 10 - 0.17% Coverage

¶9: to create stereo pair and thus generate DEM and the third involves the use of direct stereo of Indian CARTOSAT-1 satellite which has a high resolution along track stereo capability.

Reference 11 - 0.15% Coverage

¶11: The geometrical survey of the palace was performed using different techniques such as Total Station, GPS, laser scanner, and aerial and ground photogrammetry.

Reference 12 - 1.08% Coverage

¶13: These images, characterized by a panoramic geometry, indeed represent an important historical resource for photointerpretation in archaeology, but their metrical use is difficult, owing to the severe distortions affecting the acquisition together with the problems of finding technical data related to the missions. In order to produce metric products of sufficient quality for mapping purposes, a high resolution scanned copy of a CORONA image of the relevant area was processed using commercial digital photogrammetric workstations operating with different approaches, whose aim was to evaluate the potential and specific problems connected to these kinds of data. A full orientation and digital triangulation of these images is possible if all the technical data on the sensor and the acquisition are well-known, and in any case the existence of well-distributed and reliable ground control points in the study area is crucial. The results obtained are interesting as they allow for integration, on a common cartographic reference base, with current aerial and satellite imagery (medium to very high geometric resolution) to perform automatic or visual change analysis procedures.

Reference 13 - 0.14% Coverage

¶14: Specific spectral bands for different land cover contexts to improve the efficiency of remote sensing archaeological prospection: The Arpi case study

Reference 14 - 1.18% Coverage

¶15: Under the unidentifiable spectral condition, the main aim of this research is to verify the effectiveness of limited and specific spectral bands, retrieved by a hyperspectral remote sensing methodology described in [1], for the detection of surface anomalies related to archeological structures. The archaeological relevance of these extracted spectral anomalies is determined by an expert using traditional photo-interpretation methods. The results, compared with the archaeological knowledge of this area, stress the usefulness of the methodology to identify the specific spectral ranges to detect surface anomalies related to subsurface archaeological structures as a function of the surfacing land cover. The selected area for this study is located in the Arpi archaeological area (Italy) and the hyperspectral imagery used are Multispectral Infrared and Visible Imaging Spectrometer (MIVIS) airborne data. The paper highlights how airborne hyperspectral remote sensing can be an effective and cost-efficient tool to perform a preliminary analysis of subsurface remains in archaeological areas by prioritizing and localizing the sites where one can apply near surface geophysical and archaeological surveys.

¶16: Digital wide scale orthoprojections and mapping from low-height aerial images

Reference 15 - 1.21% Coverage

¶17: Orthoprojection and automatic or semiautomatic DEM productions are digital photogrammetrical products that enable two ranges of requirements in close-range survey applied to architecture and archaeology, to be connected. It is possible to depict both the shape of objects and the thematic data derived from orthoprojection; photographic information in fact enhances documentation as it other details on the masonry typology, the kind of facing the decorations, the

materials and their decay. The non-conventional methodology analyzed in this paper, and the consequent orthophotos and stereo-plotting production, are based on the use of a restrained helium balloon, which was equipped with an ad hoc remote-controlled platform. A non-metrical film-based camera was placed inside the platform to acquire nadiral images of overflow areas. The still problematic phases of the application of these methodology will be discussed: the plan of the stereoscopic stripes which is rendered complicated by system instability, the non-metric camera calibration, the surface model generation and their solution according to the morphology of the surveyed area. Finally, the accuracy evaluation of the final orthoimaging will be dealt together with the opportune integration of this kind of work in a multiscale spatial information system.

Reference 16 - 0.03% Coverage

¶18: Quick digital photogrammetric systems

Reference 17 - 1.22% Coverage

¶19: Moreover, the demand for 3D models of historical monuments is continuously increasing in the field of archaeological and architectural applications. The two main sources that can provide detailed and reliable 3D surface models are photogrammetry through image-based modelling, and Terrestrial Laser Scanner through laser scanning techniques. Among the works so far presented, the use of laser scanner for cultural heritage survey seems to achieve a position of monopoly in the 3D modelling pipeline. Laser scanner technology permits a detailed 3D description of the artefacts geometry: during the acquisition phase, it is possible to automatically acquire a great amount of 3D points without subjective interpretation from the operators. Some related geometric issues have not been solved yet, and thus a great amount of post-processing work is required to get final results. Recently, the development of digital stereo-photogrammetric systems capable to define 3D visualization and navigation environments represents a valid alternative as a tool for 3D documentation of cultural heritage. This paper aims to present the wide range of application of quick photogrammetric systems, either stereoscopic or trifocal, in the context of surveying archaeological–architectural artefacts at different scales and for different purposes.¶20:

Reference 18 - 0.10% Coverage

¶22: High resolution 3-dimensional documentation of archaeological monuments & landscapes using airborne LiDAR

Reference 19 - 1.87% Coverage

¶23: Over the past 16 years, the Discovery Programme, an Irish archaeological research organisation, has strived to produce accurate high resolution 3-dimensional models of earthwork monuments and their archaeological landscapes. Initially, this was achieved by the use of terrestrial-based survey technologies including total stations and RTK GPS. However, this is a slow, labour intensive way to build such models, and often the final archaeological models were devoid of their landscape context. In 2003, the Discovery Programme implemented, to great effect, the use of digital aerial stereo photogrammetry in the creation of landscape and monument 3-dimensional models and associated orthoimages. However, problems including the occlusion of features due to vegetation cover, and

the great effort and expertise needed to process the data were evident. Since the development of fixed wing Light Detection and Ranging (LiDAR), and its ability to rapidly produce landscapes Digital Terrain Models (DTM) even beneath vegetation, the Discovery Programme has monitored its application to the recording of archaeological features. Although impressive results have been seen from many examples of landscape modelling, the resolution and accuracy of the sensor devices (0.5m and 15 cm respectively) often falls short to effectively record the subtle details and relationships of complex archaeological features. Since 2007, the Discovery Programme has employed the use of a new aerial LiDAR system: FLI-MAP 400 from BKS Surveys Ltd. (UK) and Fugaro Ltd. (Netherlands). This technology has the advantage in that it is helicopter mounted, allowing for relatively slow air speeds and low altitude flight paths which result in the collection of extremely high resolution height data (10 cm). The FLI-MAP 400 system is equipped with three 150 Khz laser scanners (forward – nadir – aft), that have a range accuracy of 1 cm (1 sigma) and several imaging devices including high resolution mapping camera and three video cameras accompanying each laser scanner.

Reference 20 - 0.16% Coverage

¶23: Discussion includes the processing required to produce the final models and the level of vegetation removal that can be achieved from the multiple return signals of the LiDAR pulse

Reference 21 - 0.25% Coverage

¶23: Subsequent interpretations are then used in conjunction with the high resolution models to enable the realistic visualisation of monument and landscape features. Finally, there is an evaluation of this methodology against alternative LiDAR and ground-based approaches.

Reference 22 - 0.10% Coverage

¶24: Full-waveform Airborne Laser Scanning for the detection of medieval archaeological microtopographic relief

Reference 23 - 0.58% Coverage

¶25: This paper focuses on the detection and spatial characterization of microtopographic relief linked to archaeological remains using full-waveform (FW) Airborne Laser Scanning (ALS). ALS is an optical measurement technique for obtaining high-precision information on the Earth's surface including basic terrain mapping, such as Digital Terrain Model (DTM) and Digital Surface Model (DSM). In the field of cultural heritage management, ALS can provide detailed information useful for feature extraction, but the detection of archaeological microtopographic relief is still a challenge especially for vegetated and highly sloped areas.

Reference 24 - 0.10% Coverage

¶26: Novel tomographic based approach and processing strategies for GPR measurements using multifrequency antennas

Reference 25 - 0.56% Coverage

¶27: This work is focused on an advanced processing strategy based on the microwave tomography and novel approaches able to exploit the data-diversity ensured by the exploitation of antennas at different frequencies for Ground Penetrating Radar (GPR) prospecting. The aim is to improve the interpretability of the reconstructed images compared to the standard data processing and the interpretation of vertical profiles and time-slices. The effectiveness of the proposed strategies will be shown for a synthetic example and a realistic GPR survey performed with 200 and 600 MHz antennas for archaeological prospecting

Reference 26 - 1.20% Coverage

¶29: The developed interpretation scheme includes: (a) elimination of seasonal temperature variations by the use of linear filtering with utilization of repeated temperature observations and data of meteorological stations in the vicinity of the area under study, (b) calculation of terrain relief influence by a correlation technique, which facilitates the identification of anomalies associated with concealed geological features, (3) effective interpretation of temperature anomalies observed under complex environments. The last item is based on the essential similarities between the thermal and magnetic fields make it possible to apply to thermal prospecting improved modifications of characteristic points and tangents methods developed for magnetic prospecting. These methods are applicable to complicated environments: inclined relief, arbitrary magnetization (polarization), and an unknown level of the normal field. In order to classify the intensity of a thermal anomaly, it is suggested to use a “temperature moment”, equivalent to the “magnetic moment” used in the magnetic prospecting. The interpretation results were successfully tested both on models and in real situations.

¶30: A new GIS-based integrated approach to analyse the anthropic-geomorphological risk and recover the vernacular architecture

Reference 27 - 0.09% Coverage

¶32: Ancient contexts and virtual reality: From reconstructive study to the construction of knowledge models

Reference 28 - 0.51% Coverage

¶33: This paper describes the use of integrated methods for the creation of three-dimensional models using laser scanning techniques, digital photogrammetry, 3D photomodelling and direct surveying. The three-dimensional models established using these methods constitute the basis for the construction of advanced information platform, able to represent the buildings under study with great accuracy at various scales, including both detailed elements and the monumental arrangement as a whole, as well as the textural features of the internal and external surfaces.

Reference 29 - 0.27% Coverage

¶33: All the textures were obtained by processes of photomodelling and were applied to the geometrical forms in accordance with the radiosity algorithm, with lights and shadows of the ‘area’

type. The result of this integrated approach is extremely life-like, almost indistinguishable from reality.

Reference 30 - 0.02% Coverage

¶55: HMTY-KM (black copper) and

Reference 31 - 0.53% Coverage

¶67: the most effective way for provenance determination of marbles seems to be a combination of petrographic methods (including quantitative approaches), cathodoluminescence, and stable isotope study. Less conventional methods (e.g. Raman microspectrometry or physical properties like bulk magnetic susceptibility) are very useful for provenance studies on impure calcitic and dolomitic marbles that include carbonaceous matter, magnetic minerals or silicates. For the first time, Raman data on reduced carbonaceous matter permitted differentiation amongst marbles of different origin.¶68:

Reference 32 - 0.03% Coverage

¶74: The results of an archaeometric study

Reference 33 - 0.17% Coverage

¶75: As regards the white marbles employed in the statuary, petrographic study in thin section and the δ13C and δ18O isotopic data emphasize the frequent use of Lunense and Pentelic marbles.

Reference 34 - 0.63% Coverage

¶80: has been investigated through surface analytical techniques, such as Scanning Electron Microscopy (SEM) with Energy Dispersive X-ray Spectroscopy (EDS) and elemental ones, such as Inductively Coupled Plasma–Optical Emission Spectroscopy (ICP–OES) and Absorption Atomic Spectroscopy (AAS) by flame and electro-thermal atomisation. The investigation was aimed at defining the elemental composition of pottery findings, identifying pigments and clarifying glaze types. The results of the analytical characterization allowed the identification of materials and technological expedients used for pottery manufacturing, highlighting original features in the production of the investigated pottery.

Reference 35 - 0.28% Coverage

¶81: The quantitative analysis performed on ceramic paste, glaze and painted decorations provided a significant number of results, thus enabling their effective exploitation for multivariate statistical techniques, in order to find out possible groups of pottery items with defined similarity within the samples

Reference 36 - 0.04% Coverage

¶82: Secondary phosphates in the ceramic materials

Reference 37 - 0.07% Coverage

¶83: The pervasive crystallization of secondary phosphates in pores and fractures

Reference 38 - 0.30% Coverage

¶83: The chemical composition of these phases, which are Mg-rich vivianite and mitridatite, shows that sources of phosphorus, calcium, iron and magnesium were locally available and that the precipitation and diagenesis of these minerals were strongly influenced by micro-environmental conditions within the archaeological deposit.

Reference 39 - 0.38% Coverage

¶112: As a result of this study, all measurements can easily be collected by the help of this 3D virtual model of the monument with no need to be on the site at any time they are required. Complete 3D model will also provide a numerical evaluation, interpretation and several analyses on monument together with its environment and surroundings. This 3D virtual model approach will bring a novelty into Hittite archeology.¶113:

Reference 40 - 0.93% Coverage

¶156: This paper reports the results derived from a chemical–physical characterisation study carried out on a representative sample set of glass fragments and industrial debris from that workshop. The main objectives of the research were to contribute to the knowledge of the type of glasses produced and provide some insights into the technology developed to obtain different colours in glasses. The resulting data indicated that both high-magnesia plant ash (HMG) soda-lime-silicate and soda-lime lead-silicate glasses were produced. They also indicated a deep knowledge of glass colouring techniques, which suggests that a careful control over the glass melting processes was achieved. Among others, the occurrence of bulk-coloured silver yellow and copper ruby red transparent glasses prove the skills reached by Murcian glassmakers. These results shed new light on the Islamic glass technology of a geographical area in which, up to now, little compositional and technological data from glass workshops were available.

Reference 41 - 0.78% Coverage

¶161: Advances in computing hardware coupled with its software counterparts have, for the past decades, influenced to a greater extent both the workflow of archaeologists and their interpretation of archaeological data. On the leisurely periphery, the synergy that arises between entertainment demands and commercial driven developments of interactive 3D (i3D) computer games has pushed these technologies beyond the expectations of the Virtual Reality (VR) community. This phenomenal growth in useable technology and its proportionate decrease in price have benefited the applicability of VR which in turn, have made it more accessible for researchers wishing to harness its benefits. The last 10 years have seen a steady increase in the use of VR technology to restore, preserve, reconstruct, recreate, and visualise ancient sites, monuments and artefacts.

Reference 42 - 0.05% Coverage

¶167: were analyzed in order to investigate their origin.

Reference 43 - 0.08% Coverage

¶172: Detection of diagenetic alterations by Spectroscopic Analysis on Archaeological Bones

Reference 44 - 0.71% Coverage

¶173: by combining complementary spectroscopic techniques, such as solid-state nuclear magnetic resonance (NMR), infrared spectroscopy (IR), and X-ray diffraction. In particular, 13C nuclear magnetic resonance–cross polarization-magic angle spinning (13C NMR CP-MAS) spectroscopy allows to identify and discriminate the adsorbed calcite, that is a diagenetic contaminant, from the structural one of apatite and 1H NMR-MAS spectroscopy shows how the degradation of organic phase of collagen is related to the time. The NMR data are combined with crystalline index, measured by X-ray diffraction, and with the splitting factor obtained by infrared spectroscopy. Moreover, the evaluation of the relative content of biogenic structural carbonate and of diagenetic fluorine is reported.

Reference 45 - 0.40% Coverage

¶175: The realization of a hydraulic numerical model of the system, which is briefly illustrated in the first part of this case study, resulted to be the most suitable tool to study different possible solutions of the problem. The model simulations in fact helped the restorers put into effect the right remedies to favour the correct flow of the water, to make the whole historical system more efficient and to make its future maintenance easier.

<Internals\\JCH 2010 Abstracts> - § 7 references coded [1.29% Coverage]

Reference 1 - 0.14% Coverage

¶35: From compression tests, maximum strength, first cracking compression stress, Young modulus and breaking manner were evaluated.

Reference 2 - 0.41% Coverage

¶35: In fact, it appears that the stress from the two-storey load analysis is lower than the first cracking compression stress. From the shear tests, a proportional law seems to regulate the relation between the maximum value of the mean tangential tensions and the vertical compression the sample is subjected to. This could be the starting point for a future seismic analysis.¶36:

Reference 3 - 0.14% Coverage

¶45: and how this can be integrated into a Geographical Information System (GIS) to improve management and editing of the information.

Reference 4 - 0.09% Coverage

¶58: combined use of surface and micro-analytical techniques for its characterisation

Reference 5 - 0.01% Coverage

¶124: by ICP-AES

Reference 6 - 0.06% Coverage

¶125: Using ICP-AES method, the major and minor/trace composition

Reference 7 - 0.44% Coverage

¶125: The experimental results show that wares produced in the same location have a great similarity in the content of trance elements; meanwhile the major element K2O, and 12 of all trance elements including Li, Rb, Cs, B, Ti, Hf, V, Sr, Zr, Pb, Nb, Ta, etc., have a remarkable provenance characteristics, which demonstrates a great potential in chemical discrimination of the Qingbai wares from different kilns.

<Internals\\JCH 2011 abstracts> - § 7 references coded [3.74% Coverage]

Reference 1 - 0.03% Coverage

¶3: Archaeomagnetic investigation

Reference 2 - 0.30% Coverage

¶4: Since archaeological burnt materials provide important records of direction and intensity of the Earth's magnetic field in the past and they can be used to better improve geomagnetic secular variation curves (SVCs), an archaeomagnetic study has been performed

Reference 3 - 1.60% Coverage

¶4: Archaeomagnetic sampling has been performed using the modified Thellier method, by collecting several, large and independently oriented aliquots of heated clay, forming the bottom part of the circular wall of the structure. Laboratory treatments have been conducted at the IGG-CNR ARCHEO_LAB (Pisa, Italy) and at St. Maur Palaeomagnetic laboratory (Paris, France). Analytical measurements of the thermo-remanent magnetization index acquired from the samples have been performed using a large cell induction magnetometer for large samples, and the characteristic remanent magnetization (ChRM) has been successfully isolated after an alternate field demagnetization cleaning procedure for each sample. The final mean archaeomagnetic direction has been calculated at sampling site (D = 6.9°; I = 52.8°; N = 9; k = 305; α95 = 2.6°) following the Fisher

Statistics, and it exhibits a perfect agreement with some coeval already published directions obtained from Mt. Arso lava flows, these latter being an important anchor point in the preliminary Italian secular variation curve. Comparison with the preliminary Italian SVC, the French SVC and the SCHA.DIF.3K archaeomagnetic regional model have permitted to define an archaeomagnetic absolute age confirming the conventional archaeological age, underlining the importance of this result into the Italian archaeomagnetic data set.

Reference 4 - 0.06% Coverage

¶5: Advanced reflectance and fluorescence imaging analysis¶6:

Reference 5 - 0.80% Coverage

¶49: Surface modification, change of color, study of soil components and bone crystallinity, degradation of collagen, pH, bone histology, and the surface morphology were investigated by visual examination, UV spectrophotometry, X-ray diffraction, FTIR, pH meter, polarized light microscope (PLM) and scanning electron microscope (SEM), respectively. The results revealed that soluble salt (sodium chloride) and insoluble salt (calcium sulfate) played an important role in the deformation of bone. FTIR proved that archaeological bones undergo changes in their chemical stability. Differing colors, and cracks on the surface of the bones indicate that they were exposed to different temperatures

Reference 6 - 0.35% Coverage

¶84: The samples were described macroscopically, then analyses of petrographic thin sections, stable isotopes of oxygen and carbon and major and some trace elements were carried out. The results were compared to the databases reported for the main marble sources of the Mediterranean used in ancient times.

Reference 7 - 0.59% Coverage

¶103: was analysed exploiting different spectroscopic techniques, aiming to identify the pigments used. The possibility to distinguish between glauconite and celadonite, the most common green pigments used in such paintings, was of particular interest. Samples of celadonite from Monte Baldo and glauconite from Belgium were considered as standard materials for comparison. The results obtained using FTIR, EDS, AAS, Colorimetry, Raman and EPR spectroscopies were compared for the identification of the green pigments.

<Internals\\JCH 2012 Abstracts> - § 12 references coded [3.36% Coverage]

Reference 1 - 0.07% Coverage

¶38: An XAS study

¶39: This work reports mainly the results of an X-ray Absorption Spectroscopy (XAS) study

Reference 2 - 1.05% Coverage

¶39: The study aims at clarifying how the different local structure, oxidation state and quantity of copper influenced colour. Analysis of high-resolution Cu-K edge X-ray Absorption Near Edge Structure (XANES) and Extended X-ray Absorption Fine Structure (EXAFS) spectra showed that copper is present as cuprite (Cu2O) in orange samples and as metallic copper in red and brown ones. These phases are responsible for both the colour and opacity of the samples. In addition, Cu1+ ions linked to the oxygen atoms of the glass framework were identified in ratios of about 60% and 30% of total copper in orange and red/brown samples, respectively. In blue and green samples, copper is dispersed in the glass matrix as a mixture of Cu1+ and Cu2+ ions, and no crystalline phases are visible. In this context, the Cu1+ and Cu2+ contents in glass were also quantified thanks to suitable standards, demonstrating that, when Cu2+ is the main chromophorous ion, colour intensity is directly correlated to its content in the glass. In particular, in green and blue samples, coloured by copper, Cu2+ content varies from 26% to 56% of total copper, and the higher contents of Cu2+ are shown by more intensely coloured samples. It should be stressed here that the green colour of the analysed tesserae is given by the physical interaction of blue colour, due to Cu2+ ions, and yellow colour, due to Pb antimonates used as opacifiers.¶40:

Reference 3 - 0.04% Coverage

¶109: Microbial degradation of waterlogged archaeological wood

Reference 4 - 0.35% Coverage

¶110: Waterlogged archaeological wood is degraded very slowly compared to wood decay above ground. The special environmental conditions below ground, results in a prolonged decay process that under extremely low oxygen concentration only allow bacterial degradation of wood. The so-called erosion bacteria are described and waterlogged archaeological wood is defined. Soft rot fungi are other microbes that often are found active in more oxygenated aquatic environment.

Reference 5 - 0.72% Coverage

¶160: For the analytical and metallurgical study, X-ray diffraction was used to identify the mineralogical composition of samples. Inductively coupled plasma-optical emission spectrometer, energy dispersive X-ray and X-ray fluorescence spectrometer were used to determine the accurate elemental composition of these finds. Furthermore examinations by using metallographic, polarizing microscope and scanning electron microscopy were employed to diagnose the characteristic morphology and environmental effects of these archaeometallurgical finds. Microstructural investigations emphasized that iron production processes were performed locally at the archaeological site of Barsinia even if the iron ores were imported from other mining location in Jordan. Direct or “bloomer” was the main method used for smelting iron ores followed by smithing methods to locally produce iron artifacts. This, most probably, was the state of technology from the Bronze Age to the Byzantine period

Reference 6 - 0.05% Coverage

¶169: Digital modeling of world's first known length reference unit:

Reference 7 - 0.25% Coverage

¶170: Because of these facts, the techniques that provide fast and reliable documentation and modeling like digital close-range photogrammetry and laser scanning became preferable with respect to classical architectural methods. In this paper, the studies of precise measurement, 3D modeling and documentation of Nippur Cubit is presented

Reference 8 - 0.16% Coverage

¶170: For the purpose of 3D modeling and archiving of the mentioned object, digital close-range photogrammetry and laser scanning technology were applied and results obtained from these two techniques were compared.¶171:

Reference 9 - 0.18% Coverage

¶212: semi-quantitative X-ray mineralogical analysis using the Rietveld method was performed, together with porosity and textural analyses. This paper concludes with a discussion of how the stones studied here were pre-consolidated using lime slurry

Reference 10 - 0.03% Coverage

¶213: Petrographic and chemical characterisation

Reference 11 - 0.05% Coverage

¶214: This work is focused on the petro-archeometric characterization

Reference 12 - 0.41% Coverage

¶214: Thirty-five samples coming from three Archaic and Hellenistic kilns and five coming from an Hellenistic house, were investigated by means of optical microscopy, XRD and XRF analysis. With the exception of some ceramics which are undoubtedly imported, all the samples have similar petrographic features, but on the basis of chemical composition, we can distinguish two different groups. The presence of two local productions is confirmed by the comparison with locally outcropping sediments and with archaic and modern bricks of sure Geloan production

<Internals\\JCH 2013 abstracts> - § 21 references coded [5.13% Coverage]

Reference 1 - 0.04% Coverage

¶17: A flexible approach to reassembling thin artifacts of unknown geometry

Reference 2 - 0.88% Coverage

¶18: We present a novel 3D reassembly method for fragmented, thin objects with unknown geometry. Unlike past methods, we do not make any restrictive assumptions about the overall shape of the object, or its painted texture. Our key observation is that regardless of the object's shape, matching fragments will have similar geometry and photometry along and across their adjoining regions. We begin by encoding the scale variability of each fragment's boundary contour in a multichannel, 2D image representation. Using this multichannel boundary contour representation, we identify matching sub-contours via 2D partial image registration. We then align the fragments by minimizing the distance between their adjoining regions while simultaneously ensuring geometric continuity across them. The configuration of the fragments as they are incrementally matched and aligned form a graph structure that we use to improve subsequent matches. By detecting cycles in this graph, we identify subsets of fragments with interdependent alignments. We then minimize the error within the subsets to achieve a globally optimal alignment. We leverage user feedback to cull the otherwise exponential search space; after each new match is found and aligned, it is presented to a user for confirmation or rejection. Using ceramic pottery as the driving example, we demonstrate the accuracy and efficiency of our method on six real-world datasets.¶19:

Reference 3 - 0.23% Coverage

¶26: Inductively Coupled Plasma Mass Spectroscopy (ICP-MS) provided the samples elemental composition that allowed to make provenance hypotheses. Optical Microscopy (OM) and Scanning Electron Microscopy (SEM) with Energy Dispersive Spectrometry (EDS), supplied information about the minero-petrographic features of the objects to better understand their production technology

Reference 4 - 0.05% Coverage

¶59: Craft data mapping and spatial analysis for historical landscape modeling

Reference 5 - 0.45% Coverage

¶111: Fifteen samples of lime-based Roman coatings mortars of the house of Mithraeum were analysed. Samples can be divided into five main groups: hydraulic mortars, plaster mortars, coating mortars, stuccos and intervention mortars.

¶112: The apparent bulk density, porosity, adherence, pH chemical composition and particle size of aggregates were measured according to the standard rules. The hydraulicity and the cementation indexes were calculated. X-ray diffraction analysis of finely pulverised samples, optical microscopy with transmitted and polarised light and scanning electron microscopy (SEM) with energy dispersive analyses (EDX) techniques were used to examine the morphology, microstructure, and the texture of the mortars.

Reference 6 - 0.23% Coverage

¶113: The wall covering of Mithreum house was made with thick layers of lime mortar and coloured stuccos. Plaster mortars compositions were in the range 1/2.5/0.1 and 1/4.1/0.2 (lime/sand/arid), and, as usual in Roman mortars, do not contain gypsum. In these mortars, a calcareous lime was used (not dolomite). The sand used in each layer of the columns of viridarium is different.

Reference 7 - 0.10% Coverage

¶114: In the microphotographs the great homogeneity achieved in the mixtures are shown. The technique of mixture of arid and lime was perfect in both kind of mortars.

Reference 8 - 0.02% Coverage

¶135: Archaeo-gemmological investigation

Reference 9 - 0.17% Coverage

¶136: These artefacts are identified using non-destructive and non-invasive gemmological investigation methods (hydrostatic balance, refractometre, gemmology microscope, and UV lamb). It is revealed that a total of 108 of these glyptics are collected into the natural gemstone groups

Reference 10 - 0.06% Coverage

¶137: X-ray shape-from-silhouette for three-dimensional modelling applied to ancient metallic handworks

Reference 11 - 0.88% Coverage

¶153: using dense stereo matching techniques

¶154: Several new tools to obtain three-dimensional information from unorganized image sets are now available for the public use. The main advantage of this software, which is based on dense stereo matching, is the possibility to generate 3D content without the need of high-cost hardware (e.g. 3D scanning devices). Nevertheless, their use in real-world application domains (like cultural heritage) is still not very diffused, due to the non-straightforward usability of the raw data produced. In this paper, we investigate the use of automatic dense stereo reconstruction tools for the monitoring of an excavation site. A methodology for the effective acquisition and processing of data is presented. In addition, the results of the data assessment demonstrate the repeatability of the data acquisition process, which is a key factor when qualitative analysis is performed. The use of three-dimensional data is integrated in an open source mesh processing tool, thus showing that a spatio-temporal analysis can be performed in a very intuitive way using off-the-shelf or free/open digital tools. Moreover, the use of peculiar rendering and the creation of snapshots from arbitrary points of view increase the amount of documentation data, and suggest a perfect integration of data produced with dense stereo matching in the future standard documentation for excavation monitoring.

Reference 12 - 0.48% Coverage

¶183: The base map was created utilizing U.S. Navy Coast Survey maps dating from the mid-19th century. A digital elevation model was created to represent the 1775 topography, utilizing LIDAR data and constant value raster layers. The military terrain analysis provided valuable insights into battlefield events and decisions. Defining features of the battle were also identified and mapped. A

detailed Environmental Systems Research Institute's ArcGIS Citation Data Model was used to link landscape and KOCOA features to the historical sources they were derived from. A comprehensive source table was created as part of this effort. The results of this investigation have provided a high resolution dataset of Boston's historical landscape during the time of the American Revolution

Reference 13 - 0.11% Coverage

¶183: The methodologies and interdisciplinary approach will also be applicable to other investigations seeking to recreate historical landscapes within a geographic information system.¶184:

Reference 14 - 0.06% Coverage

¶188: Interpreting the age of the ruins of St. John the Baptist's church with multivariate analysis

Reference 15 - 0.08% Coverage

¶189: Two multivariate statistical tools – principal components analysis and cluster analysis – were applied to aid in the interpretation

Reference 16 - 0.33% Coverage

¶189: With these methods it was possible to distinguish between the types of mortar used in the Romanesque and Gothic time periods. The investigated structure is a ruin with poorly preserved fragments of historical mortars, so tracing the individual stages of its construction proved to be a demanding task. Its chemical composition was determined by inductively coupled plasma mass spectrometry (ICP-MS) and the results of the content of various oxides were statistically evaluated to interpret the age of the southern wall of the church.

Reference 17 - 0.03% Coverage

¶201: Locating Macedonian tombs using predictive modelling

Reference 18 - 0.39% Coverage

¶202: Geospatial data processing technologies (GIS), predictive modelling techniques and fuzzy logic were applied to the study area in order to create a predictive model that would be able to provide map regions assigned with specified probability of Macedonian tombs' occurrence. The model was tested extensively and was validated using a commonly used predictive gain. The results and the evaluation of the model proved the efficiency of its predictive ability in providing answers to a series of questions related to the problem at hand (archaeological research, cultural resource management and protection, land use, etc.).¶203:

Reference 19 - 0.02% Coverage

¶220: Study of Neolithic pottery

Reference 20 - 0.07% Coverage

¶220: using micro X-ray fluorescence spectroscopy, stereoscopic microscopy and multivariate statistical analysis

Reference 21 - 0.46% Coverage

¶221: were archaeometrically studied in order to investigate their provenance and to clarify specific technological features. The clay bodies, the paints and the slips were stereoscopically analyzed, while their elemental composition was determined, using non-destructive multi-elemental micro X-ray fluorescence spectroscopy. Furthermore, the analytical data were statistically treated using multivariate exploratory techniques (Principal Component Analysis, PCA). As a result, novel technological information was derived especially concerning the Crusted type ceramics, which have not been widely examined by archaeometric means up to now, while useful provenance associations were also derived from the statistical combination of the studied groups.

<Internals\\JCH 2014 abstracts> - § 7 references coded [1.91% Coverage]

Reference 1 - 0.02% Coverage

¶152: Archaeometric dating

Reference 2 - 0.05% Coverage

¶153: An archaeometric multi-technique approach has been undertaken

Reference 3 - 0.22% Coverage

¶153: Dating was achieved combining archaeomagnetic and thermoluminescence methods. Metallographic data, oral and written sources also contributed to the dating discussion. A neighboring conventional (i.e. non-continuous) limekiln was dated using its recorded archaeomagnetic direction.¶154:

Reference 4 - 0.86% Coverage

¶187: Accurate three-dimensional representations of cultural heritage sites are highly valuable for scientific study, conservation, and educational purposes. In addition to their use for archival purposes, 3D models enable efficient and precise measurement of relevant natural and architectural features. Many cultural heritage sites are large and complex, consisting of multiple structures spatially distributed over tens of thousands of square metres. The process of effectively digitising such geometrically complex locations requires measurements to be acquired from a variety of viewpoints. While several technologies exist for capturing the 3D structure of objects and environments, none are ideally suited to complex, large-scale sites, mainly due to their limited coverage or acquisition efficiency. We explore the use of a recently developed handheld mobile mapping system called Zebedee in cultural heritage applications. The Zebedee system is capable of

efficiently mapping an environment in three dimensions by continually acquiring data as an operator holding the device traverses through the site

Reference 5 - 0.55% Coverage

¶187: With the Zebedee system, the site was scanned in half a day, and a detailed 3D point cloud model (with over 520 million points) was generated from the 3.6 hours of acquired data in 2.6 hours. We present results demonstrating that Zebedee was able to accurately capture both site context and building detail comparable in accuracy to manual measurement techniques, and at a greatly increased level of efficiency and scope. The scan allowed us to record derelict buildings that previously could not be measured because of the scale and complexity of the site. The resulting 3D model captures both interior and exterior features of buildings, including structure, materials, and the contents of rooms.¶188:

Reference 6 - 0.02% Coverage

¶188: laser scanning techniques

Reference 7 - 0.20% Coverage

¶195: Using a software for architectural acoustic, and with a 3D theatre virtual model, we predicted the acoustic properties during the Imperial Age. With acoustic measurements carried out in situ, we evaluated the acoustic properties in the current state.

<Internals\\JCH 2015 abstracts> - § 35 references coded [7.34% Coverage]

Reference 1 - 0.26% Coverage

¶18: The aim of this paper was to reconstruct the structural system and appearance of Trajan's Bridge using structural analysis, and to determine to what extent the representation of the structure on Trajan's Column could be accurate. This is successfully performed by determining the number of degrees of freedom associated with the structure and by analyzing the materials, stresses, and the bridge construction technique.

Reference 2 - 0.05% Coverage

¶29: Preliminary study on their composition and archaeometrical characterization¶30:

Reference 3 - 0.17% Coverage

¶30: A scientific multi-methodological approach was used in this research in order to shed light on the tipology and the composition of the ceramics for their characterization; i.e. minero-petrografic, diffractometric and chemical analyses were carried out on the ceramic samples.¶31:

Reference 4 - 0.03% Coverage

¶39: Surface luminescence dating of some Egyptian monuments

Reference 5 - 0.08% Coverage

¶40: Surface luminescence dating to Egyptian monuments of the age range 3000 B C to Hellenistic times has been applied for first time.

Reference 6 - 0.25% Coverage

¶40: Equivalent doses were measured by the single and multiple aliquot additive and regeneration techniques, and dose rates by portable gamma ray probes, and with laboratory counting and dosimetry systems. The resulted ages have confirmed most conventional Dynastic dates, while in some cases, predating was obtained by some hundred of years. The dates are discussed in the light of current archaeological opinions.¶41:

Reference 7 - 0.03% Coverage

¶43: Toward a fast non-destructive identification of pottery

Reference 8 - 0.12% Coverage

¶44: has been qualitatively analysed with a portable X-ray fluorescence instrument and a transportable Raman spectrometer and compared with data recorded on a large variety of reference shards

Reference 9 - 0.37% Coverage

¶44: In the glaze/body, the zirconium, rubidium and titanium contents allow distinguishing between Vietnamese and Chinese ancient/modern productions. The potassium vs. calcium glaze content is also very efficient for the differentiation between the Chinese and Vietnamese origins. Measurements confirm ~80% of the assignments based on eyes examination. The manganese, Rare Earth and cobalt content also contribute to identify the production places. Comparison of the glaze sections and chemometrics are used for a final comparison of the production technology: slip, overglaze or underglaze décor, etc.

Reference 10 - 0.02% Coverage

¶63: Analysis of polychromy binder

Reference 11 - 0.02% Coverage

¶63: by immunofluorescence microscopy

Reference 12 - 0.38% Coverage

¶64: It has become a key issue to identify the composition of polychrome binder of Qin's terracotta warriors in understanding their traditional painting technology and deterioration mechanism to provide conservation strategies. Previous instrumental analysis proposed that the binder in Qin's polychrome samples might be egg. In this work, specific fluorescence, generated by the ovalbumin antibody-egg white interaction was observed on Qin's samples under immunofluorescence microscopy (IFM). Our results demonstrate how specific and sensitive the IFM method is to analyze the organic substances in precious artworks.¶65:

Reference 13 - 0.07% Coverage

¶89: A multidisciplinary approach for the study and the virtual reconstruction of the ancient polychromy of Roman sarcophagi

Reference 14 - 0.50% Coverage

¶90: In this paper, we report a multidisciplinary approach for the analytic study and the reconstruction of the ancient colour used for Roman sarcophagi. For this purpose, we adopted the three-dimensional (3D) digital technology and found it to be a valuable tool for the identification, documentation and reconstruction of the ancient colour. This technology proved to be an excellent link between archaeological knowledge and scientific analyses. Therefore, 3D digital technologies would effectively facilitate the exchange of information and collaboration between experts in various disciplines. This is extremely important in order to obtain demonstrable results in a new area of study, such as polychrome Roman sarcophagi (and the ancient polychromy and gilding on the marble). In this study, the digital 3D model

Reference 15 - 0.12% Coverage

¶90: has been used to identify both the pigments and the techniques of application used, and to explore the potential of emerging technologies in the reconstruction and visualization of the ancient colour.

Reference 16 - 0.03% Coverage

¶93: Fe(III) and Mn(II) EPR quantitation in glass fragments

Reference 17 - 0.12% Coverage

¶93: Archaeometric and colour correlations

¶94: In this work, we present the results of the quantitative determination of Fe and Mn in different oxidation states, inferring a colour to the glass used

Reference 18 - 0.36% Coverage

¶94: The colour in the glass is determined by the amount of the ions of the elements in different oxidation states. More than 3000 loose tesserae of this mosaic, characterised by a full range of

colours, are available, with different features of opacity. For a representative batch of tesserae with different colours, the determination of Mn(II), Mn(III), Fe(II) and Fe(III) was obtained by using a combination of Electron MicroProbe Analysis (EMPA) and Electron Paramagnetic Resonance (EPR). A meaningful relationship between colour, and the ions content in the ancient glasses was found.¶95:

Reference 19 - 0.04% Coverage

¶103: Dating and determination of firing temperature of ancient potteries

Reference 20 - 0.01% Coverage

¶103: by TL and EPR techniques

Reference 21 - 0.40% Coverage

¶104: were dated by means of thermoluminescence (TL) and electron paramagnetic resonance (EPR). EPR was used to study the firing temperature using the iron signal (Fe3+) as a firing temperature reference. The ages of the samples were found to be between 793 ± 102 and 1184 ± 142 a.C. The firing temperature of ceramics was found to be around 600–650 °C. Our study, based on the combination of EPR and TL techniques to study SPII archaeological site pottery, will be helpful for archaeologists in Brazil. With the results of this research, we can understand the chronology and determine areas of dispersion and density of archaeological occupation.¶105:

Reference 22 - 0.06% Coverage

¶126: Chemical characterization of archaeological wood: Softwood Vasa and hardwood Riksapplet case studies

Reference 23 - 0.66% Coverage

¶127: were chemically characterized. The different fractions (namely extractives, lignin and holocellulose) composing the hardwood and softwood samples were isolated and compared with a sound reference sample of the same genus. Two-dimensional Heteronuclear Single Quantum Coherence, 31Phosphorous NMR and gel permeation chromatography showed no differences between the wood samples recovered from the shipwrecks and the reference samples concerning extractives, lignin and holocellulose. Moreover, innovative analyses by gel permeation chromatography of the entire derivatized wood cell wall material that allows for the detection of all substrate components namely, cellulose, hemicellulose, and lignin, particularly focusing on the presence of lignin–carbohydrate complexes, suggested that the molecular weight distributions of the waterlogged wood samples were comparable with the references confirming a good state of preservation. Maximum water content (MWC %), iron and sulfur content have also been measured and related to the result from chemical characterizations.¶128:

Reference 24 - 0.07% Coverage

¶140: Dating of ancient kilns: A combined archaeomagnetic and thermoluminescence analysis applied to a brick workshop

Reference 25 - 0.07% Coverage

¶141: We present here the results of a detailed archaeomagnetic and thermoluminescence investigation performed on bricks

Reference 26 - 0.74% Coverage

¶141: Magnetic mineralogy measurements have been carried out to determine the main magnetic carrier of the samples. The directions of the characteristic remanent magnetization of each structure have been obtained from standard thermal demagnetisation procedures and the absolute archaeointensity has been determined with the Thellier modified by Coe method, accompanied by regular partial thermoremanent magnetization (pTRM) checks. The full geomagnetic field vector was used for the archaeomagnetic dating of the two kilns, after comparison with the reference secular variation curves calculated directly at the site of Kato Achaia. Independent dating has also been obtained from thermoluminescence (TL) analysis on four brick samples from each kiln. The dating results obtained from the two methods have been compared and the last firing of each kiln has been estimated from the combination of the two techniques. Using the independent date offered by TL dating, the new archaeomagnetic data have been compared with other data from the same time period and they can further be used as reference points to enrich our knowledge about the past secular variation of the Earth's magnetic field in Greece.¶142:

Reference 27 - 0.07% Coverage

¶154: The architecture of warehouses: A multidisciplinary study on thermal performances of Portus' roman store buildings

Reference 28 - 0.34% Coverage

¶155: Numerical predictive computational models, supported by in situ measurements to characterize dimension, geometry and materials, are in this paper considered as essential "tools" for the historical, archaeological and functional interpretation of the roman store buildings. In this paper, different hypotheses of the architecture of Portus' store buildings are analysed and compared using computer fluid-dynamic models in order to support archaeologists in their effort to better understand how ancient warehouses were built, managed and used.

Reference 29 - 0.04% Coverage

¶158: The effect of lead additives on ancient Chinese Purple pigment synthesis

Reference 30 - 0.50% Coverage

¶159: The effect of three kinds of lead additives on Chinese Purple synthesis was studied in this research. The barium source of the Chinese Purple was barium carbonate (BaCO3), and three

common lead additives in the ancient samples, lead oxide (PbO), lead sulfide (PbS) and lead carbonate (PbCO3), were used in this study. The microstructures of the three additives were observed by SEM, and the thermal analyses of three formulation powders were conducted by TG. After the reaction, compositions and chrominance of the pigments were measured by XRD and colorimeter, respectively. It is shown that PbCO3 could decrease the synthesis reaction temperature effectively, thus the pigment synthesis reaction could occur under the low temperature (720 °C–900 °C), and a brighter, purer Chinese Purple pigment could be obtained.

Reference 31 - 0.39% Coverage

¶163: Twenty-one samples of decorated marble used in building the chancel screens of four churches were selected for scientific analyses to determine their provenance. In addition to the Electron Paramagnetic Resonance (EPR) the main discriminating technique, oxygen and carbon stable isotopes and maximum grain size were measured and compared to the databases of ancient quarries from the Mediterranean region. The results showed that the most probable source of most of the samples is Proconnesos (Marmara, Turkey), while only two samples exhibit clearly different properties and have been identified as Docimium (Afyon, Turkey) marble.

Reference 32 - 0.03% Coverage

¶175: Geometric analysis of the original stands

Reference 33 - 0.01% Coverage

¶175: Method and results¶176:

Reference 34 - 0.62% Coverage

¶176: The general planimetry was basically available for relevant sections at a scale of 1:100 with sufficient accuracy. However, according to current scientific parameters, this planimetry is clearly inadequate, and cannot be used rigorously to obtain comprehensive architectural knowledge. The technical limitations of the time, and the innate difficulties presented by the monument, meant that only a few sections were obtained, specifically two, with a low level of detail. This has led to misinterpretations, and consequently to dubious or erroneous conclusions. Therefore, the need for complete metric documentation is evident, as this will enable us to correctly analyse the monument. We have obtained metric documentation by carrying out a topographic survey using digital photogrammetry, which provides us with more information than merely measurements. We can use the three-dimensional model that was generated to analyse the sections of the stands and draw conclusions about their geometry.

Reference 35 - 0.28% Coverage

¶206: For this purpose, we utilised innovative non-invasive multispectral photographic imaging techniques capable of “seeing” in a range from IR to UV. An especially developed innovative software (HMI), which allows to measure and process the spectral reflectance sampled on seven

bands with equidistant wavelengths for each pixel of scene acquired, has led us to identify and certify the presence of 61 tattoos divided into 19 groups in various parts of the body.

<Internals\\JCH 2016 abstracts> - § 42 references coded [9.40% Coverage]

Reference 1 - 0.47% Coverage

¶14: The marbles of Temple-A can be classified into four groups, based on color, crystal size, crystal boundaries and foliation status. These groups are identified as (i) lilac-purple-veined, (ii) white, (iii) gray-veined and (iv) gray-blackish marbles. Microscopically, the lilac-purple veined, gray-veined and gray-blackish marbles display heteroblastic mosaic texture, and the white marbles display a homoeoblastic polygonal texture. The marble groups chiefly consist of calcite + dolomite ± augite (lilac-purple veined), calcite (white), calcite + dolomite ± quartz ± muscovite ± opaque minerals (gray-veined) and calcite ± quartz ± pyroxene ± zircon (gray-blackish). The minero-petrographic, geochemical and C–O stable isotope results reveal that most of the marbles sampled Temple-A at Laodicea share the same characteristics and composition of the marbles exploited in the ancient quarries of Hierapolis and Domuzderesi.¶15:

Reference 2 - 0.06% Coverage

¶33: High-resolution geomatic and geophysical techniques integrated with chemical analyses for the characterization of a Roman wall

Reference 3 - 0.11% Coverage

¶34: The aim of this work is the characterization of an ancient Roman wall through high-resolution geomatic and geophysical methods. Chemical analyses were performed in order to better identify the constitutive material.

Reference 4 - 0.63% Coverage

¶34: The dataset was collected using a 3D high-resolution laser scanner for the reconstruction and analysis of the skin wall, a Ground Penetrating Radar (GPR) to investigate the inner core of the wall and chemical analyses to characterize the composition of plaster and mosaics. The joint interpretation of data collected with different methodologies demonstrates the capability of the proposed method to characterize the wall in terms of constructive materials and to detect fractures and discontinuities between materials. A classification of the intensity parameter was performed starting with a visual analysis of the textured model built from laser scanner data before comparing it with the georadar results and the chemical analyses of the constitutive elements of the wall. Fractures and discontinuities partially visible on the surface of the structure and present in the inner part were mapped combining laser scanner and georadar data. The obtained results show that the integrated interpretation of the proposed techniques can provide important information about composition, geometry of the wall, correlation between physical and mechanical parameters and an extensive mapping of fractures and anomalies embedded within the wall.

Reference 5 - 0.05% Coverage

¶35: Statistical analysis of engraving traces on a 3D digital model of prehistoric stone stelae

Reference 6 - 0.20% Coverage

¶36: Studying cultural heritage artefacts, using 3D digital models, is gaining interest. It not only allows applications in documentation and visualisation, but also permits further contact-less examination. In this paper, we are presenting a statistical analysis of stone engravings based on features that were semi-automatically extracted from 3D acquisition data. Our objects of study

Reference 7 - 0.34% Coverage

¶36: We use common statistical methods and investigate the populations of depth and diameter of the engraving traces, as well as their correlation. We observe that the erosion of the two prehistoric stelae results in a larger dispersion of the diameter distribution, as well as in a similarity of a linear regression model. Furthermore, we note a similar median in the height and depth distribution between the replica and only one of the prehistoric stela. This finding supports an archaeological hypothesis regarding the presumed engraving tools.

¶37: Towards the definition of best 3D practices in archaeology: Assessing 3D documentation techniques for intra-site data recording

Reference 8 - 0.49% Coverage

¶38: Archaeology is becoming increasingly 'digital'. In the last 10 years, the use of 3D technologies for the documentation of tangible cultural heritage has changed the way to approach archaeological intra-site survey. These technologies allow for the reproduction of 3D replicas of sites and monuments and have proven to be a powerful tool for the documentation and preservation of the archaeological record. However, the full integration of 3D technologies in archaeological field methods requires the definition of best documentation practices and methods of accurate assessment of the acquired data. In fact, although the use of 3D laser scanners, computer vision and photogrammetric methods is now well established, there are no convincing quantitative comparisons between laser scanning and image-based modelling techniques for the acquisition of archaeological stratigraphy in extreme environmental and lighting conditions. In this sense the 3D documentation of

Reference 9 - 0.34% Coverage

¶38: represented an important opportunity to test and compare phase shift variation laser scanning and image-based modelling techniques in an environment characterized by very high humidity and variability in lighting. This study compared both the accuracy and density reliability of 3D models showing how the different 3D documentation techniques can be integrated for the recording of the excavation process. The research presented in this paper provides an accurate data assessment representing a concrete starting point for the definition of a sharable and overall methodology that will help to define best 3D practices for the documentation of archaeological sites.

Reference 10 - 0.03% Coverage

¶43: Using LiDAR for digital documentation of ancient city walls

Reference 11 - 0.21% Coverage

¶46: One of the most important aspects of archaeometric investigations regards provenance. There are numerous studies on pottery in which the origin is investigated employing NAA, XRF or ICPMS. “Terra Sigillata” productions have been widely studied from the point of view of the composition as well. This work represents the first analytical application of the XPS technique in pottery provenancing and in particular

Reference 12 - 0.09% Coverage

¶46: XPS permitted to ascertain the samples were imported and among the different known ateliers the samples match the composition of Sigillata A/D, specifically the one produced

Reference 13 - 0.12% Coverage

¶46: The analyses also definitely excluded the possibility that a local production, imitating the shapes of African Terra Sigillata in accordance with the tendency of production typical of the sixth and seventh centuries AD, occurred.¶47:

Reference 14 - 0.06% Coverage

¶77: we derive statistical confirmation from the deviations of the various figures from the physical reality of the building.¶78:

Reference 15 - 0.04% Coverage

¶80: An interdisciplinary investigation on Daoist Wushi (五石, five minerals)

Reference 16 - 0.14% Coverage

¶81: Daoist wushi (五石, five minerals) have been uncovered from archaeological sites in different regions in China and this has generated great interest amongst archaeologists, historians and Daoists. This paper presents an interdisciplinary study concerning groups of wushi found in

Reference 17 - 0.33% Coverage

¶81: The research analyzes wushi and discusses their identifications by using Raman spectroscopy, X-ray fluorescence and X-ray diffraction for the first time. The results indicated the presence of azurite, cinnabar, calcite, orpiment, realgar, magnetite, fluorite, crystal quartz, and sulfur, which is much more diverse than the conventional opinions of wushi held by historians and archaeologists in terms of Daoist literature. Meanwhile, it reveals that different minerals sometimes use the same name but without uniformity in their identification, which proves the uncertainty to distinguish wushi only by deciphering the archaeological inscriptions

Reference 18 - 0.06% Coverage

¶82: Scientific analysis of Japanese ornamental adhesives found in Shosoin treasures stored since the mid-eighth century

Reference 19 - 0.15% Coverage

¶83: ornamental adhesives used in the treasures were scientifically characterized by nondestructive methods such as attenuated total reflectance Fourier-transform infrared spectroscopy (ATR/FTIR) and X-ray analyses. FTIR spectroscopy was applied to the fragments of the following treasures

Reference 20 - 0.26% Coverage

¶83: Second-derivative transformation of the FTIR spectra identified the adhesives on the marquetry fragments as animal glue. The adhesives on the fragments of metal, crystal, pearl, and amber ornaments from the headdresses were identified as frankincense according to their IR absorbance and the second-derivative spectra. X-ray diffraction experiments and X-ray fluorescence spectrometry of the adhesives on the fragments of metal, crystal and pearl indicated that orpiment (As_2S_3) was mixed with the adhesives.¶84:

Reference 21 - 0.09% Coverage

¶85: This paper describes research carried out by an interdisciplinary team of conservators, historians and chemists from the IIPC-TAREA that elucidated fundamental aspects

Reference 22 - 0.04% Coverage

¶98: A rainfall data analysis for the archeological drawing of the Augustan aqueduct route

Reference 23 - 0.15% Coverage

¶99: A rainfall data analysis was carried out to assess the flow and use of the water conveyed by the Aqua Augusta aqueduct to Cumae. Results indicated that rainwater was not sufficient to supply Cumae and the Aqua Augusta should have played a great role in delivering water to the city.¶100:

Reference 24 - 0.07% Coverage

¶107: In this study, we develop a multidisciplinary methodology to refine the classification of glass beads based on morphology alone.

Reference 25 - 0.36% Coverage

¶107: are used as case study. The beads were visually classified according to their morphological properties (colour, size, etc.) and analysed with Raman spectroscopy and portable X-ray fluorescence (XRF). Energy Dispersive Spectroscopy (EDS) of one bead showed that two types of

glass were sintered together to form a recycled product, explaining the divergence of Raman spectra recorded on different zones. The study confirms the value of a morphological classification based on existing data sets as a first approach, but demonstrates that both Raman and XRF measurements can contribute to a more exact classification of glass beads imported into southern Africa from the East before the 17th century AD.¶108:

Reference 26 - 0.08% Coverage

¶118: First evidence of purple pigment production and dyeing in southern Arabia (Sumhuram, Sultanate of Oman) revealed by mass spectrometric and chromatographic techniques

Reference 27 - 0.43% Coverage

¶119: In order to reveal the nature of this pink-violet colour, the substance was chemically examined by laser desorption-ionization mass spectrometry (LDI-MS) and high performance liquid chromatography-diode array detection (HPLC-DAD). The analytical investigations provided a detailed molecular composition of the organic fraction of the pink-violet material, highlighting the presence of 6,6′-dibromoindigo, 6-monobromoindigo, 6,6′-dibromoindirubin, 6- and 6′-monobromoindirubin, indigo and indirubin. The results revealed that shellfish purple was the source. In addition, in some of the pottery fragments, alizarin and purpurin, which are the molecular markers of madder type dyestuffs, were also ascertained by LDI-MS. The analytical results enabled us to draw hypotheses not only on the possible function of such vessels as dye baths, but

Reference 28 - 0.20% Coverage

¶123: The Sicily Island is selected as the case study from Kitab-ı Bahriye. In conjunction with the medieval Islamic literature (Book of Curiosities and Book of Roger), the geographical and spatial information about the Sicily Island from Kitab-ı Bahriye were compared with the modern data to evaluate the reliability of the unique geo-information stored in Kitab-ı Bahriye as a historical data source.

Reference 29 - 1.15% Coverage

¶126: Spatiotemporal data as the foundation of an archaeological stratigraphy extraction and management system

¶127: Transforming relations between stratigraphic units of an archaeological excavation to a formal model like the Harris Matrix is a challenging task. Especially when the number of stratigraphic units is large or when spatiotemporal relations are complex, such models are difficult to generate. This paper describes a novel procedure for the automated construction of Harris Matrices involving the use of open source database software programs and tools. The procedure is based on an algorithm for the detection of spatial relations between stratigraphic units. For each stratigraphic unit (represented by commonly available 2D polygons), all possible top-down spatial relations are defined. These large series of relations are then iteratively validated, retaining a limited number of topological coherent sequences. These relations are required for the definition of stratigraphic sequences. To facilitate the presentation of resulting sequences, a stratigraphic diagram is incorporated into a graphical user interface on top of a geodatabase management system and web

feature service (WFS). This interface is supplemented with attributes of each stratigraphic unit and with a virtual representation in an embedded 2D map viewer and 3D viewer. The link between sequences and cartographic representations of stratigraphic units by the underlying system enables interactions between various elements of the dataset while taking into account 2D and 3D spatial information, stratigraphic relations and attribute displays. Three theoretical datasets are used to develop and test the workflow. Furthermore, a reference dataset is used to validate this workflow. We find that expert knowledge remains indispensable for the interpretation and validation of both data sources and results. Nevertheless, the robustness of the results of this study illustrate the potential of the proposed procedure for use in automated Harris Matrix construction based on sequences of stratigraphic unit polygons. In employing this procedure, systems may facilitate the management of archaeological (spatiotemporal) data in cost- and time-efficient research infrastructures.¶128:

Reference 30 - 0.03% Coverage

¶130: Efficient classification of Iberian ceramics using simplified curves

Reference 31 - 0.38% Coverage

¶131: We present a new method for comparing and classifying wheel-made pottery vessels, based on the simplification of the external contour of their profiles. We use the Douglas-Peucker algorithm to obtain a polyline that preserves the coarse features of the profile shape. A characteristic vector is derived from each polyline, allowing us to compare profiles by measuring the distance between the corresponding vectors. We have tested our technique with a profile database of Iberian pottery vessels from the upper valley of the Guadalquivir River (Spain). Results show that our approach not only achieves better results than most of the state-of-the-art methods used nowadays, but is also more efficient and generates more compact characteristic vectors.

Reference 32 - 0.03% Coverage

¶134: Virtual reconstruction of the historical acoustics

Reference 33 - 0.28% Coverage

¶135: The results of acoustic measurements in the current state of the theater are used to create a virtual model of the building. Then, using archeological studies about the original architectural design of this theater, this paper presents a virtual reconstruction of the original acoustics during the Roman period. The aim of the present study is to compare the different acoustical characteristics that the “theatrum tectum” of Pompeii has had in its over 2000 year history and to discuss the most adequate performances in the actual theater.

Reference 34 - 0.33% Coverage

¶137: Some major historical heritage which has disappeared over time can currently be recovered in part thanks to computer modeling tools and virtual reality technologies. Incorporating sensory experience using immaterial reconstruction constitutes a new form of knowledge and a major

methodological change in the field of cultural heritage. Archaeoacoustics are used to introduce phenomenology as a new method for the analysis of historical heritage, allowing evaluation of the sound quality of a space based on subjective perception by using auralization techniques which allow cognitive and physical elements to be reproduced and combined.

Reference 35 - 0.08% Coverage

¶160: Many indicated that the processor had access to modern resources such as gloves and fine suturing equipment, which were not typically available to the SAAWC.

Reference 36 - 0.13% Coverage

¶160: Each head was examined by manual inspection, infrared reflectography (IRR), CT and microscopic hair analysis, with ten new differentiating characteristics identified.

¶161: The study of binding agents used to inlay turquoise onto bronze objects in Eastern Zhou Period

Reference 37 - 0.42% Coverage

¶162: presents the analysis results of the binding agents used on Turquoise-inlayed bronze artifacts in Eastern Zhou Period. The technique applied is pyrolysis-gas chromatography and mass spectrometry with thermal assisted hydrolysis and methylation (THM-Py-GC/MS). Mastic resin was identified as binding agent to inlay turquoise onto the bronze pots, based on the detection of the marker compounds of 3-oxo-olean-18-en-28-oic acid, 3-oxo-olean-12-en-28-oic acid and ursa-2, 12-dien-28-oic acid. Beeswax was determined as the binding agent used on turquoise-inlayed bronze sword according to the detection of a series of alkanes, long chain fatty acids and long chain alcohols. The results clearly demonstrate that different binding agents were used to inlay turquoise onto artifacts respectively during Eastern Zhou Period in China.¶163:

Reference 38 - 0.01% Coverage

¶163: – A technical study

Reference 39 - 0.34% Coverage

¶164: were analyzed by scientific techniques including digital microscopy, SEM-EDS, XRD, FTIR and ICP-MS. Two kinds of lacquering craft, “painting in gold” and “painting lacquer above the gold” were discovered while “Jin Jiao” (considered as mixtion) is identified for joining the metal layer to the preparation layer. The craft “pasting the fabric to the wood by lacquer” was found, improving the wooden body's stability and mechanical strength. The results show that apart from the broken porcelain, ground shell was also added into the stucco in ground layer. The metal layer above the lacquer film is composed of gold-silver-copper alloy with different proportions.

Reference 40 - 0.09% Coverage

¶164: Our study revealed the Chinese traditional lacquering and gilding techniques employed in wooden coffins, and provided support for scientific protection and restoration schemes.¶165:

Reference 41 - 0.06% Coverage

¶218: A mineralogical approach to the authentication of an archaeological artefact: Real ancient bronze from Roman Age or fake?

Reference 42 - 0.45% Coverage

¶219: Analyses by optical microscope, XRD and SEM–EDS have been performed to characterize the samples collected from the surface of the statuette, a little piece of alloy and the casting core. The right arm of the statuette was broken and in the internal part, some charred tissues were present, allowing to perform a 14C-AMS dating. Three possible dating has been assigned, but not before the 1640 ± 30 AD. Strong corrosion features like a well-formed and stratified patina were present, suggesting a long lasting alteration and indicating that patina's investigation cannot be the only criteria for authentication in this case. Gypsum in the casting core and a ternary alloy in the bronze, like the one used in the Chiurazzi forgery have been found. The origin from Vesuvius area is confirmed by the finding of minerals present in subsilicic alkalinic volcanic environment.¶220:

<Internals\\JCH 2017 abstracts> - § 45 references coded [7.32% Coverage]

Reference 1 - 0.10% Coverage

¶5: The latter is gaining the attention of an expanding community of scientists and archaeologists due to the increasing availability of multi-platform, multi-band, multi-polarization and very high-resolution satellite SAR data.

Reference 2 - 0.22% Coverage

¶9: Our research highlights the macroscopic and spectrographic observation capability of remote sensing in discovering large-scale, massive, surface distribution of ancient cultural relics. In the test area, the solution of image interpretation was proposed through a combined feature identification of scale, continuity, shape and clustering. The derived thematic map demonstrated that the proposed solution is effective for discovering ancient remains in the alluvial plain of eastern Henan, China.

Reference 3 - 0.10% Coverage

¶13: The present paper deals with the synthetic mapping of the archaeological site and its environment using remote sensing techniques. Very high-resolution imagery is vital for monitoring any archaeological site in its widest context

Reference 4 - 0.04% Coverage

¶14: supporting landscape planning with quantitative predictions of soil consumption

Reference 5 - 0.04% Coverage

¶16: Qualitative evaluation of COSMO SkyMed in the detection of earthen archaeological remains

Reference 6 - 0.16% Coverage

¶17: In order to cope with this issue, in this paper, we focus on the evaluation of satellite X-band radar data (COSMO-SkyMed) capability for detecting earthen buried structures in a desert area. The results obtained from satellite radar data have been validated for a test site in Pachacamac (Peru) by using unmanned aerial vehicle (UAV) and geomagnetic techniques.

Reference 7 - 0.07% Coverage

¶17: This paper is the first attempt made until now in evaluating the detectability of earthen archaeological remains using satellite Synthetic Aperture Radar (SAR) data.

Reference 8 - 0.32% Coverage

¶21: Here, we present a data fusion approach that overcomes the limitations of single medium resolution sensor approaches, and also identifies areas in transition from desert to urban. We use multi-temporal multi-sensor supervised land use classification and include a new land use class for detecting undefined disturbances. Synthetic aperture radar (SAR) data is combined with multi-spectral data for creating the land use land cover (LULC) maps using artificial neural networks (ANN). Specifically, ERS SAR data is combined with Landsat 5TM for 1998 and Envisat ASAR IMS with Landsat 7 ETM+ for 2004 and 2010. With this data fusion approach, it is measured an increase of 73% of Greater Cairo built-up extent from 1998 to 2010.

Reference 9 - 0.08% Coverage

¶23: The remote sensing data examined include Chinese Gaofen-1 (GF-1) VHR imagery, Landsat-8 (LS-8) OLI data and ASTER Global Digital Elevation Model Version 2 (ASTER GDEMV2) products

Reference 10 - 0.08% Coverage

¶23: The overall spatial structure of Milan's tuntian agricultural landscape was explored using the patch–corridor–matrix model. By detailed analysis of satellite remote sensing data

Reference 11 - 0.06% Coverage

¶27: The impact of land use and depopulation on burial mounds in the Kazanlak Valley, Bulgaria: An ordered logit predictive model

Reference 12 - 0.35% Coverage

¶34: We present a method to generate the detailed orthogonal projection of a 3D model by fusing normal and texture information in gradient domain. We first render the model into a texture image from a perpendicular view. A normal map is then obtained from the same view with pseudocolors converted from vertex normals. Finally, we make a non-photorealistic projection image that combines the texture image and the normal map by solving the 2D screened Poisson equation. The non-photorealistic projection is both geometry-aware and texture-aware and enhances the subtle details that are hard to see in the texture image or the normal map alone. It is more convenient for archaeologists to make line drawings by using tools such as Adobe Illustrator® to trace over the fused images.¶35:

Reference 13 - 0.05% Coverage

¶49: Melamine polymerization in organic solutions and waterlogged archaeological wood studied by FTIR spectroscopy

Reference 14 - 0.03% Coverage

¶118: Multi-analytical study of the suspected binding medium residues

Reference 15 - 0.10% Coverage

¶119: The analysis of the organic binding media in the field of cultural relics is invariably challenging due to the micro-amount, complex ingredients and degradation problems. Black residues of suspected binding media were discovered in

Reference 16 - 0.16% Coverage

¶119: In this paper, efforts were made to analyze this sample with Fourier Transform Infrared Spectroscopy (FTIR) and Gas Chromatography (GC), attempting to learn the materials' consistence. This study would enrich the research of the materials of mural paintings in the Tang dynasty as well as providing a scientific basis for the future restoration.¶120:

Reference 17 - 0.03% Coverage

¶130: from medium-resolution satellite radar images and SqueeSAR™ algorithm¶131:

Reference 18 - 0.15% Coverage

¶145: In this paper, some considerations, from the point of view of road engineer, were presented; these could be usefully shared with the researchers in the fields of cultural heritage and archeology in order to identify both soils and road pavement materials sampling and classification systems for a new perspective of scientific speculation.

Reference 19 - 0.04% Coverage

¶148: AFM and SIMS surface and cation profile investigation of archaeological obsidians: New data

Reference 20 - 0.42% Coverage

¶149: Obsidian surface roughness and rind structure both play a major influence on the Obsidian Hydration Dating (OHD). AFM (Atomic Force Microscopy) investigation coupled with quadrupole SIMS hydrogen data profiles establish a validation criterion of quantitative evaluation of roughness for OHD dating purposes. More evidence of the importance of the surface morphology at the nanoscale is given for five obsidian tools of different origin. The latter relates to the dynamic ion influx diffusion kinetics between surface and surrounded sediment media, and the obsidian structure, thus, 2D and 3D surface mapping, as well as, cation profiling (H, C, Mg, Al, F, S, Cl, CN, O isotopes) were made by TOF-SIMS and quad-SIMS. It was found that the C and Mg are considered as imposed criteria for accepting suitability of H+ profiles for further processing by SIMS-Surface Saturation dating method. The effect of roughness to dating is discussed. ¶150:

Reference 21 - 0.06% Coverage

¶151: Samples from the Turin Shroud (TS) furnished by STERA Inc. have been analyzed and compared with both material coming from the TS and sticky tapes

Reference 22 - 0.33% Coverage

¶151: The attention has been focalized to the many reddish particles contained in these samples that appear to be of many types, shape and sizes. Some of them seem to correspond to the so called “sub-micron particles” recognized by W. McCrone in the form of red ochre (iron oxide) and vermillion (mercury sulfide); the others, as described by many researchers of the STuRP like A. Adler and J. Heller, seem typical of blood. After a detailed analysis of these particles by using various types of microscopes and by performing different spectral analyses like Raman and EDX, the results obtained are commented, reaching the conclusion that the analyzed reddish material, corresponding to some TS bloodstain area, contain human blood reinforced with pigments

Reference 23 - 0.17% Coverage

¶171: Mass spectrometry was employed to analyze the residual protein extracted from the soil underneath the coronet since no macroscopic form of textile existed. A dedicated method was applied and modified, and the results of mass spectrometry analysis and database search indicated that the residues should belong to ancient silk fibroin after excluding the possibilities of modern contamination.

Reference 24 - 0.05% Coverage

¶182: Characterization of aged textile for archeological shelters through thermal, optical and mechanical tests

Reference 25 - 0.05% Coverage

¶183: The paper deals with the measurements of thermal, optical and mechanical properties for aged textiles.

Reference 26 - 0.27% Coverage

¶183: Therefore, the authors studied the effects of ageing on a very common and low cost textile for temporary shelters in a polluted environment through the heating test, reflectance spectrometry, colorimetry and uniaxial mechanical tests, with the aim of exploring the potential applications of fabrics that usually do not fit with high mechanical stress but have a widespread use for small structures. The authors used an integration of non-destructive tests in three ageing conditions and, due to their destructivity, they applied the mechanical tests only in the initial and final ageing condition.¶184:

Reference 27 - 0.04% Coverage

¶190: An UAS-assisted multi-sensor approach for 3D modeling and reconstruction of cultural heritage site

Reference 28 - 0.33% Coverage

¶191: Unmanned Aerial System (UAS) has been widely used to produce highly-precise orthomosaics, Digital Surface Models (DSMs), Digital Terrain Models (DTMs) and 3D models in many applications. UAS is also utilized to document cultural heritage sites using low-cost photogrammetric approach. Particularly, possibility of multi-sensor acquisition provides substantial information about both geometric features and material classification. In this study, a novel methodology using multi-sensor data acquisition is proposed in order to extract and to distinguish material features from UAS-based photogrammetry for the cultural heritages. Sensors which are able to collect visible, thermal and infrared radiations of the electromagnetic spectrum were employed

Reference 29 - 0.16% Coverage

¶191: The results showed that the accuracies of the 3D models were obtained as ±2–3 cm, ±10–15 cm and ±5–7 cm for the digital, thermal and multi-spectral camera systems, respectively. Beside the given high-accurate geometric model, the classification outcomes as a result of the spectral analysis revealed material features in an affordable and efficient way.¶192:

Reference 30 - 0.02% Coverage

¶198: Automatic dimensional characterisation of pottery

Reference 31 - 0.40% Coverage

¶199: With the aim of reducing the uncertainties that typically affect the measurement carried out by the approach traditionally performed by archaeologists, we propose a new automatic method for dimensional characterisation of pottery fragments. The method, starting from a 3D-scanned high point density model, takes advantages from the preventive segmentation and recognition of its

significant geometric features; the corresponding characteristic dimensions are evaluated by dedicated procedures. The dimensions measured are also those typically evaluated by archaeologists. In order to quantify the performances of the proposed method, a comparison of its repeatability and reproducibility is made with respect to the traditional manual approach. The proposed method, tested in some real critical cases, demonstrates better performances and lower uncertainties with respect to the traditional approaches.¶200:

Reference 32 - 0.11% Coverage

¶201: The astronomical orientation of the temples is studied for their azimuth, angular altitude of the horizon and celestial declination, through applied remote sensing techniques, making use of Google Earth maps and associated astronomical tools.¶202:

Reference 33 - 0.05% Coverage

¶206: 3D digital documentation and image enhancement integration into schematic rock art analysis and preservation

Reference 34 - 0.18% Coverage

¶207: deals with the digital description and documentation of the two shelters using non-invasive procedures based on portable white-light scanner, photogrammetry and digital image enhancement. The acquisition of 3D digital information in combination with the application of image enhancement tools aimed to improve visualization and analysis of motif's degradation by delamination and water runoff.

Reference 35 - 0.12% Coverage

¶207: The generation of photorealistic models from the outcrops aims also to better visualization of the motifs from different angles and perspectives, providing valuable qualitative and quantitative information for archaeologist, historians and the general public.¶208:

Reference 36 - 0.02% Coverage

¶255: based on deep convolutional network¶256:

Reference 37 - 0.05% Coverage

¶259: Extracting faded mural patterns based on the combination of spatial-spectral feature of hyperspectral image

Reference 38 - 0.42% Coverage

¶268: The fibers of Jinzi were identified by FTIR (Fourier Transform Infrared Spectroscopy), Light Microscope Examination and Drying-Twist Test; while the black pigment was characterized through Raman Spectroscopy. Proteomics was conducted to analyze the proteinous glue. The results

suggested that three Jinzi samples were made from flax mixed with ramie fibers, and one Jinzi sample was made from silk. All of them were painted with carbon black, and animal glue originated from bovine or caprinae was determined in two Jinzi samples. The different manufacture of Jinzi were probably related to the status of the occupiers of tombs. This is a unique report of the scientific analysis about traditional headwear in ancient Xinjiang. It is not only significant complement to the historical literature, but also the utilization of flax and ramie and the wearing of Jinzi shed light on the exchange of the species and culture in ancient Turpan area.¶269:

Reference 39 - 0.01% Coverage

¶279: Revealing the binding medium

Reference 40 - 0.11% Coverage

¶280: Attention typically focuses on pigments since identification is possible with non-invasive techniques, while limited information is available in the literature regarding the organic binding media. Here successful determination of the binder

Reference 41 - 0.40% Coverage

¶280: achieved through the application of enzymatic digestion followed by matrix-assisted laser desorption ionization mass spectrometry (MALDI MS) is reported. The high specificity and sensitivity of this analytical strategy not only allowed the identification of the binding medium as a mixture of two different plant gums but also allowed the discrimination of the different species sources, even though the organic material was present in very small amounts and subject to degradation. The results of this study represent the first analytical identification of the earliest use of locust bean gum as a paint binder material as well as the use of gum arabic from an Acacia species different from the well-known Acacia senegal. The precise identification of the organic binder is a great step forward in the understanding of the painting materials and techniques used in Roman Egypt, of which little is known.

Reference 42 - 0.04% Coverage

¶289: New considerations on trace elements for quarry provenance investigation of ancient white marbles

Reference 43 - 0.58% Coverage

¶290: Until now, the use of trace elements to discriminate among differing provenances of classical white marbles from Mediterranean areas have produced controversial results, and the many drawbacks of this approach have been widely discussed. The behavior of trace elements was tested, aiming to determine their effectiveness for provenance purposes. In this work, in particular, representative specimens of fine-grained white marbles from quarries at Carrara, Penteli, Paros, Afyon and Göktepe were analyzed by Laser Ablation ICP-MS. LA-ICP-MS is recent analytical technique, which allows high-precision measurement of a large number of elements in given points in solid samples without any pre-treatment. The results and their statistical treatment showed that

many elements, such as Mn, Y, V, Pb and Th, can be used as interesting markers in that they can identify marbles from different sites. In addition, other elements may be useful in singling out one specific quarry district, such as Zr for Paros, Sr for Göktepe or Mg for Carrara. Trace elements determination may be very promising as a method of assigning unknown marble artifacts to a clearly identified quarry and LA-ICP-MS analytical technique may partly solve the problem of incomparability of the data published in past studies.

Reference 44 - 0.54% Coverage

¶292: Art historical considerations about the mosaic's cultural and artistic affiliations are combined with in situ assessments of the mosaic techniques and physico-chemical analyses of 111 glass tesserae by means of scanning electron microscopy with an energy-dispersive detector (SEM-EDS) and laser ablation inductively coupled mass spectrometry (LA-ICP-MS). Our results show that the raw glass used for the mosaic tesserae derives from two primary production centres but with evidence of substantial recycling: Foy-2, possibly of Egyptian origin, and Levantine I from the Syro-Palestinian coast. While lead stannate, copper and manganese are colorants found commonly in tesserae from different Mediterranean contexts, cobalt correlated with nickel and lead-tin associated with arsenic and antimony have been attested in mosaic tesserae here for the first time. The chronological range of the raw glasses and colorants provides strong evidence for a sixth- to eight-century CE date for the tesserae. The stylistic and iconographic parallels of contemporary mosaic decorations and the mosaic techniques reflected in the plaster layers, preparatory paint and particular setting of tesserae corroborate this timeframe.

Reference 45 - 0.21% Coverage

¶300: Microchemical, microstructural and mineralogical investigations have been carried out by means of combined use of different analytical technique such as optical microscopy (OM), scanning electron microscopy (SEM) with energy dispersive X-ray microanalysis (EDS) and X-ray diffraction (XRD). A detailed analysis of recently found materials permits to better understand the degree of metal finishing in the extraction process that the ancient Sardinian metallurgists carried out.

<Internals\\JCH 2018 abstracts> - § 34 references coded [5.70% Coverage]

Reference 1 - 0.10% Coverage

¶47: Old maps and plans can be scanned, georeferenced and vectorised and historical photographs can be geocoded in the GIS environment, and thus experienced users can get an idea about the landscape character throughout history from these data sources.

Reference 2 - 0.14% Coverage

¶47: presents a complete workflow of landscape model creation based on old maps, plans, drawings and photographs. The described approach employs a combination of GIS techniques, 3D CAD software and procedural modelling tools and aims to maximally exploit datasets which are processed for the purposes of a classical 2D web mapping application

Reference 3 - 0.19% Coverage

¶157: Here, we present both chemical and microanalytical results of samples from two bimetallic objects from Bronze Age central China. It is confirmed that the blades were made of meteoritic iron. In-situ photomicrograph and detailed microanalysis provides solid evidence for the cast-on and hot-work processes. We also demonstrate that significant information can be extracted through multiple analyses despite the severely corroded condition of ancient iron objects.¶158:

Reference 4 - 0.03% Coverage

¶156: Using archaeomagnetism to improve the dating of three sites in Catalonia (NE Spain)

Reference 5 - 0.25% Coverage

¶157: Archaeomagnetic dating was performed on four archaeological structures in Catalonia (NE Spain) using magnetic inclination and declination values from three reference curves: the Iberian SVC and two curves computed using the regional SCHA.DIF.3k model and the global SHA.DIF.14k. The results provide new data for discussions regarding the dating of three archaeological sites from three very different periods: Roman, Medieval and Modern. In addition, some considerations were made regarding the usefulness of the three reference curves and the corresponding geomagnetic models. The Iberian SVC suggests that

Reference 6 - 0.39% Coverage

¶157: was last fired during the 1st century BC, but the archaeomagnetic models suggest it was last fired during the 1st century AD, i.e. closer to the date of the kiln infillings (2nd–3rd centuries AD). All three-reference curves date two structures from an archaeological site to the north of Barcelona to the 10th or 11th century AD. These ages match those determined using radiocarbon ages. Dating a modern limekiln near Girona with a presumed age of more than 200 years produced an inconsistent age when using the Iberian SVC, but plausible ages in the 17th or 18th centuries AD using the archaeomagnetic models. This suggests that the Iberian SVC has been superseded by the regional SCHA.DIF.3k model and the global SHA.DIF.14k model, both of which exhibit excellent dating capabilities. Older archaeological sites, including prehistoric sites, should be investigated to fully exploit and verify the potential of the new SHA.DIF.14k archaeomagnetic model.

Reference 7 - 0.05% Coverage

¶180: The chemical and mineralogical composition of ceramic bodies, glazes and pigments, as well as the firing temperatures of

Reference 8 - 0.08% Coverage

¶180: were determined by a combination of powder X-ray diffraction (PXRD), Fourier transform infrared (FTIR) spectroscopy, energy dispersive X-ray fluorescence (XRF) and micro-Raman spectroscopy.

Reference 9 - 0.21% Coverage

¶180: The obtained mineralogical and chemical composition shows the similarities between the Malhornware groups that indicate a similar production technology. Use of calcareous clay fired at temperatures in the range 850–900°C indicates a different production technology for the Anabaptists faience. The compositional data treatment by multivariate statistical analysis reveals heterogeneity in the Anabaptist faience group of samples, suggesting potential interactions between the local potters and the Anabaptist communities.

Reference 10 - 0.06% Coverage

¶181: New results in Dead Sea Scrolls non-destructive characterisation. Evidence of different parchment manufacture in the fragments from Reed collection

Reference 11 - 0.03% Coverage

¶182: This work presents the non-destructive spectroscopic characterisation

Reference 12 - 0.20% Coverage

¶182: The manufacture of “sacred” Jewish parchments, in fact, is traditionally supposed to use a superficial tannin treatment. To study the DSS fragments, it was necessary both to analyse mock-up samples, especially manufactured in order to reproduce ancient Oriental Jewish ritual parchments, and to compare the results with those obtained in the analysis of modern and ancient Western Jewish ritual parchments, in order to test the effectiveness of the selected spectroscopic techniques.

Reference 13 - 0.40% Coverage

¶182: The need of reference samples derives from the knowledge that each parchment preparation, treatment and degradation can induce structural modifications that affect the spectral features. Fourier Transform Infrared Spectroscopy by Attenuated Total Reflection (ATR-FTIR), FT-Raman and m-Raman were used in this study. The experimental results allowed us to recognise, with different sensitivity, the presence of tannin by using m-Raman and IR spectroscopies and to prove that not all the archaeological samples were manufactured in the same way with vegetal extracts. Many salts (tschermigite, dolomite, calcite, gypsum and iron carbonate) were found on the surface of DSS fragments. They can derive from the degradation processes and storage environment before the discovery or from the manufacture. Moreover, the different sensitivities and instrumental characteristics of the used techniques permitted us to establish an analytical protocol, useful for further studies of similar materials.¶183:

Reference 14 - 0.10% Coverage

¶198: For the dating, we combined two methodological approaches based upon dendrochronological techniques (dendroarchaeology and dendrogeomorphology) in an integrated study of the tree-rings series obtained. Furthermore, four wood samples (

Reference 15 - 0.02% Coverage

¶198:) were dated by means of radiocarbon techniques.

Reference 16 - 0.50% Coverage

¶204: Hence, the need to improve the knowledge of 'vegetation-mark phenomenology' by a multi-temporal investigation. This can be based on a holistic approach jointly using aerial prospection, information on meteorological conditions and in situ survey of soil and vegetation. Today, the availability of low cost Unmanned Aerial Vehicle (UAV) makes this approach feasible, as discussed in this paper. Herein, a multitemporal analysis from March to October 2014 has been conducted on a test site selected in the Tavoliere delle Puglie. It is one of the richest European areas in archaeological crop-marks because of the long and intense human frequentation (from Neolithic to Modern Ages) and the geo-pedological conditions which favoured the preservation of crop marks. In particular, results from the aerial observations evidenced not only during the spring season the expected crop-marks, due to cultivation, but, also, in August and October, weed marks linked to spontaneous herbaceous mainly growing due to favoured meteorological conditions (especially rain). Outputs from our investigations revealed new insights on the characteristics archaeological vegetation marks in relation with vegetation types and meteorological conditions.¶205:

Reference 17 - 0.02% Coverage

¶225: A morphometric investigation into shrunken heads

Reference 18 - 0.11% Coverage

¶226: Thirty-two dimensions were reliably collected utilizing a sliding caliper, soft measuring tape and multi-detection computerized tomography (MDCT). Box and whisker charts plot the range in dimensions identified for each shrunken head category, including collection total

Reference 19 - 0.04% Coverage

¶247: A study of archaeological pottery of Northeast India using laser induced breakdown spectroscopy (LIBS)

Reference 20 - 0.43% Coverage

¶248: The objective of this work is to investigate the chemical composition of the archaeological potsherds from Northeast India. Laser breakdown spectroscopy (LIBS) and scanning electron microscope coupled with energy dispersive X-ray spectroscopy (SEM-EDX) have been used to identify the chemical composition of potsherds. LIBS is a micro-destructive technique and based on the time resolved detection of optical emission of transient plasma. In archaeological science, application of LIBS has gained interest for its capability in atomic species recognition. Scanning electron microscope coupled with energy dispersive X-ray spectroscopy are powerful techniques to investigate the microstructure as well as the chemical composition of the archaeological ceramics. LIBS and EDX analyses have revealed that divergent quantities of Si, Al, Fe, Mg, Ti and K occurred as

key constituent in the composition of analysed potsherds. The SEM-EDX results demonstrate that low refractory and non-calcareous clay have been used as raw material and the pottery was fired below 800 °C.

Reference 21 - 0.03% Coverage

¶253: Technological and microstructural characterization of mortars and plasters

Reference 22 - 0.04% Coverage

¶254: This work presents the analytical results of the mortars and plasters characterization

Reference 23 - 0.43% Coverage

¶254: encompasses 64 samples from different historical periods and structures of the monument, aiming to reconstruct the timeline of different phases and to highlight technological choices. Conclusions are drawn on the basis of interpretation and integration of in situ observations, historical data and analytical data. The mortars were characterized following a multidisciplinary approach, combining macroscopic observation with petrographic examination, mineralogical analysis (XRD), microstructural and chemical analysis (SEM-EDS) and quasi-quantitative chemical analysis (pXRF) of mortar samples. Moreover, microstructural and mechanical properties of representative samples were studied. The results indicate the use of five different types of mortars, grouped based on composition and characteristics of binder and aggregates, ranging from pure lime mortars to hydraulic, gypsum-lime and earthen mortars. Overall, this paper contributes to the better understanding of building techniques and mortar production technology in the Near East during time.¶255:

Reference 24 - 0.29% Coverage

¶259: Based on various environmental factors, multitemporal images were interpreted to analyse an ancient city located in Southern China, while the integral of the Normalized Difference Vegetation Index (NDVI) time series and thermal infrared images were employed to detect the archaeological features in Northern China; these results were then cross-compared with each other. The results demonstrate that the use of integrated remote sensing technology can provide valuable information and indications of archaeological remains in ancient capital city sites in different geomorphological and vegetated environments in China. Our results also demonstrate that capital city sites can be detected using the proposed approach.¶260:

Reference 25 - 0.09% Coverage

¶261: Therefore, in this work, fractal theory is employed in the analysis of the macro systematic relationships between the military defense settlement system and the Great Wall—the two core elements of the M-GWMDS.

Reference 26 - 0.04% Coverage

¶276: State of the art and applications in archaeological underwater 3D recording and mapping

Reference 27 - 0.05% Coverage

¶277: This paper presents an extensive review over the sensors and the methodologies used in archaeological underwater 3D recording

Reference 28 - 0.20% Coverage

¶321: Rock art studies are facing major technical challenges for extensive documentation. Nowadays, recording is essentially obtained from time-consuming tracing and rubbing, techniques that also require a high level of expertise. Recent advances in 3D modelling of natural objects and computational treatment of the modelled surfaces may provide an alternative, and reduce the current documentation bottleneck. The aim of this study is to examine the extent to which such treatments can be applied.

Reference 29 - 0.49% Coverage

¶321: The 3D acquisition workflow is based on structure-from-motion, a versatile photogrammetric technique, well adapted to various field conditions. From the 3D geometry of objects of interest, elevation raster maps are produced by projection on four sides of the stela. These digital elevation models are then tested using algorithms based on differential geometry, sky visibility and local morphology, the general principles of which are briefly exposed. All these approaches may be appropriate with essentially planar surfaces. However, in the case of irregular carved surfaces, such as those of deer stones, the most efficient algorithm appears to be positive openness. In favourable cases, the incisions can be automatically delineated, facilitating the final drawing. Results obtained at the end of the process are comparable to the best drawings available in the literature, and can also include archaeological information about rock surface conditions. The procedure considerably accelerates the workflow in comparison with traditional techniques, reduces the level of expertise required, and provides 3D models, which can easily be shared, or further analysed by morphometric methods, for instance.

Reference 30 - 0.05% Coverage

¶323: This study focuses on the use of digital 3D technologies and web visualization tools for the analysis of the sites

Reference 31 - 0.09% Coverage

¶323: It proposes a pyramidal multi-level and multi-sensor approach – providing a 3D resolution spanning from a few centimetres in the landscape Digital Terrain Model to few millimetres in the layer-by-layer archaeological test trench.¶324:

Reference 32 - 0.05% Coverage

¶350: Using in situ gamma ray spectrometry (GRS) exploration of buried archaeological structures: A case study from NW Spain

Reference 33 - 0.38% Coverage

¶351: Although Gamma-ray spectrometry (GRS) is [widely] used for geological exploration and mapping, it has been scarcely used in archaeology so far, despite the successful results of previous studies on the matter. In situ GRS is a non-destructive method that allows direct assessment of uranium-238 (238U) and thorium-232 (232Th) from daughter radionuclides of their decay chains, as well as potassium-40 (40K), on soils and rock outcrops. The technique documents the concentration of these isotope concentrations in the topsoil by surface measurements and this enhances its potential for archaeological exploration. However, two assumptions must be made: the archaeological objects must contain a different concentration of radionuclides than the surrounding sediment or soil, and they must be buried in the terrain less than 25–30 cm deep. In this work, we present the results of the use of in situ GRS for the study of a buried structure

Reference 34 - 0.14% Coverage

¶351: The results are reliable despite the low radioactive content of the rocks used as building materials, given that the burying and sediments also have low amounts of radioactive isotopes. Although the direct use of the estimates of K, U and Th has not proved successful, the use of U/Th, Th/K and U/K ratios provided reliable results.¶352:

Name: Nodes\\Material conservation\Scientific techniques and analysis (MC)

<Internals\\Antiquity 2017 abstracts> - § 1 reference coded [0.27% Coverage]

Reference 1 - 0.27% Coverage

¶311: The semi-automated detection process presented here offers a more expedient and accurate method for monitoring looting activities over time, as evidenced at the site of Ai Khanoum in Afghanistan. It is hoped that this method, which relies upon multispectral imagery and principal component analysis, may be adapted to great effect for use in other areas where heritage loss is of significant concern.

<Internals\\Antiquity 2018 abstracts> - § 1 reference coded [0.66% Coverage]

Reference 1 - 0.66% Coverage

¶91: The 'Digital Index of North American Archaeology' (DINAA) project demonstrates how the aggregation and publication of government-held archaeological data can help to document human activity over millennia and at a continental scale. These data can provide a valuable link between specific categories of information available from publications, museum collections and online databases. Integration improves the discovery and retrieval of records of archaeological research currently held by multiple institutions within different information systems. It also aids in the preservation of those data and makes efforts to archive these research results more resilient to political turmoil. While DINAA focuses on North America, its methods have global applicability.

<Internals\\Curator 2011 abstracts> - § 3 references coded [2.68% Coverage]

Reference 1 - 1.04% Coverage

¶13: 3D or Not 3D? Is that a Question?

¶14: Stereoscopic 3D images, although going back to the mid-nineteenth century, are becoming pervasive in cinema, the Web, electronic games, television, graphic simulations, personal photography, and the entertainment and education ecologies

Reference 2 - 1.17% Coverage

¶18: Digitizing museum objects in 3D (or the museums themselves, for that matter) with incredible accuracy and realism; examining the inside of a mummy; modeling collections in 3D; retaining virtual copies of vulnerable objects; all these and more already exist in the fast-changing realm of 3D applications.

Reference 3 - 0.47% Coverage

¶48: On February 1, 2011, Google launched its much-heralded Art Project in partnership with 17 museums from Europe and the U.S.

<Internals\\Curator 2012 abstracts> - § 3 references coded [0.78% Coverage]

Reference 1 - 0.18% Coverage

¶17: Reservations about the digitization of cultural collections

Reference 2 - 0.04% Coverage

¶17: scalability.

Reference 3 - 0.56% Coverage

¶17: It is only then that the Web can potentially revitalize culture, harness the power of the visual, and connect cultural objects to stories of everyday and ceremonial use and meanings

<Internals\\Curator 2013 abstracts> - § 2 references coded [0.91% Coverage]

Reference 1 - 0.50% Coverage

¶21: describes a series of demonstration projects that use multiscalar gigapixel image technology to iteratively design, test, and study

Reference 2 - 0.41% Coverage

¶38: The Pure Land projects contribute to new strategies for rendering cultural content and heritage landscapes.

<Internals\\Curator 2014 abstracts> - § 2 references coded [1.56% Coverage]

Reference 1 - 1.27% Coverage

¶3: three papers featured in this issue of Curator: The Museum Journal that offer new insights and perspectives for understanding the theory behind the model, as well as features of the IPOP model that have been used in the design and interpretation of exhibitions, and a comparison of analytic techniques that produce results that can be used in IPOP-related research.

¶4:
Reference 2 - 0.29% Coverage

¶8: Technical Note: Using Latent Class Analysis versus K-means or Hierarchical Clustering

<Internals\\Curator 2018 abstracts> - § 2 references coded [0.73% Coverage]

Reference 1 - 0.16% Coverage

¶12: Ivory as an Important Model Bio-composite

Reference 2 - 0.57% Coverage

¶13: A number of studies have shown elephant ivory to be a highly non-isotropic material with complex 3 dimensional structures and network of porosity

<Internals\\IJCP 2008 Abstracts> - § 1 reference coded [0.21% Coverage]

Reference 1 - 0.21% Coverage

¶55: As a result of the development of the sciences of conservation of cultural heritage

<Internals\\IJCP 2016 abstracts> - § 1 reference coded [1.31% Coverage]

Reference 1 - 1.31% Coverage

¶49: This allowed the first scientific analyses of Indian ivories of this period, and the results provided important new evidence for the extent of polychromy as well as the scale of the different unrecorded conservation treatments previously applied to these highly fragile objects.

<Internals\\IJHS 2011 abstracts> - § 1 reference coded [0.43% Coverage]

Reference 1 - 0.43% Coverage

¶72: but risk varies widely among properties. I offer a global model based on multi-model general circulation model (GCM) ensembles, vulnerability and Human Influence (HII)

<Internals\\IJHS 2013 abstracts> - § 1 reference coded [0.27% Coverage]

Reference 1 - 0.27% Coverage

¶4: We reflect on the mechanisms of self-reference and self-reproduction that are at play within the scientific disciplines addressing 'heritage'

<Internals\\IJHS 2015 abstracts> - § 5 references coded [0.99% Coverage]

Reference 1 - 0.31% Coverage

¶4: Addressing this paucity in the literature, this article details the methodology developed to produce the Iraq Cultural Property Destruction database, the world's first database to document the destruction of cultural property in Iraq.

Reference 2 - 0.30% Coverage

¶4: This study therefore sets a significant precedent in heritage studies by providing methods that can be applied to other contexts (past, present and future) to document the destruction of cultural property in complex contexts.

Reference 3 - 0.05% Coverage

¶23: Digital heritage in a Melanesian context

Reference 4 - 0.07% Coverage

¶24: how digital heritage, in the form of 3D digital objects

Reference 5 - 0.25% Coverage

¶26: Meanwhile, the digitisation of historical sound recordings and the use of digital domains for dissemination have become matters of theoretical and methodological inquiry in their own right.

<Internals\\IJHS 2017 abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶121: 3D recording, documentation and management of cultural heritage

<Internals\\IJHS 2018 abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶52: has important implications for heritage visualisation practice.

<Internals\\JCH 2000 abstracts> - § 144 references coded [68.85% Coverage]

Reference 1 - 0.05% Coverage

¶6: Our study concerns the chemical analysis of

Reference 2 - 1.04% Coverage

¶6: From the analysis of the mortar, it may be concluded that the composition is very similar, though not identical, in the four paintings studied: a limestone mortar. Ochre, white, black and red were used for the decoration of the four façades; green pigment was also observed in the second decoration of no. 29. The results of the morphological examination and EDX microanalysis of the paint samples are shown. By means of the thermogravimetric analysis we established the existence of an organically derived compound. After the existence of an oleaginous binder had been discounted by gas chromatography/mass spectrometry (GC/MS) analysis, we continued with the extraction and determination of proteins by spectrophotometry analysis, detecting low levels of proteins in the paint on the four façades analysed. The study was completed by evaluating the influence on the deterioration of the paintings by the possible surface presence of salts (such as nitrates or chlorides) and organic compounds.

Reference 3 - 0.07% Coverage

¶8: Fluorescence lidar technique for the remote sensing of stone monuments

Reference 4 - 0.57% Coverage

¶9: first investigation on the remote sensing of stone monuments by fluorescence lidar. The advantages of this technique are manifold and can lead to a fast, extensive and inexpensive control of the stone cultural heritage. The experiments were carried out in both the laboratory and the field, and include the survey of stones coming from different quarries, of epilithic photosynthetic biodeteriogens and of a monument, the Parma Baptistery. The results constitute a first step towards a non-destructive spectral analysis of stone monument surfaces.

Reference 5 - 1.01% Coverage

¶13: Mineralogical, chemical, physical and mechanical investigations have been performed on characteristic samples after gradation. The exponentially declining function of the ratio CO2/H2O structurally bound to the CO2 content shows a continuous evolution of the kinetics governing the various mechanisms of carbonation of the binder or the formation of hydraulic components during setting, hardening and ageing of the mortars. The grouping of mortars in well-distinct 'hydraulic levels' is ascribed to the physico-chemical cohesion and adhesion bonds developed at the matrix and matrix/aggregate interfaces, respectively, allowing for the mortars to either bear continuous stresses and strains as joint mortars or provide compact impermeable renderings which harden even more on contact with water. Hence, parameters determining the diversification of the resulting mortar/matrix types concern the raw materials employed as binding materials and the production processing.

Reference 6 - 0.49% Coverage

¶15: The main focus is on image compression, characterisation and recognition, all of which are fundamental for defining a database on the state of conservation. In particular, an overview of available methods is presented for characterising the structure of materials and recognising the various degrees of degradation. A new unified approach to image compression, characterisation and recognition is also proposed. Applications are included for processing stone images.

Reference 7 - 0.61% Coverage

¶18: The stone was exposed to atmospheric agents, to investigate weathering processes and eventual suitable protection against the Ligurian climate. In particular we studied a laboratory procedure of ageing by exposing the stone to an artificial acid rain whose composition is the same as the most polluted rains fallen on Ligurian region. Consequently we observed the alterations that occurred on stone after exposure to the same amount of artificial and natural rains. The same procedure was applied to samples protected by a fluorinated copolymer such as Akeogard LTX (Syremont, Italy).

Reference 8 - 0.85% Coverage

¶20: an examination and technical analysis of 15 representative thematic scenes, covering an area of approximately 65 m2, from these monumental works of art. The following exhaustive study and documentation of both the original and the subsequently restored areas of the wall paintings were made possible by using various imaging techniques, including visible and ultra-violet photography, infrared reflectography, colour measurements and representation. The chemical identification of the pigments, binders and layer stratigraphy was achieved through the use of visible and ultra-violet fluorescence microscopy, micro-Raman spectroscopy, Fourier transform µspectroscopy (µFTIR), X-ray diffraction (XRD), and scanning electron microscopy with energy dispersive analysis (SEM-EDS) and electron probe microanalysis (EPMA).

Reference 9 - 0.82% Coverage

¶22: Samples of crust were collected from measured areas of two sculptural groups (made from white Carrara marble) inaugurated in 1937 on the front of Milan General Hospital and never restored. Analyses were carried out on ground samples by XRD, ionic chromatography and SEM. Gypsum is the main component followed by carbonaceous particles and iron oxides. The rate of formation of the crust, calculated considering the average crust thickness, the sample weight, the area of sampling and the length of exposure to the atmospheric pollution (54 years), is 2–5 µm per year. The amount of gypsum formed per unit surface (5–13 mg/cm2) has been calculated from the sulphate content and the sample weight per unit surface; the rate of gypsum formation in the black crust is about 0.2 mg/cm2 per year.

Reference 10 - 0.82% Coverage

¶24: This activity employs the Arc/Info (© ESRI Inc.) software in which the database is included for organising and georeferring all the information obtained with the direct survey analysis. All the geomorphologic processes influencing the archaeological sites (both on slopes and flood plain) were analysed to highlight the temporal and spatial distribution of elements that are threatened. The use of Geographic Information Systems provides the most effective procedure for a global and integrated analysis on the site information and on the intrinsic and external conditions of potential instability. Afterwards, the cases of hydrogeologic hazard are investigated applying geological engineering methods in order to indicate the main causes of instability and the possible remedial measures.

Reference 11 - 0.12% Coverage

¶25: Study of water penetration in rock materials by Nuclear Magnetic Resonance Tomography: hydrophobic treatment effects

Reference 12 - 0.29% Coverage

¶26: Nuclear Magnetic Resonance Imaging (MRI) provides a new tool to visualize the presence of water inside the stone and, hence, the performance of hydrophobic treatments. This technique can also give indirect information on the distribution of the hydrophobic product inside the rock.

Reference 13 - 0.10% Coverage

¶27: A study of the effect of the wavelength in the Q-switched Nd:YAG laser cleaning of gilded wood

Reference 14 - 0.64% Coverage

¶28: In this study, a Q-switched Nd:YAG laser system outputting 1 064 nm (infrared), 532 nm (visible, green) and 266 nm (ultra-violet) radiation was used to study the interaction of these wavelengths in a gilded sample surface painted with purpurin. All tested wavelengths interacted differently with the tested surface and, also, the several layers that form the gilded surface (purpurin, varnish and gold) showed different interactions to each wavelength. The ultra-violet radiation (266 nm), in a multi-pulse mode at low fluences, was found to be the most efficient wavelength in cleaning the painted gilded surface.

Reference 15 - 0.95% Coverage

¶30: That is why in this work it has been sampled from various outcrops of the plutonite and in abandoned ancient quarries and characterised petrographically and geochemically. From the petrographic point of view, the plutonites of Kozak are medium-grained biotite-hornblende granite and granodiorite composed of 34.2–53 % (modal) zoned plagioclase, 23.7–35.4 % K-feldspar, 21.4–29 % anhedral quartz, 4.9–10 % brown biotite and 7.7 % green hornblende. These rocks are I-type metaluminous granitoids of high-k calc-alkaline orogenic series forming a crystallised body at a depth of about 10 km. The positive distinction between ‘Marmor Misium’ and two other granites used in antiquity and macroscopically very similar to it, those from the Elba and Giglio islands (Italy), is easily made by considering the absence of hornblende, the peraluminous character and the lower Sr and Ba and higher Rb contents for the latter.

Reference 16 - 0.12% Coverage

¶39: Laser cleaning methodologies for stone façades and monuments: laboratory analyses on lithotypes of Siena architecture

Reference 17 - 0.17% Coverage

¶40: The present study was conceived for an evaluation of the effectiveness of laser cleaning techniques applied to samples collected from numerous monumental buildings

Reference 18 - 0.62% Coverage

¶40: The tests were devised so as to have the widest variability of situations in relation to the colour and composition of the lithotypes, the state of deterioration of the samples and the level at which to stop the cleaning. The tests were preceded and followed by detailed petrographic analyses. In the introduction to the work, we underline the importance of an accurate reconstruction of the stratigraphy of the external horizon of deterioration of the stone for an appropriate choice of the cleaning intervention; the potential advantages of laser techniques are consequently further emphasized.

Reference 19 - 0.72% Coverage

¶42: Within the framework of a European project, three cleaning laser devices are tested to evaluate the influence of different parameters on stone cleaning rate and efficiency. The project objective is to design a large surface-cleaning laser. One of the devices is a prototype with some technological improvements compared to the lasers used today for restoration. The tests are performed on limestone and sandstone covered with various dirt layers. The influence of fluence, water spraying, spot area, frequency, as well as particle emission rate is investigated. Results allow a comparison of the importance of each parameter and confirm the increase in cleaning speed of the new prototype.

Reference 20 - 0.16% Coverage

¶42: Nevertheless, it can be concluded that an automatic device will be suitable to attain a cleaning speed competitive with other traditional cleaning techniques.

Reference 21 - 0.49% Coverage

¶44: An experimental check-up was made of four different methods applied on three different lithotypes on the façade of the Florentine Cathedral. Laser, micro-sandblasting, ammonium carbonate and sodium EDTA were the cleaning methods compared, whilst Carrara marble, green Serpentine (Verde di Prato) and a red limestone were the three lithotypes. Results are commented by showing differences in the advantages and drawbacks among the different methods on the various lithotypes.

Reference 22 - 0.14% Coverage

¶45: Electronic paramagnetic resonance as a tool for studying the blackening of Carrara marble due to irradiation by a Q-switched YAG laser

Reference 23 - 1.29% Coverage

¶46: Several authors or practitioners have remarked that Q-switched lasers have an immediate blackening effect on mineral pigments such as vermilion (HgS), minium (Pb3O4), white lead [2PbCO3. Pb(OH)2], malachite [Cu2CO3.(OH)2] and yellow ochre (FeOH2). A similar blackening effect can also be obtained on veined Carrara marble. This stone contains several trace elements, particularly iron and manganese. The latter is responsible for a particular response in electronic paramagnetic resonance spectroscopy (EPRS). We investigated the effect of a Q-switched Nd:YAG laser irradiation on the EPRS trace of Carrara marble. Further experiments were performed with the same analytical tool on synthetic calcite powders that had been doped with iron or manganese. It appeared that no significant change of EPRS trace could be put into evidence after laser irradiation of both bulk Carrara marble or doped calcite powders, although some samples had actually blackened. It is concluded that the blackening effect is not due to an oxidation of manganese ions. Colour measurements were also performed within the framework of this investigation. They showed that the colour shift to black is proportional to the fluence applied to the stone surface

Reference 24 - 0.11% Coverage

¶47: Determination of damage thresholds to prevent side effects in laser cleaning of pliocene sandstone of Siena

Reference 25 - 0.60% Coverage

¶48: Irradiation trials were performed with a short free running Nd:YAG laser, on quarry samples and on samples from Palazzo Spannocchi presenting black crust. The physical parameterization associated with a detailed petrographic and mineralogic diagnostics of the induced effects, allowed the irradiation thresholds for damage phenomena to be derived and their nature understood. The experimental results reported here allow the definition of the best irradiation conditions and the laser parameter ranges for a safe and controlled black crust removal from pliocene sandstone.

Reference 26 - 0.08% Coverage

¶49: Laser cleaning: a study on greyish alteration induced on non-patinated marbles

Reference 27 - 1.44% Coverage

¶50: During a conservative operation, a restorer noted a grey shade on a 'fresh' (recently fractured) marble surface during laser cleaning. Following this report, the authors began a study on ten Carrara white marble specimens polished on the surface and treated in the same restoration conditions using two types of laser equipment: the first one a Q-switched laser (20-ns pulse), the second one a short free-running laser with a medium pulsewidth of 20 μs. In a few specimens a grey shade appears on the surface. These specimens were investigated by optical microscopy in reflected and raking light and by SEM/EDX. After that, the same samples were embedded in resin and polished to obtain cross sections to be analysed in the same way. Results show that the white marble of the greyish samples contains very small fragments of pyrite (iron sulphide) of dark shiny aspect and that after cleaning the aspect of the fragment appreciably changes. The morphological studies allow two different behaviours of dark inclusion to be observed following the different laser pulses: the first one occurs after short-pulse laser treatment in the form of micro-explosion surrounding the pyrite grains (mechanical effect); the second one (medium pulsewidth) appears like a fusion and spread of particles on the surface. Results are reported showing microphotographs and SEM/EDS documentation.

Reference 28 - 0.09% Coverage

¶51: Investigations on cleaning of black crusted sandstone using different UV-pulsed lasers

Reference 29 - 0.64% Coverage

¶52: Laser cleaning of stone is mainly based on Nd:YAG laser radiation at λ=1 064 nm. Within an international co-operation, experimental studies concerning the application of various UV-wavelengths were carried out. The studies were performed using 355 nm (3rd harmonic of Nd:YAG), 308 nm (XeCl-Excimer) and 248 nm (KrF-Excimer) and in comparison 1 064 nm (Nd:YAG fundamental). Sandstone samples from the Dresden Zwinger (Germany), called Elbsandstein,

covered by a superficial black crust were used for laser ablation rate studies. The ablation rates (mg per pulse) were measured with respect to the laser fluence.

Reference 30 - 1.15% Coverage

¶54: The use of Nd:YAG lasers as a tool for the removal of black sulphation crusts is now a well-established technique. The risks associated with near infrared radiation have been thoroughly investigated and appropriate safety measures have been recommended and published. Less well known are the risks arising from the particulate matter created during the cleaning process. Particulates may be potentially hazardous owing to both their physical size and chemical composition. In addition, the study of such particulates could also provide information about the ablation processes operating during laser cleaning. We have carried out an initial study, using a scanning electron microscope, into the physical size and elemental composition of particulates emitted during the laser cleaning of marble and limestone. The particle sizes recorded varied over a wide range and included a significant contribution from sizes that are known to pose a health risk. The results of the elemental analysis also indicate the need to exercise caution in the treatment of the waste material resulting from laser cleaning.

Reference 31 - 0.11% Coverage

¶56: High-intensity pulsed light from a portable xenon flashlamp system was employed to remove lichen growth

Reference 32 - 0.42% Coverage

¶56: The ultraviolet and visible flashlamp radiation was found to decompose the lichens on the friable marble of the statues without damaging the stone. Thus, a non-chemical, non-mechanical, and non-abrasive divestment technique has been demonstrated for the conservation of artistic sculpture. The high efficiency and low cost of flashlamp systems makes this a cost-effective alternative to laser cleaning.

Reference 33 - 0.13% Coverage

¶60: laser cleaning, laser scanning and non-contact replication, and marble consolidation by calcium carbonate precipitation.

Reference 34 - 0.17% Coverage

¶62: The use of a laser scanner combined with the latest manufacturing techniques presents a potential solution to the need for recording and non-contact replication.

Reference 35 - 0.05% Coverage

¶63: Application of a new laser cleaning procedure

Reference 36 - 1.13% Coverage

¶64: based on the use of a recently developed Nd:YAG laser system, suitably equipped in this case with long optical fibre cables for the transmission of laser radiation to work sites on the façade. The intervention of the laser technique was required to complete the cleaning of a decoration surrounding the monolithic dome, after conventional cleaning methods had been applied with unsatisfactory results. Preliminary laboratory analyses on stone samples collected from the dome and subjected to laser treatment indicated that this technique was effective and could fully preserve the lime–Ca oxalate film existing below the thick layer of black crusts. Before starting the operative phase on the mausoleum, it was necessary to solve the practical problem of keeping free access to the monument during cleaning operations, which hindered the location of the laser in close proximity to the sites to be cleaned. This was achieved by preparing long fibre cables (up to 50 m) which permitted the successful completion of the cleaning while leaving the laser body far away from the dome.

Reference 37 - 0.05% Coverage

¶65: the use of laser in the cleaning of the façade

Reference 38 - 0.46% Coverage

¶66: and laser treatment provided appreciably better results than traditional chemical and mechanical methods. In addition to laser, however, other methods of cleaning were used in order to find the best response to each of the various situations encountered. Indeed it should be emphasized that in restoration it is often appropriate to exploit the potential of several systems, combining their action on the basis of careful preliminary analyses.

Reference 39 - 0.05% Coverage

¶67: the comparison and testing of cleaning methods

Reference 40 - 0.53% Coverage

¶68: Testing involved setting up and verifying a method of analysis capable of helping the project designer in his choice. The use of laboratory and on-site analysis techniques was made to highlight the type of interaction that took place between the cleaning methods chosen and the surface. Several evaluations regarding the various checking systems were thoroughly examined with the aim of pinpointing one or more analysis techniques for the comparison of various cleaning methods that could be used on a surface.

Reference 41 - 0.06% Coverage

¶69: criteria for Nd:YAG laser cleaning on an architectural scale

Reference 42 - 0.72% Coverage

¶70: The Nd:YAG laser method cleans the original surface of hardened encrustations without damaging or affecting the old coloured plasters and without affecting the centuries-old patina. Laser-Tech GmbH, founded by two expert restorers from Austria and Italy, is specialised in large-scale projects and, regarding the present project for the chancel, has managed to combine the sensitivity of the preserver with the laser technology applied to large surfaces. The present project concerning St. Stephen's Church comprises over 2000 m2 of stone surface treated only with laser systems, by groups of qualified restorers trained at Altech to use such instrumentation on artistic historic surfaces.

Reference 43 - 0.12% Coverage

¶71: SMART CLEAN: a new laser system with improved emission characteristics and transmission through long optical fibres

Reference 44 - 1.25% Coverage

¶72: SMART CLEAN is an innovative Nd:YAG laser system that has been designed to optimize laser cleaning procedures, especially for the treatment of altered stone surfaces. The project, originated by the co-operation of researchers and enterprises involved in optoelectronics system development, was aimed at improving the intrinsic features of the laser source, as well as some practical aspects, in order to facilitate laser application in the restoration yard. Emission characteristics were suitably tailored to obtain effective removal of alteration layers, and to minimize possible side effects. In particular, the pulse duration of the SMART CLEAN laser was set at 20 μs, by means of a proprietary design of the power supply. This was in order to reduce the risk of both mechanical and thermal damage to the artwork substrate, which is more likely to occur with short and long laser pulses, respectively. Moreover, this pulse duration permitted a reliable transmission of high laser energy through long optical fibres (50 m), which allowed easy cleaning operations on façades. The laser system was tested on a large variety of lithotypes and in operative cleaning interventions on Italian monuments.

Reference 45 - 0.11% Coverage

¶73: 80 W average power of Q-switched ND:YAG laser with optical fibre beam delivery for laser cleaning application

Reference 46 - 0.48% Coverage

¶74: This paper presents the influence of a uniform intensity of the laser beam, the shape of the beam cross section, the laser beam delivery and finally the laser average power on the efficiency and the speed of the cleaning procedure. The cleaning speed of our laser is 30 times faster in comparison with a 10-W average power laser, with circular beam cross section and Gaussian intensity distribution. This laser can be scalable to 160-W average power upon request.

Reference 47 - 0.06% Coverage

¶75: Tests of laser cleaning on archeological metal artefacts

Reference 48 - 0.42% Coverage

¶76: Previously reported experiences on laser cleaning of metal surfaces of artworks such as statues and decorations altered by atmospheric pollution demonstrated the potential advantages of this technique. Here we present a study on the use of laser cleaning on excavated metal objects that typically show alterations and corrosion processes quite different with respect to exposed metal artefacts. Tests

Reference 49 - 0.31% Coverage

¶76: Different laser systems and different irradiation conditions were employed and compared. The results, evaluated by metallurgic diagnostics and objective observations, indicated that the laser cleaning process was selective and highly precise, allowing the preservation of fine surface details.

Reference 50 - 0.08% Coverage

¶77: Laser characterization and cleaning of nineteenth century daguerreotypes

Reference 51 - 0.70% Coverage

¶78: Laser ablation techniques have been previously explored for use in the characterization, dating, and restoration of historic paintings, parchments, stained glasses, and statues. We report here the use of a number of modern surface science techniques (especially those using lasers, mass spectrometry, and microscopy) to characterize and analyze both normal and degraded daguerreotypes. Then, attempts to use laser ablation techniques for cleaning and restoring damaged nineteenth century samples will be described. The optimal wavelength, pulse length, pulse energy, and focussing conditions are critical for effective cleaning while preventing damage to the fragile image.

Reference 52 - 0.03% Coverage

¶79: and the role of laser cleaning

Reference 53 - 0.24% Coverage

¶80: It was considered desirable to remove the last vestiges of coating material to fully reveal the chasing. A Lynton Lasers ‘Phoenix’ Q-switched Nd:YAG laser operating at 1 064 nm was used and proved very effective and sensitive.

Reference 54 - 0.08% Coverage

¶81: Laser cleaning of stained glass windows. Overview on an interdisciplinary project

Reference 55 - 0.59% Coverage

¶82: Two recent projects deal with laser cleaning, one for stone and the other one for stained glass windows, the latter being presented here. This publication gives an overview on cleaning problems on stained glass windows and the project methodology. The interdisciplinary approach of the project provides the possibility of including experts in different fields to examine perspectives and limits of laser cleaning for stained glass windows. Two other publications in this issue (LACONA III) give selected results on cleaning experiments achieved within this project.

Reference 56 - 0.08% Coverage

¶83: UV-laser radiation: basic research of the potential for cleaning stained glass

Reference 57 - 1.21% Coverage

¶84: A KrF-excimer laser operating at λ = 248 nm was used for basic studies in cleaning ancient glass surfaces. For irradiation a mask projection technique was applied. A modified optical set-up was designed using cylindrical lenses for large area removal by line scanning. Previous investigations revealed insufficient knowledge about interaction processes between UV-laser radiation and individual surface layers of encrusted historical glass. Thus, first detailed studies were carried out on special model glass samples simulating the behaviour of historical glass. The potential of removing crusts, bio layers as well as layers of different conservation materials (due to former conservation work) were examined. The avoidance of damaging material such as gel layers, paint layers or the bulk glass was of great importance. Removal rates and thresholds for the materials mentioned above were carried out. The collected data enables a comparison and evaluation of the feasibility for the removal of superficial layers from historical glass artefacts. The results indicate that in some cases a closed loop process control will be necessary to avoid over-cleaning.

Reference 58 - 0.09% Coverage

¶85: Biogenic surface layers on historical window glass and the effect of excimer laser cleaning

Reference 59 - 1.25% Coverage

¶86: The ablation of biofilms by excimer laser radiation was systematically examined in a series of model studies during which the biofilms originating from different historical panels were simulated on model glasses. The composition of these model glasses was modelled on that of the original historical glasses. Our studies have shown that glass composition, climatic conditions and biofilm formation are factors which interact synergetically. It could be observed that various biofilms grow differently on the same type of model glass and that the same type of biofilm shows a different development on various model glasses. The decisive factors for the effectiveness of biofilm ablation by laser irradiation is the formation of the biofilm on the one hand and its corrosive potential on account of its ability to accumulate moisture and to produce glass-damaging metabolites on the other. Glasses of low chemical stability promote the growth of dense biofilms and can be cleaned only with a high energy density, whereas glasses of high chemical stability merely allow for a slow growth of a biofilm spreading two-dimensionally on the glass surface which can be gently removed using low energy density.

Reference 60 - 0.05% Coverage

¶87: Laser removal of contaminants from painted surfaces

Reference 61 - 1.26% Coverage

¶88: An analysis of surface ablation by laser exposure of art objects as part of the conservation process indicates that heat diffusion from the site of laser exposure may be minimized by proper selection of wavelength and exposure duration. A model for unwanted material removal with a laser has been developed taking account of the threshold phenomenon of ablation as a function of wavelength, and exposures at 2.94 μm by an Er:YAG laser with short duration pulses is compared with those from a Nd:YAG (1 064 and 532 nm), CO2 (10.6 μm) and the ultraviolet excimer laser at 193 nm. Thermal diffusion is minimized by taking advantage of the large amount of heat removed by the phase change of water into steam. This model suggests that for bulk removal at strongly absorbed wavelengths, many short pulses are better than continuous exposures. The selection of the Er:YAG laser allows the use of hollow glass waveguides of high flexibility, which are commercially available, as delivery systems. Examples of successful removal are given for contaminants overlying a Madonna's gold leaf halo and the heavy dark accumulation of soot on an unvarnished oil painting, as well as for thick synthetic adhesive on canvas.

Reference 62 - 0.06% Coverage

¶89: The effect of Nd:YAG laser radiation on medieval pigments

Reference 63 - 0.67% Coverage

¶90: The absorption properties of polychrome materials are likely to be different from those of the underlying stone or substrate and as a result special care must be taken to avoid any damaging or discolouring phenomena associated with laser cleaning. Spectroscopic methods (XPS, AES, reflectance spectroscopy) together with optical microscopy, digital photography and X-ray diffraction analysis have been used in a series of experiments on simulated samples of common medieval pigments (vermilion, red and white lead and ochres in linseed oil) on limestone plates, in order to study the reaction of these materials to infrared laser radiation.

Reference 64 - 0.04% Coverage

¶91: Nd:YAG laser effects on inorganic pigments

Reference 65 - 0.84% Coverage

¶92: The effects of a Q-switched Nd:YAG laser irradiation on a group of supports, painted with six different inorganic pigments, was investigated. The pigments were chosen from among the most utilized on painted historical surfaces: red ochre, yellow ochre, chromium green, ultramarine azure, white chalk and carbon black, and they were distempered with two binders – linseed oil and gypsum – on primed wood panels. The pigments were characterized by means of X-ray diffraction and Fourier transform infrared spectroscopy. Chromatic characteristics, chemical composition and

surface morphology of the painted layers were investigated before and after the laser irradiation. Three different fluences were used to detect the correlation between laser parameters and changes in painting layer characteristics.

Reference 66 - 0.04% Coverage

¶93: The laser cleaning of wall paintings

Reference 67 - 1.58% Coverage

¶94: The objective of this work has been the study of the laser cleaning technique when applied to wall paintings. In particular, this study has been devoted to understanding how the characteristics of the laser apparatus and its specific use are linked with the nature of the substances to be removed from the painting. A number of paintings were selected with paint layers that were composed of different pigments such as lapis lazuli, lamp black and ochres. They had been applied using the fresco technique or a secco natural resins, on surfaces that had been treated with organic (natural resins, drying oils, caseinate glues, etc.) and inorganic substances (calcium carbonate or oxalate) applied during previous restorations. The analyses carried out were the following: FTIR spectroscopy with and without microscope and the study of thin sections of the surface of the paintings. The apparatus we used was a Nd:YAG laser operating in Q-switch or in normal mode; in Q-switch operation the laser could emit at two different wavelengths: in the infra-red and in the visible (1 064 and 532 nm). The main objective of the work was to determine the optimum working conditions for the substances to be removed, through the establishment of laser parameters such as the pulse modality (Q-switch or N-mode), the wavelength, the repetition rate and the energy density. The effects of the laser radiation on the surfaces of the paintings were checked by measuring temperature, pH, conductivity and spectro-colorimetric tests.

Reference 68 - 0.06% Coverage

¶95: The effects of UV laser light radiation on artists' pigments

Reference 69 - 1.28% Coverage

¶96: This investigation is concerned with the effects of UV laser light on inorganic pigments, as extensively used in easel paintings. It has been observed that, under such laser treatment, the two iron oxide pigments raw sienna and yellow ochre darken appreciably. Examination of the X-ray diffraction (XRD) patterns of the pigments has revealed the nature of this discoloration and indicated that alterations to the structure of the crystal lattice of each pigment have taken place. These alterations are probably due to thermal processes which involve the release of molecules of water from the crystal lattice. It has been shown that, although the pigments were initially both composed primarily of the mineral goethite (FeOOH), after treatment the XRD results indicated the presence of haematite (Fe_2O_3) and possibly magnetite (Fe_3O_4) as well. Darkening has also been detected, following laser irradiation, of lead chromate, $PbCrO_4$, a pigment that is known not to contain water. After examination by Raman and laser-induced fluorescence spectroscopy, it is proposed in this case that the observed discoloration of the pigment in the binding medium, linseed oil, is due to degradation of the binding medium or impurities therein.

Reference 70 - 0.11% Coverage

¶97: Controlled laser cleaning of painted artworks using accurate beam manipulation and on-line LIBS-detection

Reference 71 - 1.21% Coverage

¶98: An innovative laser restoration tool for non-contact cleaning of painted artworks is developed. Accurate beam manipulation techniques in combination with on-line detection make the system suitable for selective cleaning of delicate surfaces. The utilisation of lasers obviates the use of various chemicals, and provides a method to remove layers that are untreatable using conventional methods. The first professional laser cleaning station for paintings is equipped with a modern mechatronic engineering tool for accurate beam manipulation ('optical arm'). An intelligent combination of software and hardware enables accurate control, necessary to deal with the variable properties of the artworks to be treated. An on-line monitoring system is incorporated, using laser-induced breakdown spectroscopy. The user interface plays an important role in simulating the 'hands-on' treatment. In January 1999, the 2-year European co-operative research project 'Advanced workstations for controlled laser cleaning of artworks' started. The research objective is to define the boundary conditions in which laser cleaning with the present technology can be safely applied.

Reference 72 - 0.06% Coverage

¶99: Near-UV and visible pulsed laser interaction with paper

Reference 73 - 0.63% Coverage

¶100: The applicability of excimer laser at 308 nm and Nd:YAG laser at 532 nm with fluences below 0.86 J/cm2 for cleaning of cellulose and paper materials was evaluated. The extent of degradation of purified cotton cellulose and Fabriano paper after laser treatment as well as after a period of accelerated humid oven ageing was determined by following the changes in the degree of polymerization. While irradiation of paper with the excimer laser at 308 nm results in depolymerization of cellulose accompanied by a decrease in ISO brightness, no detrimental effects of Nd:YAG laser treatments were observed.

Reference 74 - 0.08% Coverage

¶101: An investigation into the effect of wavelength in the laser cleaning of parchment

Reference 75 - 0.89% Coverage

¶102: An investigation has been undertaken into the effect of wavelength in the laser cleaning of parchment. Tests have been carried out using the fundamental (1 064 nm), second harmonic (532 nm) and fourth harmonic (266 nm) outputs from a Q-switched Nd:YAG laser (pulse length 10 ns). Initial testing was carried out on new parchment to characterise the damage caused by overcleaning.

The fluence and wavelength of the laser beam were then optimised so that any damage to the parchment or loss of ink during dirt removal from a late eighteenth century parchment document were minimised. The cleaned surfaces were examined by optical and scanning electron microscopy and analysed by measurement of the shrinkage temperature of cleaned collagen fibres. The laser-cleaned areas were compared with uncleaned areas and areas cleaned by traditional techniques.

Reference 76 - 0.15% Coverage

¶103: Near-UV laser interaction with contaminants and pigments on parchment: laser cleaning diagnostics by SE-microscopy, VIS-, and IR-spectroscopy

Reference 77 - 0.99% Coverage

¶104: Potentials and limitations of the near-UV pulsed laser cleaning of parchment (wavelength 308 nm, pulse duration 17 ns) are demonstrated by the application of scanning electron microscopy (SEM), colour metrics and diffuse reflectance infrared Fourier transform spectroscopy (DRIFT) at model contamination/pigment/parchment systems. Pigment-binder systems stable and unstable against near-UV laser treatment could be identified. A chemical degradation threshold fluence of a goat parchment model substrate was determined which practically coincided with its ablation threshold fluence. This indicates that the fluence range of destructionless laser cleaning at 308 nm is almost not impaired by chemical modfications below the ablation limit. Nevertheless, spectroscopic diagnostics are necessary to guarantee destructionless cleaning for practical cases where the chemical conversion threshold fluence deviates from the ablation threshold to lower values.

Reference 78 - 0.11% Coverage

¶105: An initial investigation into the cleaning of new and naturally aged cotton textiles using laser radiation

Reference 79 - 0.68% Coverage

¶106: A series of tests has been conducted to evaluate the potential for using a Q-switched Nd:YAG laser (wavelengths 1 064, 532 and 266 nm) to clean both new and naturally aged cotton textiles. Tests have been carried out on i) plain weave and velvet cotton and ii) new and naturally aged cotton samples to investigate the possible roles of weave structure and ageing in the cleaning process. Cleaning trials have been carried out on artificially soiled new cotton and compared with results obtained using traditional cleaning techniques: wet cleaning and organic solvent cleaning. Cleaned surfaces were examined using optical and scanning electron microscopy.

Reference 80 - 0.02% Coverage

¶107: Laser cleaning applied

Reference 81 - 0.53% Coverage

¶108: The cleaning was carried out with a pulsed Nd:YAG laser after basic investigation of ablation mechanisms of the layers on the old wood. All layers of the different materials were removed both from the normal surface and out of depressions and woodworm holes with a special range of laser parameters, without damaging the wood. Within this range of parameters the laser cleaning is a self-limiting process. The health hazard from emitted waste products were determined and checked with work place measurements.

Reference 82 - 0.17% Coverage

¶108: The laser cleaning of the wooden wall panels was completed in March 1999. A uniform visual impression of all panels was obtained with a warm wooden colour tone.

Reference 83 - 0.28% Coverage

¶110: A series of probative laser cleaning and divestment tests has been performed on a wide variety of the materials encountered in natural history museum collections. These tend to be quite different from the substances customarily encountered in fine art collections.

Reference 84 - 0.31% Coverage

¶110: Initial results are shown for laser cleaning of minerals, fossils, wood, ancient textiles, feathers, as well as mummified and frozen tissue. The preliminary results indicate that laser cleaning and divestment may have even more utility in the natural history field than in fine art conservation.

Reference 85 - 0.06% Coverage

¶111: Laser cleaning of fossil vertebrates: a preliminary report

Reference 86 - 0.71% Coverage

¶112: In this work we present preliminary results on the application of laser cleaning to palaeontological findings, such as fossils included in various stone matrices. Laboratory tests were carried out on samples of fossil bones of mammals collected from Italian sites by using a Nd:YAG laser system developed for the conservation of stone artworks. Prior to undergoing laser treatment, bones and stone matrices were characterised by mineralogical and petrographical examinations. Objective observations during the procedure, as well as post-cleaning analyses indicated that laser cleaning can provide high precision and control in the removal of stone layers from the surface of fossils.

Reference 87 - 0.09% Coverage

¶113: Micro-Raman spectroscopy for standard and in situ characterisation of painting materials

Reference 88 - 0.64% Coverage

¶114: Micro-Raman is a spectroscopic technique that allows the identification of painting materials even if finely grained and mixed with others, dispersed in a binder or layered on surfaces. It is used for non-destructive, in situ measurements and it is suitable for selective studies on inhomogeneous materials or surface investigations. Some examples are described of the use of this technique in the field of art conservation and diagnostics, with regard to pigments, dyes and some products of metal alteration. Raman spectra obtained on standard painting materials were arranged in a database and published on the Web.

Reference 89 - 0.15% Coverage

¶115: Soft and hard modelling methods for deconvolution of mixtures of Raman spectra for pigment analysis. A qualitative and quantitative approach

Reference 90 - 1.34% Coverage

¶116: Raman spectroscopy provides a means for the detection and identification of pictorial materials on artworks. As a non-destructive, applicable in situ and non-ambiguous technique, it is one of the most preferred to analyse the pigmentation of any kind of artwork: from paintings [1] and papyrus [2] to polychromes on woods [3]. A common problem, however, is lack of spatial resolution on some systems due to large focal distances, which degrades the theoretical high resolution of the system, which involves the resolution of mixtures of individual Raman spectra. In this work, we will present the advantages and disadvantages of two methods for the separation of mixtures of Raman spectra [4,5], and we present a new solution to overcome the problems of the above. To such an end, we will provide qualitative (identification of the species) and quantitative (determine their concentration profiles) results of the methods. The experimental analyses have been carried out in two steps: first we calibrate the methods with known mixtures of two compounds prepared in the laboratory. Second, we test the methods with a real artwork supposed to be from 'El Greco'. Procedures to minimise problems, such as extreme fluorescence and noise, that arise on real artworks are also presented.

Reference 91 - 0.09% Coverage

¶117: Application of micro-Raman spectroscopy to the study of an illuminated medieval manuscript

Reference 92 - 0.05% Coverage

¶118: We analysed, using micro-Raman spectroscopy,

Reference 93 - 0.56% Coverage

¶118: All measurements were carried out at two excitation wavelengths (λ=632.8; λ=514.5 nm). The spectra of the drawing showed the presence of lazurite, Na8[Al6Si6O24]Sn, the coloured matter of lapis-lazuli, and of lead dioxide, coming from the oxidation of lead white or biacca, 2 PbCO3·Pb(OH)2. The illumination on a nearby page is a flower decoration, surely drawn by a different artist, in which we recognized the presence of cinnabar, HgS, lead tin yellow (type I), PbSnO4 and azurite, 2 CuCO3·Cu(OH)2, a blue pigment cheaper than lazurite.

Reference 94 - 0.12% Coverage

¶119: Self-calibrated quantitative elemental analysis by laser-induced plasma spectroscopy: application to pigment analysis

Reference 95 - 0.75% Coverage

¶120: A new laser-based spectroscopic technique, called calibration-free LIPS (laser-induced plasma spectroscopy), is proposed for fast and precise elemental analysis in the field of cultural heritage conservation and study. Quantitative stratigraphic results, obtained by CF-LIPS on ancient Roman frescoe samples, are shown. The application of this calibration-free procedure frees the LIPS technique from the need of reference samples or an internal standard. This characteristic, along with the intrinsic speed (the whole process of data collection and analysis takes a few minutes) and precision (of the order of a few parts percent) make the CF-LIPS a viable technique for in situ quantitative analysis of artworks.

Reference 96 - 0.11% Coverage

¶121: LIBS-spectroscopy for monitoring and control of the laser cleaning process of stone and medieval glass

Reference 97 - 0.34% Coverage

¶122: On-line monitoring or even closed-loop control is necessary to avoid over-cleaning in case the ablation process is not self-limiting. Therefore, the laser-induced breakdown spectroscopy (LIBS) was used. Basic investigations were carried out on original sandstone samples (Elbsandstein) with strong encrustations as well as

Reference 98 - 0.86% Coverage

¶122: The spectroscopic study has shown that the plasma emission can be used for determination of the elemental composition of the ablated material. The plasma was initiated by 248-nm pulses of an KrF-excimer laser (30 ns FWHM). For the spectroscopic analysis, a grating spectrograph in combination with an optical multichannel analyser was used. For the glass and stone samples we obtained a continual alteration of the LIBS spectrum (vanishing of peaks and generating of new element peaks) during the removal process. Thus, certain element peaks can be used to distinguish between encrustation layer and valuable underlying material. To show the potential of LIBS we designed an experimental laser cleaning set-up including closed-loop LIBS control and demonstrated successful automatic cleaning of an original glass fragment

Reference 99 - 0.07% Coverage

¶123: LIBS spectra of polychromes with a low cost CCD camera based detector

Reference 100 - 0.68% Coverage

¶124: Two real samples of polychromes, from the Spanish Baroque period and from the XV century, were analysed by time-integrated laser-induced breakdown spectroscopy (LIBS). The time-integrated spectra showed negligible contribution of continuum background emission. The spectra of the Baroque sample indicated the presence of vermilion; this was confirmed by near-infrared Fourier transform spectroscopy. LIBS spectra of the XV century sample showed Ca, Al, Mg, Na and Pb lines and the molecular emissions CN(B-X) and C2(d-a). Relative spectral intensities were measured as a function of the number of laser pulses delivered at the same position of the sample.

Reference 101 - 0.10% Coverage

¶125: Laser-induced breakdown spectroscopy and Raman microscopy for analysis of pigments in polychromes

Reference 102 - 0.21% Coverage

¶126: A polychrome from the Rococo period was analysed by use of two laser-based analytical techniques, laser-induced breakdown spectroscopy (LIBS) and Raman microscopy. The analysis, performed on a fragment

Reference 103 - 0.40% Coverage

¶126: , provided detailed spectral data that have been used for the identification of pigments. LIBS measurements yielded elemental analytical data that suggest the presence of certain pigments and, in addition, provide information on the stratigraphy of the paint layers. Identification of most pigments and of the materials used in the preparation layer was performed by Raman microscopy.

Reference 104 - 0.04% Coverage

¶127: Prediction system of surface damage

Reference 105 - 0.52% Coverage

¶128: During laser cleaning, surface damage on the substrate could easily occur by overexposure to a laser pulse of high fluence. The damage is especially serious in art conservation where recently the laser has found a successful field of application. Successful cleaning without surface damage can be achieved by skilled expert operators with long experience and good technique. This paper presents a fuzzy rule-based expert system to predict surface damage during laser cleaning like a human expert.

Reference 106 - 0.68% Coverage

¶128: In this work, a fuzzy rule base was used to embed the acoustic information including an indication for the progress in cleaning and the result. An inference process was conducted to predict whether and how much surface damage would be induced on the substrate. In order to detect the acoustic waves a wide-band microphone was utilised. Tests of the performance of the fuzzy expert system showed that the prediction of surface damage is well correlated with the actual results

independent of initial surface conditions. Finally, a process control algorithm for laser cleaning has been developed on the basis of the surface damage prediction system.

Reference 107 - 1.03% Coverage

¶130: A fast and reliable surface monitoring and diagnostic technique is essential to develop a real-time automatic control system for laser cleaning of artworks. In this paper, an in-line surface monitoring and diagnostic system based on chromatic modulation using tristimulus detectors and fibre optics is presented. The system produces measurements that are dependent on the spectral signature of the incident light but are independent of intensity. In order to demonstrate its usefulness and versatility, the technique was applied to surface monitoring in the laser cleaning of metal and stone. Results show that the spectral parameters derived from chromatic detection not only provide a clear indication of the surface cleanliness and surface damage but also much surface chromatic information from its versatility. It is also shown in this paper how a chromatic modulation technique may be utilised as a robust method for monitoring and diagnosing the surface during laser cleaning.

Reference 108 - 0.16% Coverage

¶131: Incorporation of laser ablation into a proton probe system to study laser ablation of corrosion products, and enhance the probe's analytical capabilities

Reference 109 - 0.78% Coverage

¶132: The Oxford University Scanning Proton Microprobe Unit has been responsible for many advances in the field of focused proton beams for analytical microscopy, including being the first to develop the optimized electro-magnetic lenses used to focus high-energy protons to the micron and sub-micron level. This has led to a revolution in using the proton microprobe as an analytical tool for the study of materials. Continuing the tradition of innovation at the Oxford SPM unit, the use of laser ablation to reduce the need for sampling or cleaning of art and archaeological objects, before analysis, is being investigated. Further, information on the makeup of corrosion layers and past conservation treatments is becoming available via this technique.

Reference 110 - 0.08% Coverage

¶133: Holographic applications in evaluation of defect and cleaning procedures

Reference 111 - 0.76% Coverage

¶134: Holographic interferometry (HI) was chosen as the diagnostic tool to support non-destructive identification of structural defects commonly found in numerous art conservation problems. Holographic recording provides the highest information content of the concerned artwork and by implementation of a portable pulse laser the procedure becomes vibration isolation free for use outside the laboratory. Nowadays, it is comprehensively appreciated from art conservators that detailed structural knowledge is essential when conservation of precious artworks is concerned. The

versatility of a holographic interferometer when used to acquire explicit structural information of art objects is demonstrated here in characteristic cases.

Reference 112 - 1.04% Coverage

¶136: The aim of this work was to use non-destructive optical measurement techniques to assess the conservation state of ancient Italian paintings and to experiment outside of the laboratory with the most recent ESPI (electronic speckle pattern interferometry) portable instruments developed within the Photonic Technologies and Diagnostic Laboratory of the European Commission Joint Research Centre of Ispra, Italy. The measurements described here took place at the Laboratori di Restauro dei Dipinti dell'Opificio delle Pietre Dure in Florence, Italy. The technique detects hardly visible and invisible defects on paintings on panel during the restoration phase and allowed the production of both qualitative and quantitative data, owing to its high resolution and sensitivity to thermal deformation. The system used allowed the inspection of a larger area (400×300 mm) in comparison to that reported in literature concerning continuous wave portable ESPI systems applied in the conservation field.

Reference 113 - 0.07% Coverage

¶137: Fibre optic projected fringes for monitoring marble surface status

Reference 114 - 0.70% Coverage

¶138: This paper describes an optical technique able to obtain the surface topography of ancient stone artworks. The method is based on the fibre optical projection interferometer and the Fourier transform analysis. A sinusoidal fringe pattern is projected onto the object by an optical fibre version of Young's interferometer. A CCD camera, for subsequent analysis by PC, captures the distorted fringe pattern caused by the surface profile. The method relies on simple equipment; it gives quantitative results, and is suitable for in situ measurement. Some experimental tests, effected on limestone samples and ancient marble artworks, demonstrate the suitability of the method.

Reference 115 - 0.07% Coverage

¶139: Experiments on stony monument monitoring by laser-induced fluorescence

Reference 116 - 0.77% Coverage

¶140: The use of remote sensing techniques for the monitoring of historical buildings is attractive, since it can allow a fast monitoring of large surfaces without the use of scaffolding and, in addition, a thematic mapping which is easier to read. The studies on fluorescence lidar monitoring of buildings started a few years ago and are still in progress. Interesting results were obtained in biodeteriogen monitoring and in the identification of stones. The possibility of detecting fluorescence thematic images of large areas was demonstrated on both artificial targets and historical buildings. This paper describes the current state of the art on fluorescence lidar monitoring of buildings and the research trends for the near future.

Reference 117 - 0.15% Coverage

¶141: On field validation of non-invasive laser scanning vibrometer measurement of damaged frescoes: experiments on large walls artificially aged

Reference 118 - 0.99% Coverage

¶142: Past experiences demonstrated that the study of surface vibrations could be used to locate defect positions and sizes in frescoes. At present a non-invasive diagnostic system is under development and the aim of this work is to present the results obtained on large painted walls. After initial measurement set-ups based on accelerometers and impact hammers, a novel system based on laser vibrometers and acoustic stimulation was assembled. Full remote and contactless investigation of typical defects of frescoes, detachments, cracks and delaminations is thus possible with a very high accuracy. For the present investigation we employed a commercial scanning laser doppler vibrometer (SLDV) system, a horn loudspeaker and bass reflex enclosure to fully cover the audio frequency range. This paper will present experimental results gathered from large samples made by LRMH and compare them with those extracted by traditional investigation techniques.

Reference 119 - 0.22% Coverage

¶144: Use of Hexaflumuron baits against subterranean termites for protection of historical and artistic structures: experiment carried out in selected test areas at the church of Santa Maria della Sanità in Naples

Reference 120 - 0.37% Coverage

¶145: A revolutionary solution comes from using ‘baiting technology’ that incorporates a slow-acting toxicant. The termite bait system tested here is based on Hexaflumuron, a chitin synthesis inhibitor developed by Dow AgroSciences, and ensures an effective, safe, not invasive and environmentally responsible treatment. The research was conducted in Naples,

Reference 121 - 1.36% Coverage

¶145: where a Reticulitermes lucifugus infestation has been studied in depth since September 1997. During the pre-baiting survey a monitoring network was established to connect termite populations. Then a baiting program was applied in two zones selected as ‘sample areas’ where live infestations were found; site ‘Transept’ and site ‘Arciconfraternita’. At both sites termite control was achieved in September 1998 by the use of 430 mg of Hexaflumuron within 4 months of baiting. After the baiting procedure, in November 1998, a follow-up monitoring was initiated to confirm control of the infestation at both sites. This phase, which is still continuing, was extended to the whole structure in order to provide continuous protection from new potential infestations. Thanks to the monitoring device-network established also in unbaited zones a new termite invasion was readily detected and a specific baiting program, which is now in progress, was initiated. This work showed that Hexaflumuron baits offer a modern solution against the infestation of subterranean termites in urban locations and confirmed the importance of a ‘monitoring-baiting-monitoring’ approach to termite control.

¶146: A Mössbauer approach to the physico-chemical characterization of iron-containing pigments for historical wall paintings

Reference 122 - 0.71% Coverage

¶147: A series of commercially available iron-containing pigments (red or yellow ochre and green earths) has been primarily investigated by means of Mössbauer spectroscopy. The quantitative distribution of iron among various sites, and the iron(II) to iron(III) ratio were determined. FT-IR, SEM and EDX microscopy and XRD diffractometry have also been used for a more appropriate analytical identification and physico-chemical classification of the examined pigments. The pigments were divided into various groups according to their physico-chemical properties and compared with the data obtained on wall painting samples, prepared in the laboratory as reference, and on fragments from

Reference 123 - 0.17% Coverage

¶147: It was found that the commercially available samples, although synthetic, are not pure products and may contain additional compounds or additional iron derivatives.

Reference 124 - 0.75% Coverage

¶155: Currently, the microclimatic conditions are good with only a few weak gradients in the main thermohygrometrical parameters, and the internal conditions are such that there is very little deposition of pollutants. A last series of structural interventions is necessary to eliminate the few remaining causes of perturbations in the internal microclimate. Given that when micropores are saturated with water, cycles of mechanical stress can occur, the situation becoming even more dangerous in the presence of soluble salts. Consequently, an analysis of the porosity of the stone was performed and the results showed that micropores measuring between 0.005 and 0.1 μm and even greater were, in effect, filled with water.

Reference 125 - 0.04% Coverage

¶156: Mineralogical and chemical characterisation

Reference 126 - 1.14% Coverage

¶157: The original tesserae and mortars of the GB were analysed for their mineralogical and chemical composition. Results indicate that glass tesserae have a common sodic base composition. Cluster analyses, however, performed considering the glass base composition (i.e. SiO_2, K_2O, Na_2O, MgO, CaO, and Al_2O_3), identify three groups of samples: A, B, and C. A and B are characterised by chromophores such as Se and Cr suggesting a recent age (50–150 years) of the tesserae. On the contrary, chromophores (Fe, Mn, Cu, Co) and opacifiers (mainly SnO_2, $Pb_2Sb_2O_7$, $Ca_2Sb_2O_7$) of the third group (C) indicate a preparation procedure known since ancient times. Based on their mineralogy and petrography, four different types of mortars were recognised. The mortars cannot be precisely dated. However, by matching their composition with that of the glass tesserae, it can be concluded that one type of mortar may be of the Medicean period, whereas the others are relatively

recent, probably of this century. This evidence, in accordance with historical data, points to a Medicean age of group C tesserae.

Reference 127 - 0.64% Coverage

¶159: In this article we present our global approach to the problem of accurate 3D measurement and reconstruction of 3D works of art using a calibrated multi-camera system. In particular, we illustrate a simple and effective adaptive technique for the self-calibration of CCD-based multi-camera acquisition systems with minimum a-prior information. We also propose a general and robust approach to the problem of close-range partial 3D reconstruction of objects from stereo-correspondences. Finally, we introduce a method for performing an accurate patchworking of the partial reconstructions, based on 3D curve matching.

Reference 128 - 0.08% Coverage

¶160: Effect of thermal accelerated ageing on the properties of model canvas paintings

Reference 129 - 0.72% Coverage

¶161: The aim of this study is to develop a laboratory technique to simulate a natural ageing of canvas paintings adopting artificial ageing methods in air (thermal oxidation), in the absence of light. Four models of canvas paintings aged up to 315 years are considered. Paintings are constituted of oil film on oil ground layer, oil film on tempera ground layer, tempera film on tempera ground layer or by tempera film on oil ground layer. Surface strength and the colour of the paintings and the degree of polymerization (DP) of linen canvas were evaluated at different steps of ageing. The degradative result was estimated as the DP of linen canvas after prefixed times of microbial attack.

Reference 130 - 0.27% Coverage

¶166: The rocks sampled at Regium Lepidi mostly come from Monselice (only a few blocks from Monte Oliveto and Monte Merlo) and those of Bononia come mostly from Monte Merlo and, subordinately, from Monte Oliveto and Monselice (only one sample from Monte San Daniele).

Reference 131 - 0.17% Coverage

¶167: A procedure for determining the chemical composition of binder and aggregate in ancient mortars: its application to mortars from some medieval buildings in Pisa

Reference 132 - 0.83% Coverage

¶168: The use of a scanning electron microscope equipped with a microanalytical system is proposed for characterising ancient mortars. A calculation procedure is presented that allows a determination of the binder and aggregate compositions (including volatile components) from microprobe data collected on the binder, and chemical, mineralogical, petrographical and physical data collected on the mortar bulk sample. The proposed procedure is applied to 11 mortar samples from three historical monuments built in Pisa throughout the Middle Ages. The binder of the analysed samples

consists of a carbonate crystalline fraction and an amorphous carbonate-free fraction that makes up from 20 to 60 % by weight of the binder. The aggregate composition, on average, is close to that of the Arno River sands.

Reference 133 - 0.08% Coverage

¶169: Silica glass interaction with calcium hydroxide: a surface chemistry approach

Reference 134 - 1.88% Coverage

¶170: The study of the interaction between silica glass and saturated Ca(OH)2 solutions can be a useful approach to resolve the problem of the adhesion between lime-sand mortar and clay bricks. Since it is reasonable that the silica–calcium hydroxide system well simulates a brick–mortar system, experimental observations concerning the interaction of silica glass and this strong basic solution should be of value for the comprehension of the chemical reactions that could take place at the mortar–brick interface, maybe affecting the adhesion between the two building materials. We demonstrated the effects of saturated Ca(OH)2 solutions on commercial pure silica glass (fused silica) and on silica films obtained via a sol–gel process by means of dip-coating. Silica samples were dipped in the solutions at different temperatures (room temperature, 60 and 80 °C) and at different time intervals (1 and 21 h) and then they were analysed by means of surface techniques: X-ray photoelectron spectroscopy (XPS), secondary ion mass spectrometry (SIMS) and atomic force microscopy (AFM). It has been shown that Ca(OH)2 reacts with the silica glass network. The experimental results clearly show a very different behaviour of sol–gel silica with respect to fused silica, probably because of their different nanostructure. Many problems concerning the interaction of silica and Ca(OH)2 are still to be solved, but the results of this research strengthen the idea that adhesion between lime-sand mortar and clay bricks is caused not only by carbonation of calcium hydroxide contained in the mortar, but even by some chemical reactions involving the brick constituents and calcium hydroxide itself. The final products, calcium silicates, may induce a chemical continuity between lime-sand mortar and clay bricks.

Reference 135 - 0.49% Coverage

¶172: The utilization of laser light to produce fine and selective cleaning of superficial deposits and encrustation from stones was originally proposed more than 20 years ago by John Asmus who performed pioneering trials of laser cleaning on stone façades in Venice, Cremona and Padua. The opportunity to collect stone samples from these sites allowed us to carry out an original study aimed at evaluating the conservation state of stone surfaces cleaned 10–20 years ago

Reference 136 - 0.55% Coverage

¶172: by means of three different techniques: Nd:YAG laser radiation, micron sandblasting and chemical pads. Samples of various stone types, as Istria limestone, Botticino limestone and Nanto sandstone were collected and examined by means of optical and SEM microscopy, FT/IR, and EDAX analyses. The results provided preliminary indications that the state of conservation of stone surfaces previously subjected to laser cleaning is generally better in comparison with those which concurrently underwent mechanical and chemical cleaning.

Reference 137 - 0.09% Coverage

¶173: Photoluminescence of the inorganic pigments Egyptian blue, Han blue and Han purple

Reference 138 - 0.84% Coverage

¶174: The room-temperature photoluminescence spectra of various samples of Egyptian blue (CaCuSi4O10) are presented, discussed and compared with those of recently synthesized compounds corresponding to the ancient pigments Han blue (BaCuSi4O10) and Han purple (BaCuSi2O6). All the samples of Egyptian blue show identical spectra, in spite of their very different origin. The spectra of Han blue and Han purple are significantly different. Since the Cu2+ ion may be considered the only luminescent centre in the spectral range under investigation, the differences between the spectra of the various pigments are ascribed to a ligand-field change. This can be related to the larger size of the Ba2+ ion with respect to Ca2+. The use of PL spectra for the identification of these pigments in works of art is proposed.

Reference 139 - 0.25% Coverage

¶176: Reports were entered in a database which enabled us to draw two thematic maps in a digital format: one of materials and lithotypes, and one showing weathering. On this basis, quantitative evaluations of the lithotypes were carried out.

Reference 140 - 0.22% Coverage

¶176: The analysis of the results, made on a geo-mineralogical basis, as well as the thematic maps, gives a basic tool which will be very useful to those professionals involved in preservation of cultural heritage.

¶177:
Reference 141 - 0.60% Coverage

¶178: Main mineralogical, petrographical and engineering–geological properties are presented here for the first time, with specific reference to two sampling areas, located at Pianura and Soccavo, in the western sector of the Neapolitan urban area. As far as many of its physico–mechanical features are concerned, Piperno extends over a wide range of values, which allow different varieties of the rock to be identified. This preliminary result is seemingly in accordance with data from old historical literature, which stated the existence of six horizons in the Piperno formation.

Reference 142 - 0.15% Coverage

¶179: A Mössbauer study of some coloured marbles (cipollino mandolato, rosso antico and fior di pesco): implications on the nature of their colour

Reference 143 - 1.03% Coverage

¶180: 57Fe Mössbauer spectroscopy permits an explanation of the formation of the iron-bearing species present in three types of coloured marbles, known as cipollino mandolato, rosso antico and fior di pesco. Structural Fe2+ and Fe3+ located in silicates, together with the remains of weakly ferromagnetic hematite, arise from primary sediments. Fe2+ located in carbonates and anti-ferromagnetic hematite are formed by redox processes during marble formation. The relative contents of the iron species in the three types of marbles depend on the composition of the primary sediments and on local conditions during metamorphism. Knowledge of the type and amount of the iron species in marbles may help in the reconstruction of the redox processes, which took place during marble formation. The deviations of the Morin transition of the hematites play the role of genetic indicator because purity, crystallinity and the red hues of hematites in marbles can be related to the environment of formation.

Reference 144 - 0.70% Coverage

¶182: Some idealised experiments determined the mass of fibres and dust emitted from clothing and the range of particle sizes found. In chamber studies it was possible to examine the effect of different humidity and airflow on fibre release. Image analysis was used to determine particle size from sub-micron to giant particles including clothing fibre. Clothing was a significant contributor to fibre and dust generation and at low humidity winter garments composed largely of wool was especially large. High air velocity increased particle shedding from clothing. Clean clothing typically released a third to a tenth the weight of particulate material from dirty clothing.

<Internals\\JCH 2001 abstracts> - § 32 references coded [41.89% Coverage]

Reference 1 - 0.43% Coverage

¶9: Microbial colonization of the surface of historic glass panels and the subsequent biodeteroration of glass are well documented phenomena.

Reference 2 - 4.04% Coverage

¶9: Yet little is known about the composition of this microflora that has to be adapted to low nutrient conditions and a dry environment. The microbial community growing on glass window panels from four different locations and ages ranging from 30 to 600 years was analyzed in situ using confocal laser scanning microscopy with nucleic acid stains and fluorescently labeled rRNA-targeted oligonucleotide probes for the domains Bacteria and Eucarya. A typical biofilm of the studied glasses displayed a total thickness of approximately 10–60 μm. Microbial colonization of the glass surface was heterogeneous at 0.8–7% areal coverage. The dominant microbial group belonged to the filamentous fungi. A different attached microflora was found only on one glass surface. This sample was sparsely colonized with areal coverage of 0.8% and a thickness of 10–20 μm; the biofilm consisted of single bacterial cells and microcolonies. Chemical composition and durability of the glass samples and availability of an additional organic layer were important factors influencing the extent of microbial growth. Information about the thickness and microbial composition of biofilms offer an essential background to optimize cleaning procedures or conservation strategies for stained glass windows.

Reference 3 - 5.00% Coverage

¶11: The conditions that led to the deterioration of the Madara Horseman sculpture, a relief carved in a sandy limestone cliff in north-east Bulgaria, were studied, with most emphasis on the chemical weathering at the stone–atmosphere interface. Total deposition sampled close to the monument contains high concentrations of NH4+ and K+, which shows the influence of the dense vegetation in the area, and Ca2+, which reflects the cliff's weathering products. Ca2+ is also one of the most important constituents (next to aluminosilicates) of the atmospheric particulate collected at the monument. S-rich particles are the most abundant particles in the size range < 0.5 μm. High amounts of biogenic particles (K-P-S-rich) were found, especially for particles < 1.0 μm. The chemical, mineralogical and petrographic characteristics of the stratum that holds the monument were studied down to a depth of 20 cm. Two distinctive processes are active at the stone–atmosphere interface. Firstly, a weathering crust (ca. 2 mm thickness), consisting mainly of calcite and gypsum and enriched with Cl–, K+ and NO3–, is formed in the rain-sheltered areas of the monument. Secondly, karstic dissolution in the interior of the rock substrate leads to the formation of a hard carbonate crust at the surface of the sculpture. This natural surface hardening leads to a state of 'auto-conservation' of the monument. The atmospheric composition seems to have only a limited influence on the deterioration of the Madara Horseman. Far more important are the micro-climatic conditions and the action of lichens.

Reference 4 - 0.22% Coverage

¶12: Testing a fluorinated compound as a protective material for calcarenite

Reference 5 - 2.38% Coverage

¶13: A polyfluorinated compound was studied as a material for the specific protection of calcarenite. Water capillary absorption and vapour permeability measurements were carried out in order to evaluate efficiency as a protective agent. Particular attention was given to characterising its resistance against bio-deterioration induced by microorganisms such as blue and green algae. Chemical surface modifications were induced by UV-irradiation in a specially designed climatic chamber and were investigated through comparative tests on untreated and artificially weathered samples using X-ray photoelectron spectroscopy (XPS). This paper discusses the potential use of the compound studied as a specific coating material for the protection of calcarenite.

Reference 6 - 1.68% Coverage

¶15: In this paper, the authors briefly review the state of the art of the 3D acquisition and digitizing techniques applied to heritage. The main focus is on motivations, issues and technical specification of the 3D digitizing of heritage artworks. Different digitizing technologies currently available for this specific application have been evaluated and tested, with application to a pair of case studies, showing that 3D digitizing technologies are sufficiently developed for extensive application in the field of cultural heritage.

Reference 7 - 0.28% Coverage

¶16: The analysis of polychrome works of art: 40 years of infrared spectroscopic investigations

Reference 8 - 2.54% Coverage

¶17: In this paper a synthetic chronological survey of analytical applications of infrared spectroscopy for the characterization of the materials of polychrome works of art and archaeology is outlined. Various sampling methods are described and some relevant examples, drawn from the published cases, are presented. The various methods prove to be very effective in characterizing both the inorganic and organic constituents of a wide variety of artworks, giving an insight into the materials and techniques of execution of the artifacts and, in the case of infrared mapping techniques, pinpointing the analytical data within a precise layer of the stratigraphy of the cross-sectioned samples. Overall, the great analytical potential and wide field of application of this technique is fully brought to light.

Reference 9 - 0.39% Coverage

¶25: First results of using combined mass and temperature measurements to study the water flow at the rock–atmosphere interface

Reference 10 - 0.39% Coverage

¶26: Combining mass and temperature measurements may be a new powerful tool to achieve this purpose, as first results obtained

Reference 11 - 4.09% Coverage

¶26: The proposed method has been evaluated with dedicated experiments in a climatic chamber, regulated in both temperature and humidity, using three types of stones: Tours tuffeau, Baumberg limy sandstone, and Rüthen sandstone. Climatic chamber data indicate that temperature gradients between rock surface and atmosphere provide a meaningful and practical estimate of the water flow, which controls the heat exchange between rock and atmosphere because of the high enthalpy of vaporisation of water. Continuous measurements of the mass of a sample confirm this assumption and allow the calibration of temperature data with respect to water flow estimations. Temperature gradients between points on the stone surface are also dominated by changes in the water flux, and they provide a sensitive estimate of local variations in the heat and water transport properties of non-saturated stones. Combined mass and temperature measurements therefore appear as a promising method to estimate in situ the global and local water flow between the rock and the atmosphere and thus to diagnose the state of stone degradation, or to estimate quantitatively the efficiency of treatment processes, both in the field and in the laboratory.

¶27: Technological features of the ‘Cotto Variegato’: a petrological approach

Reference 12 - 0.33% Coverage

¶29: In situ copolymerisation of ethylmethacrylate and methylacrylate for the restoration of stone artefacts

Reference 13 - 1.83% Coverage

¶30: the consolidating and protective products used in the restoration of stone manufactured objects of artistic interest are discussed; advantages of the different products and the relevant properties of the polymeric materials are underlined. The penetration of polymeric consolidating materials is very small and the in situ polymerisation of the monomers is suggested as an alternative technique to using macromolecular solutions. Some experimental results are presented showing that the in situ polymerisation improves the consolidating and the protective properties of polymers.

Reference 14 - 0.24% Coverage

¶31: Arabo-Moresque decor image retrieval system based on mosaic representations

Reference 15 - 2.35% Coverage

¶32: The paper describes a new method for indexing an Arabo-Moresque decor database. This method requires that the images in the database must have the whole principal geometric information, named ‘spine’ of the decor. In practice, it is difficult to respect this request. When the distance between the camera and the real scene (fresco in Zellij) is big, the whole spine is captured but the resolution of the image is bad. On the other hand, when this distance is small, the resolution is high but the spine is not completely captured. This motivates the use of the ‘mosaicing’ technique. The contribution of this work is the combination of the mosaicing and indexing techniques for the development of an Arabo-Moresque decor image retrieval system.

Reference 16 - 0.28% Coverage

¶33: Quicklink: a system for the generation of similarity links in cultural heritage archives

Reference 17 - 0.73% Coverage

¶37: To do that, as the material was weakened by microcracks and decay, it was foreseen to provisionally protect the stone with a carbon-fibre and epoxy fabric and then to apply tension forces to open the joints with a system of jacks.

Reference 18 - 0.21% Coverage

¶40: Confocal Raman spectroscopic study of painted medieval manuscripts

Reference 19 - 0.40% Coverage

¶41: we show, together with a historiographic research, the results obtained by the application of Raman confocal microspectroscopy

Reference 20 - 0.72% Coverage

¶41: The analysis, which is non-destructive and performed ‘in situ' on micrometre-sized spots, allowed us to characterize the pigments used, in particular to detect the presence of inorganic substances.

¶42: Analysis of lapideus materials

Reference 21 - 0.13% Coverage

¶44: Identification of proteinaceous adhesives

Reference 22 - 0.09% Coverage

¶44: a gas chromatographic study

Reference 23 - 1.52% Coverage

¶45: Samples were hydrolyzed and the resulting free amino acids were derivatized and analyzed by gas chromatography. On the basis of amino acid composition and D/L ratios of aspartic acid, two types of proteinaceous adhesives were identified: collagen from animal-skin glue (used in restoration works) and casein (the original adhesive, prepared from cheese and lime). Only a few samples were found to consist of pure casein or collagen, the others being a mixture of the two adhesives.

Reference 24 - 0.70% Coverage

¶47: Finally, the project for the impermeabilization is explained: sodium bentonite laid on a layer of raw (unfired) bricks has been chosen to drain the rain water to the sewage system and far from the Domus Aurea structures.

Reference 25 - 0.43% Coverage

¶52: Investigations regarding the behaviour of historic glass and its surface layers towards different wavelengths applied for laser cleaning

Reference 26 - 2.85% Coverage

¶53: The application of lasers for the removal of superficial deposits from historic stained glass is a comparatively new field of scientific interest. Experimental studies concerning the behaviour of glass substrates and the corresponding superficial deposits towards different laser wavelengths were carried out. The experiments were performed using wavelengths of λ = 193 nm (ArF-Excimer), 308 nm (XeCl-Excimer), 355 nm (Nd:YAG third harmonic) and 1 064 nm (Nd:YAG fundamental) in comparison to λ = 248 nm (KrF-Excimer). This comparison is due to the fact that the present knowledge is based on the 248 nm wavelength. Specially prepared model glass samples representing the original fragments and samples of organic polymers (formerly used as a protective material for historic stained glasses) were used to study the effects of laser radiation and were subsequently characterised by optical microscopy.

Reference 27 - 2.44% Coverage

¶55: It involved detailed colorimetric examination and in-depth chemical-physical study of the samples taken from the historical centre of Genoa, which enabled connections to be made among many data. This led to the creation of an analytical method that is applicable to various geographical sites. Examinations involved several experimental techniques: X-ray diffractometry, scanning electron microscopy, optical microscopy and infrared spectroscopy; the data were compared with those from the stratigraphic examination. A detailed investigation of the Ligurian climate, including data kindly supplied by the Environment Department of the Provincia di Genova, allowed us to explain the presence of particular chemical substances and suggested how they might have been formed.

Reference 28 - 0.23% Coverage

¶58: Effects of condensed water on limestone surfaces in a marine environment

Reference 29 - 1.79% Coverage

¶59: We have evaluated the effects of condensed water on limestone surfaces through a procedure that foresaw the cooling of the samples before their exposition to the open air, so that the condensation phenomena could occur easily. The effects of the condensed water were evaluated by measuring the weight change of the samples, through SEM observations and analysis of the 3-D profile, using laser profilometer. The results show the weak action of condensed water on the stone surface, particularly if compared with that of rain.

¶60: Micro-Raman identification of the palette

Reference 30 - 0.28% Coverage

¶61: was investigated by Raman microscopy in order to assess the nature of the pigments used.

Reference 31 - 0.43% Coverage

¶62: Environmentally-induced stone decay: the cumulative effects of crystallization–hydration cycles on a Lincolnshire oopelsparite limestone

Reference 32 - 2.49% Coverage

¶63: Although crystallization–hydration cycles have been identified, the rate of decay is at its greatest when the cycling is relatively infrequent. This was not the expected trend. Furthermore, it has been shown that during extended periods where the ambient relative humidity is less than 75%, the rate of decay reaches a maximum. It is the length of this ‘drying’ period that apparently has the greatest influence on the rate of decay and could explain the significant difference in the rate of decay between the south and north aisle piers. The results have serious implications for passive conservation, where it is often recommended to lower the ambient relative humidity to well below the equilibrium relative humidity of the salt contaminant, to avoid crystallization–hydration cycles.

<Internals\\JCH 2002 abstracts> - § 44 references coded [47.26% Coverage]

Reference 1 - 1.52% Coverage

¶7: Precision levelings were carried out on the new network established with new benchmarks and connected to the external network used to monitor subsidence in Venice. The analysis of data confirmed the present state of the stability of the whole area; therefore, this datum will be the reference element for future leveling surveys once the intervention of conservation has been made. On the basis of this activity further studies have been planned to improve the accuracy of the acquired knowledge to extend it to the entire Arsenal area and to validate the anchoring of a benchmark at the established depth, which will become the reference mark for monitoring the town of Venice.

Reference 2 - 0.96% Coverage

¶9: IR thermography is applied for several important purposes in the monitoring of historical buildings; among them, is here presented the monitoring of the wall's hidden structure, the finishing status and the moisture content. Furthermore, an improved technique for the thermal properties measuring porous material is also described. Dedicated thermal models are used to optimise the transient or quasi-stationary testing procedure.

Reference 3 - 0.34% Coverage

¶10: Both hardware and software tools are set up to implement updated thermographic equipment in order to fit specific requirements for in situ dynamic tests.

Reference 4 - 0.19% Coverage

¶11: Characterization of binders employed in the manufacture of Venetian historical mortars

Reference 5 - 1.71% Coverage

¶12: The mortars date back to different building phases. A stratigraphical analysis of tezone 105 has proposed a chronology of building interventions. The building phases recognized by the stratigraphical analysis belong to the original structure (XVI century) and to later interventions from XVI to XX century. Mortar samples are investigated by granulometric analysis, infrared spectroscopy (FT-IR), simultaneous thermal analysis (DSC/TG) and X-ray diffraction analysis (XRD) in order to identify the technology peculiar of each building phase. Mortar sampling was carried out on indoor masonry and foundation. Masonry mortars appeared to be characterized by the application of air-hardening binders, whereas foundation mortars were characterized by hydraulic binders.

Reference 6 - 0.15% Coverage

¶13: Survey of decay of tezone ‘105’: methodology for acquisition of data

Reference 7 - 1.84% Coverage

¶14: it will be presented here a preliminary work concerning the survey of decay1. This analysis is strictly connected with the other works carried out by the Operative Units of the 'Target Venezia', especially with the stratigraphical survey2 and the chemical and microstructural characterisation of mortars3 and bricks4. First, the survey of decay has been based on the stratigraphical investigations of the tezone structure, which has allowed the classification of the different building phases over a long period (from the XVI until the first half of the XX century). Second, a computer aided methodology has been applied in order to make the research easier and to allow multiple queries either to know which kind of decay are present in every point of the surfaces and the global extension of each typology of degradation5

Reference 8 - 0.73% Coverage

¶17: To understand the influence of rising damp and salt crystallisation on the durability of a plaster, in-field experiments were carried out: cores at different heights and different depths were drilled before and after plaster application in order to obtain a vertical and horizontal distribution of moisture and soluble salts

Reference 9 - 0.41% Coverage

¶18: The determination of moisture content was carried out by gravimetric method while the salt content was obtained by ion chromatography measurements of chlorides, nitrates and sulphates.

Reference 10 - 0.77% Coverage

¶19: From the first results artificial hydraulic lime-based plaster seems to have a better performance in reducing moisture and chloride content. If this trend is confirmed in the future samplings, as the composition of plaster is the same in both areas, the methodology of application will be the discriminating factor to obtain better performances.

Reference 11 - 1.81% Coverage

¶20: This is probably due to the different position of the evaporation front in the thickness of a macroporous plaster in comparison with a traditional plaster. In fact, in the first case, the evaporation front, and, consequently, the area in which soluble salts are accumulated, is confined to the inner part of the plaster, close to the brick wall, while in a traditional plaster salts are generally scattered throughout the whole thickness, but tend to concentrate mainly near the external surface. Due to this behaviour the traditional hydraulic lime-based plaster shows a superficial exfoliation caused by the crystallisation of soluble salts in the sub-surface; on the contrary, in our case, the artificial hydraulic lime-based plaster does not show either presence of efflorescence or of crypto-florescence.

Reference 12 - 0.28% Coverage

¶21: technological characteristics, dating and assessment of thermo-hygrometric behavior for a restored functionality proposal

¶22:
Reference 13 - 0.13% Coverage

¶31: dating, xylotomic surveys, thermo-hygrometric evaluations.

¶32:
Reference 14 - 0.18% Coverage

¶33: Minero-petrographic characterisation of historic bricks in the Arsenale, Venice

Reference 15 - 2.11% Coverage

¶39: Very few scientific studies have been performed so far on ancient and modern hydraulic mortars. The effects of atmospheric multi-pollutants on hydraulic mortars used in monuments and historic buildings in urban areas, especially those linked to dry and wet carbon and sulphur deposition, remain in need of thorough investigation. In the literature, studies on damage typology identification, composition and origin and relative quantitative data are both scarce and rather poor in quality. While the sulphate source from marine spray deposition and water capillary rising are known, atmospheric sulphur effects on mortars still require elucidation. Ancient and modern hydraulic mortars have been collected from the Arsenal of Venice. The original material characterisation and the evaluation of the surface damage due to atmospheric pollution are presented along with a comparison of the data obtained for the cement and cocciopesto mortars.

¶40:
Reference 16 - 0.05% Coverage

¶40: microclimate analysis

Reference 17 - 1.04% Coverage

¶41: During one year of measurements, the indoor air temperature and the air humidity have been collected: the probes have been placed in different sites in order to provide total control of the microclimate. The status of the internal walls has been checked by means of the measurement of the surface temperatures by different sets of thermal resistances. The data collected point out the water wall imbibition and the high thermal capacity of the building envelope.

Reference 18 - 0.08% Coverage

¶46: The role of H2S in pigment blackening

Reference 19 - 2.20% Coverage

¶47: The effects of hydrogen sulphide gas (H2S) on copper and lead carbonates, oxides, hydroxides and sulphates have been examined in order better to clarify the role of this pollutant in the degradation of pigments on illuminated manuscripts and watercolours. Sample pigments containing copper were all found to react rapidly to form blue–black covellite (CuS) in response to exposure to

H2S. Those containing lead reacted quickly, with only a few notable exceptions, to form black galena (PbS). The indiscriminate tendency of these sample copper and lead pigments to react to form dark degradation products when exposed to H2S is in contrast to the observation of largely selective blackening of lead white (2PbCO3·Pb(OH)2) on manuscripts bearing numerous other copper and lead pigments. It is possible that lead white on many artefacts reacts via a selective degradation pathway, possibly facilitated by microbial diagenesis, rather than by a simple reaction with H2S in the atmosphere.

Reference 20 - 0.22% Coverage

¶50: Tracing of decay profiles and evaluation of stone treatments by means of microdrilling techniques

Reference 21 - 1.51% Coverage

¶51: The recent development of a new drilling machine in the framework of the EU project HARDROCK brought some interesting perspectives for the characterisation of decay profiles, for tracing old consolidating treatments and for evaluating new consolidants. The equipment executes a drill hole, typically 5 mm in diameter, down to 5 cm, under precisely defined and controlled drilling conditions. The output is a graph of force versus depth. The instrument can be transported and operated in situ. The operator defines the drilling rotation speed and the advancing rate and the instrument registers the force required for executing the hole under those strictly defined conditions.

Reference 22 - 1.80% Coverage

¶51: This paper presents some data taken from a laboratory study on consolidants which demonstrate that the equipment has a very high discriminating power for detecting the presence of consolidants. Clear differences among some typical consolidants were detected, both in the strength increase and in the penetration depth. They also show that the average drilling forces present a fairly good correlation with bending strength, in spite of the fact that full consolidation of the tested specimens was not possible with all consolidants. The in situ study of Porta Especiosa has shown that the instrument was able to identify the presence of decay events at several depths, in a way that no other known method can do. The identification of the presence of old treatments was demonstrated with total guarantee.

Reference 23 - 3.67% Coverage

¶52: a combined contribution of geochemistry and 57Fe Mössbauer spectroscopy

¶53: A geochemical study, including a detailed investigation of Fe by Mössbauer spectroscopy, was undertaken to characterise the different varieties of the stones in the cathedral of Évora (Portugal). Ten representative stone samples were collected. Bulk analytical techniques, including ICPES, INAA and XRF, were performed, as well as Mössbauer spectroscopy. The stones have consistent linear geochemical variations, well constrained by a limited number of inter-element ratios involving Ti, Mg, Fe and Al. Taking into account the REE distribution, the Mg, Fe and Ti contents and the Fe3+/Fe2+ ratio, two types of stones were distinguished. The type-1 stones show REE normalised

patterns with negative Eu anomaly, and are relatively Al rich. The type-2 stones without Eu anomaly, more REE fractionated, are relatively LREE, TiO_2, MgO and Fe_2O_3 rich. In agreement with the geochemical results, the Mössbauer data have shown that the Fe^{3+}/Fe^{2+} ratio was correlated with the magmatic differentiation and further suggested that the presence of Fe (Ti) oxides is related to a higher magmatic evolution. Both stone types have a MgO/TiO_2 ratio close to 2, which is characteristic of calco-alcaline granite. The chemical inter-element variation along the same constant ratio, as well as the REE pattern and the Fe oxidation state, seems to indicate a magmatic filiation from type-2 to type-1 stones. The combination of REE patterns and Fe/Mg, Ti/Mg and Fe^{3+}/Fe^{2+} geochemical indexes could be used as efficient discrimination tools for other stones of monuments built of granite.

Reference 24 - 0.16% Coverage

¶55: Mineralogical and chemical data (organic) of some representative samples

Reference 25 - 0.34% Coverage

¶55: as regards stratigraphy, mineralogy of sand aggregate, composition of binder matrix, and nature and concentrations of organic additives is pointed out.

Reference 26 - 1.40% Coverage

¶57: About 47 pottery samples, representative of different ceramic classes, have been investigated using X-ray diffraction, Fourier transformed infrared absorption, optical microscopy, scanning electron microscopy and chemical analysis. The obtained results have also been compared with analysis performed on clays and gravels in the surrounding area of Messina (Gravitelli, Annunziata) where the pottery was excavated. The experimental data allowed the authors to establish the quantity and quality of the characteristic components of each ceramic class, confirming that many of them were made at the local factory in Messina.

¶58:

Reference 27 - 0.16% Coverage

¶68: Characterisation by XPS of the corrosion patina formed on bronze surfaces

Reference 28 - 2.28% Coverage

¶69: Bronze samples with a composition analogue to that of the Renaissance statuary were artificially aged in a climatic chamber with moist air containing sulphur dioxide at ppm levels. The corrosion patinas formed on the surface of the samples were investigated by means of X-ray photoelectron spectroscopy (XPS). After almost 1 month of exposure, the XPS spectra showed only the presence of copper hydroxysulphates and carbonates. A depth-profile analysis was performed by combining ion etching and XPS. The XPS spectra measured after Ar ion bombardment showed the presence of sulphides besides the peaks due to copper sulphate and sulphite. Test experiments performed under the same conditions on copper sulphate samples clearly show that $CuSO_4$ decomposes under ion bombardment with the formation of copper sulphides. Therefore, the observation of sulphide in the

depth-profile analysis of the corrosion layers cannot be taken as an evidence of the existence of copper sulphides buried under the copper sulphate layers.

Reference 29 - 3.80% Coverage

¶71: Crystallization modifiers can significantly affect the capillary passage of dilute and concentrated solutions of sodium chloride and sodium sulfate through columns of limestone. In the absence of modifiers, sodium chloride passage through Monks Park limestone gave predominantly subflorescence with mild edge erosion while sodium sulfate mainly effloresced and severely damaged the stone column. With Texas Creme limestone, a stone of moderately higher porosity, essentially only efflorescence occurred with either salt and there was little or no stone damage. Uniquely, alkali ferrocyanides were found to impact significantly on the interaction of these solutions as they moved through the limestone. The addition of 0.10–1.00% of K4Fe(CN)6 to sodium chloride in Monks Park limestone experiments increased the flow rate of solutions through the stone, resulting in efflorescence in place of subflorescence, and yielded a massive formation of extended dendritic filaments without damaging the stone. This protection by additive was extended to sodium sulfate solutions, but only at lower salt concentrations. Results comparable to the effect of adding K4Fe(CN)6 to concentrated sodium chloride Monks Park limestone experiments were obtained with saturated sodium sulfate solutions without additives by conducting the experiments in a draft-free, high humidity environment—suggesting a potentially useful strategy for the conservation of fragile, salt-laden objects. These results are explained by factors causing evaporation of solution to occur either below or at the surface of the stone, and by the effect of modifiers on the crystal habit of the salts forming during evaporation in this region.

Reference 30 - 1.96% Coverage

¶77: . The samples, scraped off from the paint surface, were studied by using various analytical techniques in order to characterise both the pigments and the binding media. The main problems concerning the characterisation were due to the small sizes (1–5 mg) of the samples and their complex nature. As regards pigments, X-ray diffraction and scanning electron microscopy-energy dispersive X-ray spectrometry analyses were performed on the samples. These techniques are well suited to the characterisation of inorganic pigments and have led to the identification of the red pigment as haematite. In order to characterise the organic binders, the samples were analysed by a procedure based on a gas chromatography–mass spectrometry technique, which allows proteinaceous and lipidic media determination in the same sample. In most of the samples, the presence of egg was suggested.

Reference 31 - 1.95% Coverage

¶80: Black limestone samples from the quarries of Varenna (Lecco, I), Cene (Bergamo, I) and Riva di Solto (Bergamo, I) and widely used in Lombard architecture have been studied in terms of mineralogical, petrographic and chemical properties in order to provide a detailed characterisation and allow an unambiguous determination of their provenance. The inorganic and organic fractions have been separated from each other, and investigated using X-ray powder diffraction, atomic absorption, Hg-porosimetry, high performance liquid chromatography, gas chromatography, nuclear magnetic resonance and Fourier transform infrared spectroscopy. The occurrence of specific mineral phases, some binary chemical patterns (Fe/Mn, Zn/Sr, Zn/Co and Na/Cd) and the carbon chain

relative molecular masses has proven to be useful markers to characterise unequivocally the materials studied.

Reference 32 - 0.10% Coverage

¶82: Chemical analyses of ancient glass findings

Reference 33 - 0.29% Coverage

¶84: Evaluation of the initial weathering rate of Istria stone exposed to rain action, in Venice, with X-ray photoelectron spectroscopy

Reference 34 - 3.07% Coverage

¶85: Samples of Istria stone were exposed in rain-washed conditions for 6 and 18 months, in the industrial and marine environment of Venice. To assess the initial stages of weathering, the exposed samples were analyzed by using X-ray photoelectron spectroscopy (XPS) and other analytical techniques, such as Fourier-transform infrared spectroscopy (FTIR) and scanning electron microscopy coupled with energy dispersive X-ray analysis (SEM–EDS). Within a 6-month period, XPS revealed the deposition of sulfates, calcium silicates, carbonaceous particles, nitrogen compounds and organic compounds of lead, fluorine and chlorine. After an 18-month exposure period, the exposed surface exhibited pollutant compounds of sulfates, fluorine and nitrogen along with new-formed pollutant compounds of phosphorus and zinc. The appearance of silicon, aluminum and iron compounds indicates either dissolution of the argillaceous inclusions of the carbonate matrix or deposition of air-borne particles. The other applied analytical techniques evidence alteration features related more to morphological modification and less to chemical changes. Therefore, XPS revealing deposition of typical components of atmospheric pollution, as well as either deposition or dissolution of soil-derived and intrinsic elements evidences the initial weathering rate of exposed Istria stone to rain action.

Reference 35 - 0.06% Coverage

¶86: A particle accumulation study

Reference 36 - 0.77% Coverage

¶87: Accumulation of particles on horizontal glass surfaces has been studied in an indoor museum environment at three locations with different deposition rates for up to 30 weeks. The accumulation patterns followed an exponential relationship although scouring or loss of particles appears to be much smaller in an indoor environment than outdoors.

Reference 37 - 0.21% Coverage

¶88: Study of the pigments in medieval polychrome architectural elements of “Veneto-Byzantine” style

Reference 38 - 0.06% Coverage

¶89: An analysis of pigment traces

Reference 39 - 0.34% Coverage

¶89: has been performed using scanning electron microscopy (SEM), particle induced X-ray emission (PIXE) and, for the white paint, Raman spectroscopy (RS).

Reference 40 - 0.17% Coverage

¶92: Tailoring new fluorinated acrylic copolymers as protective coatings for marble

Reference 41 - 3.04% Coverage

¶93: The protective performances of two new fluorinated acrylic copolymers (based on the monomers 1H,1H,2H,2H-perfluorodecyl methacrylate (XFDM) and 1,1,1,3,3,3-hexafluoroisopropyl methacrylate (HFIM) are evaluated and compared with Paraloid B72, a commercial copolymer ethyl methacrylate/methyl acrylate (EM/MA) and its partially fluorinated homologous 2,2,2-trifluoroethyl methacrylate/MA (TFEM/MA). The polymeric materials have been tested on Candoglia marble, a very low open porosity stone (<1%) used in Italian historical architecture (Milan Cathedral). The copolymers were tested according to UNI-Normal protocol. Measurements of capillary water absorption, static contact angles, colour variation and water vapour permeability were made before and after accelerated photo-ageing. FTIR spectroscopy and size exclusion chromatography (SEC) analyses were carried out on samples aged on inert substrate to assess the photostability of the copolymers themselves. The relationship between the protection efficacy and the fluorine content and distribution has been investigated. The results obtained show that the addition of a partially fluorinated co-monomer to the Paraloid B72 copolymer structure did not result in the expected improvement of the coating properties, while the fluorination of the copolymer side chain gave rise to encouraging performance.

Reference 42 - 1.80% Coverage

¶95: In order to further understand the interaction between pollutants and collagen, a study with two plain proteins, bovine serum albumin (BSA) and lysozyme, both exposed to SO2 has been carried out. X-ray analysis of the samples using a scanning microscope spectrometer (SEM) was carried out. Samples were analysed by mass spectrometry using an electrospray source coupled to a time of flight analyser (ESI-TOFMS) and by Fourier transform infrared spectroscopy (FT-IR). A chemical cleavage using cyanogen bromide (CNBr) was carried out on BSA exposed to SO2, the CNBr cleavage fragments were analysed by matrix-assisted laser desorption/ionization source coupling to a TOF analyser (MALDI-TOFMS). All these results allow us to determine a hypothesis for the mechanism of the reaction between SO2 and BSA.

¶96:

Reference 43 - 1.17% Coverage

¶97: 3D measurements have been realized by means of a high-resolution laser scanner developed at National Institute for Applied Optics (INOA). The instrument is composed of commercial low-cost components in order to be competitive with the very expensive commercial devices. Besides this, our scanner is supported by an efficient and flexible software developed by Consiglio Nazionale delle Ricerche (CNR) that supports all the post-processing phases of a 3D scanning session (range data alignment, merge and simplification).

Reference 44 - 0.40% Coverage

¶99: The loss of the light blue corrosion crust was prevented by consolidation with Paraloid B72, as examination over several months showed no sign of continued chemical instability.

<Internals\\JCH 2003 Abstracts> - § 161 references coded [69.05% Coverage]

Reference 1 - 0.04% Coverage

¶23: — influence of composition and microstructure

Reference 2 - 1.58% Coverage

¶24: Differences in mineralogical and textural evolution during firing of calcareous and non-calcareous bricks are studied and correlated with their behaviour in hygric and weathering tests. Results reveal significant differences in the evolution of vitrification degree, porosity and pore size distribution. Such evolution depends mostly on raw clay composition and firing temperatures. A higher degree of vitrification and of compressive strength is displayed by calcareous rather than non-calcareous bricks at lower firing temperatures of between 700 and 900 °C. However, their resistance to salt crystallisation and freezing is not notably improved because of unfavourable pore size distribution and crack development. The latter are caused by the transformation of calcite into calcium oxide at around 800 °C, which reacts readily with moisture to form calcium hydroxide, thus leading to a volume increase (lime blowing). This problem can be avoided by closely controlling grain size and content of carbonates in the raw clays. High firing temperatures of 1100 °C in the case of calcareous clay and 1000 °C in the case of non-calcareous clay are required to produce durable bricks that remain unaltered upon weathering. The improved durability appears to be due to a more favourable pore size distribution and a reduction in porosity. Results from textural and hygric studies of the brick samples indicate that these parameters can to a significant extent be controlled by varying raw clay composition and firing temperature, thus making it possible to fabricate replacement bricks for particular conservation purposes. This paper addresses limitations regarding the interpretation of test results, as well as the lack of a systematic application of existing standards for evaluating the state of conservation of historic bricks and for establishing specifications for replacement bricks.

Reference 3 - 0.18% Coverage

¶26: Samples were taken from the adobe, brick and stone structures and mortar joints and analysed by X-ray diffraction, optical microscopy, mercury intrusion porosimetry, calcimetry and scanning electron microscopy.

Reference 4 - 0.03% Coverage

¶28: Crystallization damage by sodium sulfate

Reference 5 - 0.61% Coverage

¶29: Experiments demonstrate that a stone containing thenardite suffers great damage when exposed to water below the temperature limit of mirabilite stability. This is due to a transition between thenardite and mirabilite, and not to thenardite reprecipitation. Damage occurs whether or not thenardite was produced previously by mirabilite decomposition. Together with recent results from the literature, these results indicate that damage occurs because thenardite dissolution can produce solutions highly supersaturated with respect to mirabilite, so that precipitation of this mineral can lead to large crystallization pressures. Finally, it appears that there is a salt content threshold beyond which damage increases substantially

Reference 6 - 0.08% Coverage

¶30: Surface analysis of stone materials integrating spatial data and computer vision techniques

Reference 7 - 1.29% Coverage

¶31: a possible application of computer vision techniques in the field of Cultural Heritage. These techniques allow an effective integration of data from different sources. Particular consideration will be given to an accurate geometric analysis of the zone under study in order to detect degradation damage in historical building-stone materials. To this end, we employ a computer vision technique, known as the Shape from Shading method, for which a photographic image of the stone material under consideration is the only input data required. By using this method, it is possible to recover, under some constraints, the shape of the three-dimensional surface of the object from the photographic image. In order to improve the results, in this paper, we implement this technique by using an optimization approach which allows a suitable integration of photographic and spatial data, the latter of which is obtained by a topographical device. We outline the potentialities of the method which mainly consist of two relevant capabilities. The first one is the geometric shape reconstruction of the surface material at a resolution much higher than the one allowed by topographical acquisition. The second one is the correction of the lighting-induced distortions in the photographic image. Such a correction is relevant for further image-based analysis of the degradation of the stone material. Experimental results, obtained by using both photographic and spatial data relative to a pudding stone with degradation, are presented and discussed.

Reference 8 - 0.08% Coverage

¶32: Near-infrared spectroscopic imaging in art conservation: investigation of drawing constituents

Reference 9 - 0.93% Coverage

¶33: The remote-sensing technique of spectroscopic imaging has been adapted to the non-destructive examination of works of art. The principle of near-infrared reflectance spectroscopic imaging is explained, and our instrumentation for art examination described. The technique allows the art materials to be distinguished by their composition, and under-drawings revealed. The initial results indicate that even over limited wavelength ranges (650–1040 nm) and with relatively coarse spectral resolution (10 nm) a number of pigments can be distinguished on the basis of variations in spectral properties such as spectral slope and the presence or absence of absorption bands. Software adapted from the remote-sensing image-processing field has been used to successfully map areas of different brown and black pigments across a drawing. Non-destructive identification of pigments can be used to address issues of attribution, age dating, and conservation. An additional advantage of this technique is that it can be performed off-site using portable instrumentation, and under relatively benign lighting conditions.

Reference 10 - 0.34% Coverage

¶33: Multivariate image analysis produced a set of principal component (PC) images highlighting different materials' aspects of the drawing. A color composite image produced from the PC images provided a direct visualization of the compositional characteristics of the work. Features of the under-drawing have been exposed, and its material tentatively identified as charcoal, by comparison with reference data.

Reference 11 - 0.56% Coverage

¶44: Photon correlation spectroscopy (PCS) size measurements and scanning electron microscopy (SEM) imaging revealed subtle differences in particle size and aggregation among inks of different soot origin. Surface chemistry of the particles was examined using laser Doppler electrophoresis (LDE) for determination of the isoelectric point (IEP). The IEPs of different inks were not distinct, but reflected the presence of the collagen-based glue on the particles' surface. The IEP and size dropped significantly when inks were treated with collagenase and when soot and carbon blacks alone were measured, pointing to the important role of animal glue in this dispersion system.

Reference 12 - 0.04% Coverage

¶45: Microstructure, composition and processing

Reference 13 - 0.77% Coverage

¶46: This paper reports on composition, microstructure and technological processing of the Chu Đâu-My Xa (Hai Duong province) ceramics. Samples come either from the kiln site or from the Cù Lao Chàm (Hôi An) shipwreck. Chemical analysis, scanning electron microscopy, EDX analysis, X-ray diffraction, Raman spectroscopy, thermal expansion/shrinkage and open porosity measurements were systematically performed. The results show the Ca (+K)-based glaze, high-temperature-fired bodies, by one- or multi-step firings. Mullite phase ($3Al_2O_3 \cdot 2SiO_2$) was formed in large amount indicating the true porcelain quality of the samples under study. The matrices used for overglaze colouring (e.g., the green, red and metallic-lustre) are lead-based low-firing-temperature glasses.

Comparison was made for the structural elements and fluxing agents between the 15th century Vietnamese porcelains and the time-corresponding Chinese ones.

Reference 14 - 0.04% Coverage

¶47: Microtexture and microchemistry of glaze and pigments

Reference 15 - 0.66% Coverage

¶48: were investigated by scanning and transmission electron microscopy, coupled with energy dispersive spectrometry. The study mainly focuses on the glaze layer, which was applied over the main ceramic body in a second firing process. The glaze contains several inclusions, such as K–feldspar, cassiterite, calcium phosphate and quartz. Most of the shards have blue and yellow decorations, which correspond to the so-called Blue Smalt and Naples Yellow. Overall evidence (glaze bulk-chemistry, the number and type of inclusions, pigment characteristics and the microtextural–microchemical relationships among glaze, inclusions and the main ceramic body) constrains the nature and provenance of raw materials and can be used to estimate firing temperatures in the different processing steps.

Reference 16 - 0.52% Coverage

¶50: the findings of a study of the weathering behaviour of the clay matrix in “yellow block” sandstones used in some of Sydney’s historic buildings. Sandstone samples were investigated by the techniques of FTIR spectroscopy, X-ray diffraction, scanning electron microscopy, inductively coupled plasma–atomic emission spectroscopy (ICP–AES) and thermal analysis. The analytical results support the theory that the changes to the original kaolinite clay structure upon prolonged exposure and weathering of the sandstone blocks investigated are at least partly due to the substitution by Fe^{3+} for Al^{3+} in the octahedral sheet.

¶51:
Reference 17 - 1.23% Coverage

¶52: Pine tar coated test panels of pine wood were exposed to three different natural climates in Norway and on a regular basis characterised by visual assessment and gas chromatography–mass spectrometry (GC–MS) during 30 months of exposure. Moreover, test panels that were tar coated in the same way, however, on variable substrata, were exposed in a weatherometer. Tar obtained from different stages in the kiln production varies significantly according to chemical composition as well as coating ability. The weather resistance of tar from an early stage in the production proved superior compared to tar from a final stage. Boiling or seething of the pine tar at temperatures below 200 °C prior to application increased weather resistance and durability of the coating, without accelerating the decarboxylation process in the tar sample. Even after exposure and weathering of the coated surfaces the initial characteristics of the liquid tar, in accordance with manufacturing temperature were detectable by GC–MS. Weatherometer experiments confirmed the results of the outdoor experiments and moreover showed that the quality of the substrata interacted with the tar coat and significantly affected the weather resistance. Despite different wood qualities of the weatherometer panels, the comparison of tar treatments, which were visually assessed on a macro level, was sufficiently evident to constitute a basis for renewed guidelines for tarring of stave churches.

Reference 18 - 0.05% Coverage

¶53: Effect of wavelength on the laser cleaning of polychromes on wood

Reference 19 - 0.16% Coverage

¶54: The effect of the wavelength associated with the laser cleaning of polychromes on wood was investigated by using the four harmonics of a Q–switched Nd:YAG laser (1064, 532, 355 and 266 nm).

Reference 20 - 0.77% Coverage

¶54: The modifications induced on the surface of the samples by laser irradiation were studied using optical and vibrational spectroscopies, such as laser-induced fluorescence (LIF), laser-induced breakdown spectroscopy (LIBS) and Fourier-transform Raman (FT-Raman), and infrared (FT-IR). Irradiation in the UV at 266 nm resulted in efficient cleaning of the red (vermilion), green (verdigris) and yellow (orpiment) painted areas. LIF and LIBS spectra showed a relative increase of the pigment features, fluorescence bands and characteristic atomic emissions, respectively, associated with cleaning. Longer wavelengths induced discoloration, although no signs of degradation of pigments or binders were identified. The present work also presents further evidence on how the combined use of the above techniques serves to identify the composition of the paint mixture, including pigments and other inorganic and organic compounds.

Reference 21 - 0.10% Coverage

¶55: The experimental test for the evaluation of protective treatments: a critical survey of the “capillary absorption index”

Reference 22 - 0.74% Coverage

¶56: One of the most effective methodologies for the evaluation of the penetration of water into the bulk of stone materials is the capillary absorption measurement. In this paper the authors would like to propose a short theoretical presentation of the two new parameters—ICa (absolute capillary index) and ICr (relative capillary index)—for capillary measurements recommended in the Italian Protocol Norma UNI 10859 “Cultural Heritage—Natural and artificial stones—Determination of water absorption by capillarity”. Definitely, the aim of this paper is to offer a powerful instrument to enlighten the utility of the proposed measurement methodology, both from a theoretical and practical point of view, and, finally, to help the interpretation of the experimental data through the use of the “capillary absorption index”.

¶57: Oxalate film formation on marble specimens caused by fungus

Reference 23 - 0.45% Coverage

¶58: A study was carried out on the effects of a fungal strain on Carrara marble specimens in cultural experiments. The fungal strain, isolated from Pisa Tower, was identified as Sporotrichum genus. After 8 months’ incubation at 28 °C, an orange–brown film was formed. The FT-IR analysis of the film

showed the presence of bi-hydrate calcium oxalates. A semi-quantitative evaluation was made by term-gravimetric analysis showing that the film composition was 66% oxalate, 16% calcite, a significant amount of phosphate and a low amount of nitrates.

Reference 24 - 0.07% Coverage

¶64: Continuous monitoring of wooden works of art using fiber Bragg grating sensors

Reference 25 - 0.71% Coverage

¶65: The use of fiber Bragg grating (FBG) sensors for the quasi-distributed, in situ measurement and continuous monitoring of deformations in painted wood panel is proposed. In order to demonstrate the applicability of FBG sensors to painted wood panels, a wooden support, made using the same 15th–16th century techniques, was prepared in the Opificio laboratories. A number of Bragg grating sensors were affixed in several critical points, on the back and front sides and on the strengthening cross-beams, in order to detect deformations in the panel dependent on the variations in the environmental relative humidity (RH). Measurements during the removal of the cross-beams are also reported. The results of measurements have shown the applicability of FBG sensors for the continuous in situ monitoring of valuable wooden objects and works of art.

¶66:
Reference 26 - 0.02% Coverage

¶66: Analytical characterisation

¶67:
Reference 27 - 0.55% Coverage

¶67: Scanning electron microscopy (SEM) coupled to energy dispersive X-ray spectrometer (EDX), Fourier transform infrared spectroscopy (FTIR), and X-ray diffraction (XRD) techniques were used to characterise the morphology and analytical composition of the samples analysed. Generally, covering plaster mortars presented a low percentage of small size aggregate. The reported results show that mixed and lime mortars have been used, thus, the establishment of a relationship between the type of mortar employed and its age is not feasible. In the painted mortars, polychromy has also been studied. The most common pigments to be found are natural earths.

¶68:
Reference 28 - 0.19% Coverage

¶69: On the basis of mineralogical, petrographic and geochemical studies, the areas of quarrying of 44 lithotypes are firstly established and a complete database of the location of the decorative marbles in the church was also provided.

Reference 29 - 0.74% Coverage

¶69: Petrographic descriptions have been provided for Breccia di Brentonico, Lumachella di S.Vitale, Astracane di Verona and Nero Nube Conchigliato, which are four ornamental stones (never described in detail elsewhere) extensively quarried in the Venetian region. An isotope geochemistry study of the white marbles (Marmor Proconnesium and Marmor Lunense) has also been carried out.

Most of the ornamental stones show severe and different forms of decay, and therefore, conservation work is strongly urged. Crystallisation of salts in the pores of the rocks is the main cause of the decay shown by most of the lithotypes. The soluble salts largely originate from (i) the rising damp which affects the outer walls of the church and subordinately from (ii) inappropriate works undertaken at the beginning of the 20th century when numerous marble slabs were re-attached with gypsum grouts.

Reference 30 - 0.04% Coverage

¶70: Efflorescence on thin sections of calcareous stones

Reference 31 - 1.08% Coverage

¶71: Limestone and marble, still frequently used as building materials are especially vulnerable to the destructive effects of efflorescence. The effect of interaction between five different calcareous stones and corrosive atmospheres has been investigated. A novel technique of stone degradation analysis has been used where thin sections of fresh stone materials were exposed in a corrosion chamber under controlled conditions (temperature, relative humidity (RH), SO2 and NO2 concentration). Following 1-week's exposure; observations of the initial crystallisation were studied by light microscopy, scanning electron microscopy (SEM) with energy dispersive X-ray analysis (EDX) and X-ray diffraction (XRD). The results obtained from the surface analysis clearly showed sulphation of the samples and formation of gypsum. Observations of the initial corrosion indicated differences in the location of efflorescence and its shape among and within the samples. The mineralogy, grain shape and size, mineral defects and existence of cracks and pores, all influenced the substrate's reactivity. The most vulnerable areas and the places where the corrosion started on the calcitic stones were the triple grain junctions followed by grain boundaries, and on the dolomitic marble cracks and pores.

Reference 32 - 0.35% Coverage

¶75: investigated using non-invasive fibre optics reflectance spectroscopy (FORS). The use of compact and transportable instrumentation made it possible to easily record spectra of the polychrome surface at the restorer's atelier during the restoration work. The results of colour analysis before and after the cleaning procedure of the painting are reported and discussed, together with an attempt at pigment identification.

Reference 33 - 0.04% Coverage

¶85: Lases in the Conservation of Artworks - LACONA IV

Reference 34 - 0.03% Coverage

¶86: LACONA: past, present, and future?

Reference 35 - 0.16% Coverage

¶87: have paralleled similar events that took place in laser application to the entertainment, science, manufacturing, military ordnance, communication, and medical disciplines (to name a few).

Reference 36 - 1.43% Coverage

¶87: At the time of the establishment of LACONA, numerous conservation applications for lasers had been shown possible. During the early years of the society, many papers presented at this forum reported on projects that had developed some of these into practical conservation tools. In many cases, this involved producing models for the laser processes, advancing the associated laser technologies, or determining optimum laser parameters for particular circumstances. In recent years, maturing research reported here has focused on case histories, refinements and adaptations in technique, and the broadening of databases. Much remains to be accomplished along these veins and will continue to be reported in our future assemblies. However, the success of LACONA suggests a potential for a much broader role of service ithin the art-conservation community. Specifically, there are numerous new and emerging technologies that could be useful in conservation. Scientifically, they have a great deal of commonality with laser technology, except for their operation outside of the visible portion of the electromagnetic spectrum. A few of these are surface penetrating radar, monopulse radar, radar tomography, millimeter wave imaging, portable and free-induction nuclear magnetic resonance, and X-ray backscatter imaging. In addition, there are laser technologies such as photoacoustic spectroscopy and photodynamic chemistry that hold promise for conservation science, but have yet to be applied. Consequently, this may be a propitious time to consider opening up LACONA to incorporate such allied methodologies in order to encourage the continuing vitality and relevance of the organization to art conservation.

Reference 37 - 0.04% Coverage

¶89: Laser cleaning as a part of the restoration process

Reference 38 - 1.00% Coverage

¶90: Laser cleaning was applied to remove aged and soiled oil paints of the 19th century from weathered, brittle sandstone surfaces. In contrast to other tested cleaning methods, the laser technique allows the removal of the oil paint layers with a minimum of material loss in brittle zones. The cleaned test areas have been investigated by optical and scanning electron microscopy as well as by colour measurements. The investigations have shown that the dirt and the oil paint layers can be removed by laser cleaning without affecting the original sandstone surface and that the pores can be opened again. The brown shade after cleaning is not caused by laser interaction with the sandstone surface but by historic impregnation with linseed oil. Immediately after cleaning, a treatment with chemical consolidants is necessary to preserve the brittle sandstone surface. Sustainable consolidation could be problematic in some areas, because the laser cleaning also preserves heavily damaged, crumbling zones of the carvings. For economic reasons, laser cleaning should be applied only in the most endangered zones of carvings and combined with classical methods (organic solvents and scalpel).

Reference 39 - 0.08% Coverage

¶92: In France, the first laser cleaning on monuments was successfully carried out from 1993 to 1995

Reference 40 - 0.29% Coverage

¶92: including laser cleaning. The cleaning procedure for the limestones on these portals has varied, in particular in the way of using laser: alone or combined with other methods like microsandblasting and poultices, preceding or following the other methods of cleaning. The procedures are described and reasons for the different practices are presented.

Reference 41 - 0.45% Coverage

¶92: It is therefore possible to distinguish schematically two poles of cleaning by using laser: one consists of using laser and only laser in order to optimize the conservation of the stone and its patina whereas the other combines different techniques, including laser, in order to obtain a more satisfying result aesthetically referring more or less to how the artwork originally looked. The procedures compound also with economical preoccupations and integrate laser with other methods to reduce its use in composite cleanings or for finishing.

Reference 42 - 0.05% Coverage

¶93: Laser cleaning in French museums: towards instating a methodology

Reference 43 - 0.27% Coverage

¶94: This communication aims at taking stock of French museum practice regarding the use of laser cleaning, and it summarises a few reflections and interrogations, from the art historian's and archaeologist's, rather than the scientist's, standpoint. Our conclusions owe a lot to discussions with restorers and scientists.

Reference 44 - 0.06% Coverage

¶95: A review of health hazards linked to the use of lasers for stone cleaning

Reference 45 - 0.83% Coverage

¶96: One of the rapidly growing applications of lasers lies in the field of artwork conservation. Stone cleaning, using Nd-YAG Q-switched lasers ($\lambda = 1.06\ \mu m$), has increased significantly in the past 5 years. Higher cleaning rates can be obtained at lower costs by using increasingly powerful lasers. The tendency is to extend the field of application from the cleaning of individual artworks to the cleaning of larger areas such as entire building façades. At the moment, no systematic approach for risk assessment of laser hazards is available: with higher power, faster cleaning rates and diversification of cleaned substrates, there will be a corresponding or even progressive increase of persons at risk. Until now, only sporadic measurements have been performed in order to quantify potentially hazardous emissions from stone due to laser cleaning. This contrasts with the large number of studies already published on health hazards linked to laser use for medical and industrial applications.

Reference 46 - 0.07% Coverage

¶96: We describe briefly in this report both the current knowledge and the gaps to be filled.

Reference 47 - 0.06% Coverage

¶97: Hazardous emissions and health risk during laser cleaning of natural stones

Reference 48 - 1.35% Coverage

¶98: The laser removal of unwanted surface layers on artworks and artifacts made from natural stones is connected with the emission of airborne dust and volatile components containing hazardous substances. The health risk depends on the hazardous substances, the threshold limit values, the emitted amount and the size of the emitted particles. Emission and workplace concentrations were determined during optimal cleaning of encrusted sandstone and limestone as well as painted sandstone with pulsed Nd:YAG lasers NL 102 and NL 201 manufactured by BMI. The emission rate increases with layer thickness from 0.1 to 3.5 mg s–1. The rate will rise considerably for lasers with higher average power. The operator works directly in front of the emission source and usually in a separated laser area. Hence workplace concentrations of inhalable dust can reach 50 mg m–3. The main hazardous substances concerning sandstone are respirable dust as a whole and respirable quartz dust. Concerning limestone, the main substances are totally respirable dust, inhalable calcium oxide dust, and sulfur dioxide, if gypsum is removed and dissociated. Further hazardous substances such as iron-, aluminum-, magnesium-, and phosphor oxide are, as far as the health risk is concerned, of minor relevance. Without protection, the concentrations would exceed the threshold values. The concentration can be reduced essentially by an exhaust system with a nozzle placed close to the source. In this way, the workplace concentration falls clearly below the threshold value for lead of only 0.1 mg m–3 during the removal of a white lead paint.

Reference 49 - 0.10% Coverage

¶99: Effect of low and high fluence on experimentally laser-cleaned sandstone and marlstone tablets in dry and wet conditions

Reference 50 - 1.23% Coverage

¶100: The eligibility of laser cleaning is tested on regionally specific sculptural stones. Marlstone and sandstone represent the most common building, architectural and sculptural stones employed in the Czech Republic since the Romanesque period. These stone types differ greatly from the marbles on which positive results have been obtained using laser cleaning. Experimental samples were prepared by sawing rock cores. Artificial blackening of samples' surfaces simulates natural black patinas. The experimental laser cleaning was conducted using Nd:YAG commercial laser (Laserblast 50) at two different fluences—the low one corresponds to the minimum operating capability of the equipment, and the high fluence represents the maximum operating mode of the equipment (i.e. in the ordinary operating range of the equipment). The samples were cleaned under dry and wet conditions. Use of a high fluence resulted in cratering/spalling that is discussed in terms of rock mineralogical composition (presence of clay minerals), adsorption of moisture on clay minerals and physical

properties (porosity). Tensional fracturing (evidenced by scanning electron microscopy) along the cleaned surface is the main mechanism of sample destruction due to the vaporization of adsorbed moisture and due to the different elasticity of present rock-forming minerals. Observed discoloration due to high fluence and insufficient cleaning effect of low fluence present other problems encountered.

Reference 51 - 0.69% Coverage

¶102: The application limits of the laser-cleaning technique for different types of building stones have been investigated by measuring colour variations. The selected stones differ in their chemical and mineralogical composition, colour, texture and crystallinity degree. The experimentation was carried out with a Q-switched Nd:YAG laser. The colour variations on stones associated with different operative fluences were measured using a colorimeter. Further, surface morphological changes were examined under SEM. From the calculation of colour differences, a damage threshold fluence was established for each stone type. The response of the stones to laser radiation at a particular fluence was found to be mainly conditioned by their chemical and mineralogical composition and, to a less extent, by their textural characteristics.

Reference 52 - 0.05% Coverage

¶103: Non-laser light divestment in conservation and preservation

Reference 53 - 0.62% Coverage

¶104: Over the past 10 years, laser technologies have found acceptance for surface divestment both in industry and in art conservation. The initial endeavors in exploring and assessing the utility of this art conservation tool are recounted for investigations involving ruby, glass, ion, YAG, carbon dioxide, dye, and excimer lasers with particular emphasis on the limitations that were encountered with each (in terms of speed, cost, wavelength, spectral width, and reliability). In response to these issues, a research effort is described that was instituted to assess non-laser (viz., incoherent) light sources (e.g., flashlamps, sparklamps, arclamps, and pinchlamps) for radiation cleaning. Initial demonstration projects with these sources

Reference 54 - 1.28% Coverage

¶104: With non-laser light generators, substrate thermal alteration and debris redeposition often present problems. These may be minimized or avoided through the incorporation of a gas jet, static liquid, liquid jet, or dry-ice blast.

¶105: Two new mechanisms for laser cleaning using Nd:YAG sources

¶106: Two new methods for the laser cleaning using a Q-swihed Nd:YAG laser have been developed and investigated. These offer increased efficiency and reduction in possible substrate damage for a wide range of substrate/encrustation combinations. In angular laser cleaning, it is shown that by controlling the angle of incidence of the cleaning laser, significant improvement in the efficiency of cleaning can be achieved when compared with conventional cleaning with a normal angle of incidence. A model is proposed to explain this effect. In laser shock cleaning, a completely different

approach is presented. By aligning the incoming laser beam to be horizontal to the surface to be cleaned but close to it and selecting operating parameters that lead to a breakdown of the air above the object to be cleaned, a laser-induced shock wave is produced that is very much more effective than conventional normal incidence cleaning in removing surface pollutants. However, because the laser does not come into contact with the substrate, this method significantly minimises the potential for substrate damage. Again, a model for the cleaning process is presented. The results for the operation of both methods on polluted marble are presented.

Reference 55 - 0.05% Coverage

¶107: Acoustic monitoring for the laser cleaning of sandstone

Reference 56 - 1.02% Coverage

¶108: For the laser ablation of crust on historical sandstone samples contaminated due to prolonged interaction with the environment, and also for specimens covered by artificial crust layers, the potential of acoustic monitoring is examined. Measurements of the snapping sound amplitude vs. the deposited laser energy carried out for dry, moistened and wet samples at laser fluences in the range of 0.1–3 J cm–2 (Nd:YAG, 6 ns, 1064 and 532 nm) confirm the advantages of wet cleaning. The exponential decay of the signal corresponds to a similar decrease of the crust thickness, characterized by an average rate of about 10–14 μm per pulse, and the data of original samples reveal better reproducibility compared to those of the model crust. From data analysis, a narrow band of the reference signal of 8.5–11% of the maximal one follows, which corresponds to the crust-free surface, and for parabolic dependences of both sound amplitude and cleaning speed vs. laser fluence, the clear maxima agree with optimal processing parameters. The strong correlation observed between the acoustic signal and the ablation progress supports the conclusion of the usefulness of acoustic monitoring for laser cleaning of stone artefacts.

Reference 57 - 0.04% Coverage

¶109: A variable pulse width Nd:YAG laser for conservation

Reference 58 - 1.03% Coverage

¶110: Photoablation is a physical process employed for the cleaning of artefacts. While several authors have reported investigations concerning the dependence of the effects induced on the material for different laser wavelengths, no similar investigations have been reported so far about the dependence on the pulse duration, in spite of its importance being recognised. In order to approach this issue and optimise the interaction process on different materials, a new Q-switched Nd:YAG laser system with variable pulse width for cleaning applications was designed and built at the Quantum Electronics Institute in Florence. It provides an extended pulse duration in respect of the standard Q-switched regime, by means of interchangeable optical fibres in the resonator. The new laser allows to change the pulse duration in the range between tens and hundreds of nanoseconds up to several microseconds. According to our experience, the adjustment of the pulse duration in this range may avoid the possibility of strong mechanical forces and excessive heating in

the substrate, as it has been observed with standard Nd:YAG laser systems. The laser may be proposed for an accurate cleaning in a variety of restoration problems and materials.

Reference 59 - 0.10% Coverage

¶111: Short free running Nd:YAG laser to clean different encrustations on Pentelic marble: procedure and evaluation of the effects

Reference 60 - 0.92% Coverage

¶112: On ancient Greek monuments of Pentelic marble, environmentally induced encrustation (black dendritic and thin) along with layers with ancient treatments (patina) were irradiated with a Nd:YAG laser system operating at the fundamental mode (λ = 1064 nm) with td = 20 μs (short free running Nd:YAG laser). Laser experiments were coupled with the spraying of small quantities of distilled water on the encrustation before the irradiation. The effects of the laser-assisted cleaning were investigated using thin section analysis, optical microscopy, scanning electron microscopy coupled to energy dispersive X-ray analysis, infrared spectroscopic analysis, and X-ray diffraction analysis, as well as color measurements and imaging analysis using multi-spectral imaging. Based on the results, the main evaluation criteria were achieved for the application of the short free running Nd:YAG laser system for cleaning purposes. Multi-spectral imaging enables the evaluation of color and textural changes and, therefore, can be considered as an appropriate tool for the in situ monitoring of the cleaning process.

Reference 61 - 0.12% Coverage

¶113: Comparative study on the application of the 1st and the 3rd harmonic of a Q-switched Nd:YAG laser system to clean black encrustation on marble

Reference 62 - 0.41% Coverage

¶114: A comparative study on the removal of three different types of encrustation on marble has been carried out using infrared and ultraviolet nanosecond laser pulses. The fundamental and 3rd harmonic of a Q-switched Nd:YAG laser system have been used to remove dark dendritic, thin black compact and biological encrustation on marble. These three types of encrustation on Greek monuments have been previously described and relevant experimental work has been carried out. In the present work,

Reference 63 - 0.52% Coverage

¶114: It has been shown that both thin crust and biological deposits were adequately cleaned using the 3rd harmonic of the Nd:YAG system. The yellowing effect observed when using the 1064 nm pulses is definitely avoided in this case. However, the fundamental wavelength appears more efficient when dendritic thick black crust must be removed. To evaluate the results, X-ray diffraction (XRD) analysis has been carried out, while optical microscopy, cross-section analysis and scanning electron microscopy (SEM) were used to examine the irradiated areas and determine the cleaning efficiency of the two wavelengths applied.

Reference 64 - 0.13% Coverage

¶115: The use of added matrix elements such as chemical assists, colorants and controlled plasma formation as methods to enhance laser conservation of works of art

Reference 65 - 0.82% Coverage

¶116: Factors such as the use of absorbing dopants, reactive gases and controlled wet chemistry, can all be manipulated to enhance a particular aspect of interaction between the laser and target material in order to improve cleaning results and limit damage to the substrate. This fact offers a tantalizing means of improving the results of laser cleaning in conservation. Further, failure to understand these phenomena can lead to problems even with established treatments. A number of laser cleaning protocols have been reexamined using techniques that enhance one form of laser/target material interaction over another. These techniques include the addition of liquids, alteration of the atmosphere, and alteration of the color of the surface to be removed. The importance of wavelength absorption, plasma formation, chemical bond breaking, and gas expansion will be discussed, and examples of simple processes to improve the cleaning of materials using laser exposure will be described

Reference 66 - 0.17% Coverage

¶117: evaluation of cleaning results based on wavelength dependency and laser type

¶118: The removal of ink stains from elephant ivory and related materials can present an intractable problem for the conservator

Reference 67 - 0.81% Coverage

¶118: This research evaluates laser energy as a tool for ivory conservation and highlights the differences between removing stains that penetrate the substrate, as opposed to surface accretions, using a range of laser wavelengths. Samples of ink-stained ivory were prepared and treated with wavelengths ranging from the infrared to the far UV in order to remove ink staining. Different effects were observed at different regions of the spectrum and with different laser types (Nd:YAG, KrF excimer, ArF excimer, OPO, etc.) with the most successful removal of ink occurring in the visible range. Furthermore, there appears to be a relationship between wavelength in the visible range and the color of the ink removed, which correlates to the absorption spectra for a given ink. The results of these experiments will be discussed along with the possible mechanisms involved and some of the surface analytical techniques employed to evaluate the effectiveness of cleaning.

Reference 68 - 0.08% Coverage

¶119: Toward an optimised laser cleaning procedure to treat important palaeontological specimens

Reference 69 - 0.37% Coverage

¶120: In previous laser cleaning tests and analyses carried out on fossil bones, we demonstrated the feasibility and effectiveness of the laser approach. Based on these results, we designed a cleaning procedure employing fibre-optic-delivered Nd:YAG laser radiation, integrated with other conventional cleaning techniques, such as micro-sandblasting and chemical cleaning. The procedure has been optimised for application on important specimens,

Reference 70 - 0.14% Coverage

¶120: Here, we report laser cleaning tests where this procedure has been applied on samples of other mammalian bones from the Danakil depression and the site of Matassino (Italy).

Reference 71 - 0.06% Coverage

¶122: Laser cleaning of stained glass windows – Final results of a research project

Reference 72 - 0.90% Coverage

¶123: Based on two independent feasibility studies in Germany (1992–1995), a research project "Laser cleaning of stained glass windows" was launched in 1997 with the aim to facilitate systematic investigations within an interdisciplinary co-operation. This paper will give an overview on the final results of the 3 years project. A prototype laser cleaning station was constructed, using an Excimer-laser operating at 248 nm. The impact of the laser radiation was examined on model substrates to define alteration thresholds and ablation thresholds for all relevant materials involved. A description of the resulting effects of the laser-substrate interactions will be given for glasses with different compositions and colours, for corrosion crusts and polymer coatings. As the ablation process is not self-limiting for these types of materials, different sensoring systems were evaluated. The results obtained from cleaning experiments on selected originals will be discussed to demonstrate the possibilities and limitations for the application of lasers in stained glass restoration

Reference 73 - 0.07% Coverage

¶124: Excimer laser for fundamental studies in cleaning hewn stone and medieval glass

Reference 74 - 0.45% Coverage

¶125: The UV wavelength at 248 nm of an excimer laser was used for basic investigations in cleaning of various encrusted sandstones as well as corroded medieval glass. Due to the combination of UV wavelength and short pulse duration (20–40 ns), this laser enables a removal with very low thermal load onto the artwork. Our studies have shown that this is true for the removal of dense crusts, bio-layers and organic layers (due to former conservation) from medieval glass. The potential of excimer lasers in this field will be demonstrated

Reference 75 - 0.47% Coverage

¶125: In comparison to other wavelengths (IR, VIS) also being used within this study, only the excimer laser seems to be applicable in glass cleaning. This laser type is also suitable to remove crusts from

sandstone artwork with negligible thermal effects on the original surface. The benefit of excimer lasers in this field is the sensitive removal layer by layer with each laser pulse. The typical thickness being removed is <1 μm per pulse. On the other hand, the cleaning rate of extended areas is much lower as compared to state-of-the-art Nd:YAG cleaning equipment.

Reference 76 - 0.04% Coverage

¶127: An optimised laser methodology was devised

Reference 77 - 0.58% Coverage

¶127: The optimisation of laser parameters was achieved through comparative cleaning tests by employing Nd:YAG (1064 nm) and Nd:YAP (1340 nm) laser systems. The different cleaning results were characterised by microscopy, spectral reflectometry, and FT-IR analyses. In particular, high removal control was achieved using short free running (SFR) Nd:YAP and Nd:YAG lasers that allowed gradual cleaning levels. Conversely, a single cleaning level was possible using a Q-switching Nd:YAG laser, which also induced an undesired yellowish-orange appearance of the cleaned surface. Following the analysis of these results, the whole cleaning treatment of gilded areas was performed using SFR Nd:YAG laser.

Reference 78 - 0.06% Coverage

¶128: Cleaning of corroded iron artefacts using pulsed TEA CO2- and Nd:YAG-lasers

Reference 79 - 0.83% Coverage

¶129: The main advantage of using pulsed lasers for cleaning metallic archaeological artefacts is that the removal of the crust is well controlled and can be carried out layer by layer. To determine the most suitable irradiation conditions, the wavelengths and the fluence for successful cleaning must be evaluated carefully. As test samples, corroded utility articles such as nails and hand tools have been used. Depending on the composition of the crust, different lasers have been used: TEA CO2 lasers have been successfully used for removal of organic materials and rust. EO-Q-switched Nd:YAG laser at IR and at green wavelengths, which have different absorption characteristics, has also been tested. The Nd:YAG laser was able to clean the corroded samples; however, the risk of surface damage was higher than when using the TEA CO2 laser. Analysis of the surfaces cleaned by lasers has been performed with optical and scanning electron microscopy, X-ray spectrometry and Raman-spectrometry.

Reference 80 - 0.03% Coverage

¶130: Laser characterization and cleaning

Reference 81 - 0.99% Coverage

¶131: Recently, we have made tremendous progress in the spectroscopic analysis and laser restoration of tarnished daguerreotypes. Laser induced breakdown spectroscopy (LIBS) has been

applied for the first time to both modern and 150-year-old daguerreotypes. In addition to surface and depth profiling, the analysis of colors on “tinted” samples allowed identification of the pigment. These results complement the previous analysis by laser ionization mass spectrometry of the surface composition of clean and tarnished examples of the old photographs. Laser ablation cleaning of the submicrometer tarnish layers has now been clearly demonstrated on numerous daguerreotypes with various extents and types of tarnish. The use of computer controlled XY translation and stable laser beam quality have allowed decisive proof-of-principle examples of laser restoration. The best parameters of laser wavelength, power and pulse duration have been determined. Using digital files of daguerreotype images, straightforward models have been developed that allow for the digital mapping of the surface tarnish. In principle, such maps could guide the computer control of the laser cleaning process.

Reference 82 - 0.02% Coverage

¶132: Laser cleaning methodology

Reference 83 - 0.05% Coverage

¶133: We investigated the optimisation of the laser cleaning parameters

Reference 84 - 0.54% Coverage

¶133: Photothermal and photoacoustic regimes, involved in the ablation dynamics by Nd:YAG lasers with different pulse durations, were modelled on the basis of preliminary stratigraphic characterisation and irradiation trials. The physical analysis was aimed at understanding the nature of the ablative process and at estimating the thermal wave coupled into the gold film. This allowed the selection of a suitable pulse duration range to achieve a high discrimination level, thus optimising the cleaning result. The analytical description reported here also contains general results, which could be exploited in other conservation cases of gilded bronzes.

Reference 85 - 0.03% Coverage

¶134: Laser and chemical cleaning tests

Reference 86 - 0.63% Coverage

¶135: we investigated a cleaning methodology based on integrated chemical and laser techniques. This novel approach, which will replace the previous chemical protocol, was aimed at cleaning a number of gilded sculptural elements of the door frieze, without their being dismounted from the bronze framework. To such an end, optimised chemical and laser cleaning techniques were first singly investigated, and then integrated treatments were tested. The critical evaluation of each procedure was achieved through various diagnostic means to characterise the cleaned surfaces from chemical and physical points of view. The analysis demonstrated the various advantages of a laser-based treatment followed by light sodium potassium tartrate poultice application.

Reference 87 - 0.01% Coverage

¶136: Laser cleaning

Reference 88 - 0.56% Coverage

¶137: Recent developments in laser techniques in the conservation field have allowed us to test the laser cleaning of tarnished silver and copper threads in textiles. The experimental samples were copper and silver plates that had been artificially sulphurised as well as silk bands dyed according to traditional procedures. The experiments were carried out with different Nd3+:YAG lasers emitting infrared, visible and ultraviolet radiation. The work has focused on optimising the cleaning process to control the side effects (whitening or yellowing of silver and reddening of copper) produced. Tests were also conducted on real artefacts, and the results are discussed.

Reference 89 - 0.19% Coverage

¶139: Laser removal of surface contaminants on silver threads was carried out using Nd:YAG laser radiations from near infrared (1064 nm) through visible (532 nm) to ultraviolet (266 nm) produced by frequency harmonic generation.

Reference 90 - 0.43% Coverage

¶139: The goal of this work is to find a feasibility to clean the tarnished silver without any damage of the underlying silk since the conventional chemical treatment is problematic to apply in this specific specimen. From the results, it was found that the laser wavelength of 266 nm is most appropriate to clean the silver surface without causing any damage either to the silver or the silk surfaces while 1064 nm wavelength easily causes damages such as melting and burning to the silver as well as the silk inside.

Reference 91 - 0.03% Coverage

¶141: The application of laser technology

Reference 92 - 1.03% Coverage

¶142: making removal of ingrained surface dirt and residues of previous conservation treatments extremely difficult using mechanical or chemical techniques. Initial tests were carried out to assess the suitability of the laser-cleaning technique. Using laser radiation at a wavelength of 1064 nm in pulses of 10 ns duration, it was possible to partially remove artificially applied soiling from new red cedar without surface disruption at an average fluence below 1.2 Jcm–2. Cleaning tests carried out on a fragment from near the base of the pole were also successful. The results of the cleaning have been evaluated using optical microscopy (OM), scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FTIR). The results of the initial testing confirmed that laser cleaning was the most appropriate technique for cleaning the pole. A portable enclosure was constructed around a small section of the pole and cleaning was undertaken inside. The concentration of airborne contaminants was measured under working conditions and was found to be well below the

relevant safe occupational exposure limits. A team of four fully trained conservators worked in rotation to clean the pole over a period of 6 months.

Reference 93 - 0.11% Coverage

¶143: Nd:YAG laser with wavelengths from IR to UV (ω, 2ω, 3ω, 4ω) and corresponding applications in conservation of various artworks

Reference 94 - 0.89% Coverage

¶144: To cover the whole range of applications in laser cleaning of artworks, it is well known that specific wavelengths are necessary for the individual conservation problem. Recently, there is a new generation of Nd:YAG-lasers available offering frequency multiplied laser radiation from IR via VIS to UV. Using three different non-linear crystals, emission at 532 nm (2ω), 355 nm (3ω) and 266 nm (4ω) wavelengths takes place beside the fundamental wavelength 1064 nm (ω). The laser system is based on the oscillator/amplifier-principle. The non-linear crystals are placed behind the amplifier cavity. The laser system (Type “SAGA 220/10”) with maximum pulse energy of 1.5 J pulse duration of 7 ns and a maximum repetition rate of 10 Hz is equipped with an articulated arm including a hand piece. This novel system offers new fields in conservation of artworks. As far as known, we used this multi-frequency equipment for the first time in laser cleaning applications. To demonstrate the potential of this laser system for practical applications of conservation

Reference 95 - 0.10% Coverage

¶144: As a result, it has turned out that every individual artwork mentioned above has its own specific cleaning wavelength.

¶145:
Reference 96 - 0.80% Coverage

¶146: A detailed diagnostic study of the interaction of nanosecond laser pulses from the near-ultraviolet to the near-infrared wavelength range with various types of contemporary and ancient parchments is presented. The advantages of laser cleaning due to the absence of chemical agents, spectroscopic selectivity, micro-precision and computer-aided handling can only be verified when physico-chemical diagnostics guarantee destructionless processing. Scanning electron microscopy data are correlated with chemical degradation and morphological changes dependent on the laser fluence and wavelength. It is also shown how transmission electron microscopy, diffuse reflectance infrared Fourier transform spectroscopy, and pyrolysis capillary gas chromatography can be employed in the chemical diagnostics of laser cleaning of parchment. This study suggests that the ageing status of parchment artefacts plays a major role in assessing the laser cleaning limits.

Reference 97 - 0.05% Coverage

¶147: Laser cleaning of paper using Nd:YAG laser running at 532 nm

Reference 98 - 0.50% Coverage

¶148: The paper reports on immediate effects of pulsed laser operating at 532 nm and fluences below 2.5 J cm–2 on soiled cellulose. The degree of polymerisation was determined viscometrically, while diffuse reflectance FTIR was used to gain insight into the changes in the chemical composition. Although no detectable immediate changes were observed after treatment of paper with laser beam at 532 nm, the irradiation of paper containing carbonaceous dirt resulted in significant discoloration of the treated substrate. The possible reasons for the extensive formation of yellow chromophores are discussed.

Reference 99 - 0.08% Coverage

¶149: Experimental investigations of stained paper documents cleaned by the Nd:YAG laser pulses

¶150:
Reference 100 - 0.76% Coverage

¶150: characterised by means of techniques of the optical spectroscopy. The influence of pulsed laser cleaning by means of the Q-switched Nd:YAG laser at 532 nm on the spectra and also cleaning results of stained paper documents are reported and considered. In the absorption spectra, the minima around 280 and 370 nm are identified and luminescence reveals a characteristic band centred around 430 nm. The laser cleaning diagnosed by the recording of the LIF spectra with 266 nm excitation shows a profile of increasing intensity and preserved structure. The LIPS spectra reveal sharp emission lines recorded at 612.5, 644.2, 646.5, 671, 714.9, 720.2 nm (Ca I), 589.4, 616.4, 780 nm (Na I), and 766.5: 769.9 nm (Mg I) which are ascribed to the surface contaminations. The intensity decrease of these peaks is in accordance with successive laser pulses and monitors the cleaning progress of the stained paper.

Reference 101 - 0.05% Coverage

¶151: Positive findings for laser use in cleaning cellulosic supports

Reference 102 - 0.18% Coverage

¶152: The purpose of this work is to continue with the research task carried out by the Centro de Conservación y Restauración de Bienes Culturales on the study of laser effects in the cleaning of stone-like materials.

Reference 103 - 0.92% Coverage

¶152: we want to show the first steps that have been taken in the study of Q-switched Nd:YAG laser effects (λ = 1064 nm, FWHM = 6 ns) on cellulosic supports. The experiments were carried out on samples directly exposed to laser radiation and on samples covered with an artificial layer of dirt (carbon black and ash). Scanning electron microscopy (SEM) shows a migration of fillers toward the surface when laser fluency is increased. This effect is more pronounced on mechanical woodpulp paper. Color change is only appreciable on samples covered with carbon black. Fourier's transformed infrared spectroscopy (FTIR) shows paper oxidation in two cases: on rag paper when it is directly exposed to laser radiation and on chemical pulp paper artificially soiled using carbon black (due to the iron and copper cationic additives and the optic bleaches found in the chemical pulp

paper). The conclusion can be drawn that the results are satisfactory for rag paper and mechanical woodpulp paper with a layer of dirt similar to real dirt (ash) when using the collimated beam at fluencies equal to 79 mJ cm–2

Reference 104 - 0.08% Coverage

¶154: Er:YAG laser: an innovative tool for controlled cleaning of old paintings: testing and evaluation

Reference 105 - 1.02% Coverage

¶155: A cleaning method based on an Er:YAG laser system at 2.94 μm, highly absorbed by OH bonds, was tested for removal of over-paintings, varnishes and patina top-layers from various painted surfaces, including laboratory paint models and old paintings. The aim was to evaluate the efficiency, selectivity and safety of the laser cleaning method using various pulse energies and various OH containing wetting agents to enhance the efficacy and limit the penetration of the laser beam. A large number of paint models were prepared with known characteristics (type and number of layers, thickness, composition) simulating old masters' techniques. A set of diagnostic controls was designed to study the effects of the laser radiation on the surface components, including morphological, optical and chemical examination and analyses. The aim was also to compare the laser method with the traditional solvent based procedures. Thresholds of safe energy were found for each type of surface layer such as varnishes and over-paintings. The results confirmed the suitability of the Er:YAG laser when used by qualified and expert conservators, especially in combination with traditional chemical and mechanical cleaning methods.

Reference 106 - 0.09% Coverage

¶156: Controlled UV laser cleaning of painted artworks: a systematic effect study on egg tempera paint samples

Reference 107 - 1.26% Coverage

¶157: The Cooperative Research project "Advanced workstation for controlled laser cleaning of artworks" (ENV4-CT98-0787) has yielded important information on the application of UV laser cleaning to paint materials. In the project, in which conservators, researchers and engineers participated, the viability of the laser technique as an additional tool in present conservation practice was investigated. The research was pointed at the definition of the boundary conditions in which laser cleaning can be safely applied. It included a systematic effect study of tempera paint systems. Physical and chemical changes, induced by exposure to UV (248 nm) excimer laser light under various conditions, were evaluated. In parallel, an innovative laser cleaning tool was developed, allowing accurate and controlled removal of superficial layers from paint materials. Both aspects of the project are presented. The presentation of the research focuses on the integration of the results from various analytical techniques, yielding valuable information on the immediate and long-term effects of UV laser radiation on the paint materials. The analytical techniques include colorimetry, spectroscopic techniques, mass spectrometry and profilometry, as well as thermographic and UV transmission measurements. Furthermore, the application of the laser

workstation on various painted artworks is shown. This includes the gradual removal of varnish layers and the recovery of original paint colour in fire-damaged paintings.

Reference 108 - 0.06% Coverage

¶158: Uncovering of scalar oxidation within naturally aged varnish layers

Reference 109 - 0.34% Coverage

¶159: The present work originates by a recent study on the uncovering of a scalar trend for the spectral characteristics related to the oxidation/crosslinking in an artificially aged resin film. It has been found that by moving from the surface of the aged resin towards its interface with the paint layer, crosslinking decreases. In the present work, the existence of this trend is tested on original samples

Reference 110 - 0.81% Coverage

¶159: The verification of the deterioration trend was possible by measuring the solubility of the material at subsequent depth-steps created within the same varnish layer. The realization of a number of satisfactory homogenous depth-steps, with enough space to perform the necessary solubility tests, has been possible through UV photo-ablation using a KrF excimer laser. The results of the chemical tests revealed that there is, indeed, an exponential gradient of the deterioration across the film thickness, which is directly related with an equivalent gradient in the solubility within the same varnish layer. Consequently, the deeper one goes into a varnish layer, progressively more dilute solutions of the appropriate solvent in an inert medium are required to remove it. The benefits of a combination of chemical with laser cleaning of resin-based varnishes are demonstrated, and at the same time, lasers are established as a complementary and useful tool in conservation.

Reference 111 - 0.09% Coverage

¶160: Study of the effects of laser radiation on epoxy resins and epoxy systems on stone, ceramic, and glass surfaces

Reference 112 - 1.15% Coverage

¶161: A systematic study of the effects of Nd:YAG laser energy, at three wavelengths (1064, 532, and 355 nm) and Er:YAG laser at 2940 nm, on different epoxy resins and epoxy systems was performed. The tests on the study of the effect of laser energy on epoxy resins had two major goals. One focused on the influence that lasers may have during a cleaning process of art objects that contain epoxy resins. The other aim was to investigate possibilities for using lasers to remove epoxy resins from art objects. Two epoxy resins, Hxtal NYL-1 (clear) and Araldite AY103 with hardener HY991 (slightly yellow), were prepared as pure films as well as in mixtures with chalk, titanium white, microballoons, and charcoal. These materials were applied to different stone, ceramic, and glass substrates. Evaluations of the results were made with a combination of surface science and visual examination. The tests have shown that at least at high laser energy all the tested wavelengths of laser light had visual effects on both epoxy resins, which were primarily visible as discolorations and

etched surfaces. Different wavelengths initiated different material alterations, for example, variations in the color of the alteration products. Additional to the laser wavelength, the characteristic of each of the components of the material irradiated influenced the laser induced reaction.

Reference 113 - 0.03% Coverage

¶162: Initial results on laser cleaning

Reference 114 - 0.30% Coverage

¶163: An access to these material conservation departments means that materials like traditional statuary materials, heavily corroded metals, ivory, palaeontological samples, textiles, stained glass, plaster and some modern materials can be used to investigate the usefulness of laser cleaning and study their effects using a wide range of analytical techniques.

¶164:
Reference 115 - 0.04% Coverage

¶164: Interaction with polychromies and discoloration

Reference 116 - 0.03% Coverage

¶165: Laser yellowing: myth or reality?

Reference 117 - 0.32% Coverage

¶166: Q-switched Nd:YAG lasers operating at 1064 nm have often been held responsible for the yellowing of various substrates during cleaning. Possible causes are the presence of an underlying yellow layer, residues, light scattering and substrate damage, or combinations of these. This article reviews the existing evidence on this subject, and suggests venues for future practice and research.

Reference 118 - 0.04% Coverage

¶167: Laser cleaning: is there specific laser esthetics?

Reference 119 - 0.11% Coverage

¶168: Numerous observations have led us to wonder about the new esthetics created by the laser cleaning of limestone (Q-switched Nd:YaG).

Reference 120 - 0.07% Coverage

¶169: Yellowing effect and discoloration of pigments: experimental and theoretical studies

Reference 121 - 0.04% Coverage

¶170: Two issues of great interest in the field of lasers

Reference 122 - 1.13% Coverage

¶170: We have viewed these issues from a comprehensive point of view, considering all our present experimental results as well as ongoing modeling and theoretical calculations. The first concern to be discussed is the yellowing effect in laser cleaning of marble or stone artifacts. Although, in most cases, a yellowish layer exists underneath the black encrustation, the so-called 'patina', it has become clear that there are situations where yellowing cannot be attributed to an existing layer. In the present study, a light scattering model that may account for the yellowing is presented. This model considers a thin absorbent layer and the surface roughness and/or created voids and accounts for the reflectance spectra measured by (i) hyper-spectral imaging and (ii) integrating sphere. Additional experimental data, such as the absence of yellowing when the third harmonic of a Q-swihed Nd:YAG laser is used, support this model. A thorough understanding of the quantitative characteristics of pigment discoloration, on the other hand, has been attempted by means of X-ray diffraction and theoretical studies. The model developed suggests a nucleation process for cinnabar resulting in a structural modification within the volume of a pigment's crystal or particle close to the 'ablation front', which extends for a few nanometers from its surface.

Reference 123 - 0.08% Coverage

¶171: Evaluation of the chemical and physical changes induced by KrF laser irradiation of tempera paints

Reference 124 - 1.16% Coverage

¶172: A systematic study of the chemical and physical changes induced by exposure to UV (248 nm) excimer laser light of unvarnished tempera paint samples has been undertaken as a part of the research activities included in the European project "Advanced workstation for controlled laser cleaning of artworks". The direct exposure of the paint to the UV laser configures the worst case scenario of laser cleaning, as a thin protective layer of varnish is normally left to minimize the dose of UV radiation that reaches the paint surface. However, in the practice of laser cleaning, there is a need to characterize and quantify the possible effects of direct UV laser irradiation of unvarnished paints. To this purpose, a broad range of techniques have been used including profilometry, colorimetry, optical and vibrational spectroscopic techniques, such as laser-induced fluorescence (LIF), laser-induced breakdown spectroscopy (LIBS), Fourier transform Raman (FTR) and infrared (FTIR), and analytical mass spectrometric techniques, like direct-temperature-resolved mass spectrometry (DTMS) and laser desorption and ionization time of flight mass spectrometry (LDI-TOF). Integration of the results obtained by these techniques allowed the investigation of the nature and degree of change of the irradiated paint systems. These were observed to strongly depend on the type of paint system.

Reference 125 - 0.06% Coverage

¶173: Laser irradiation of medieval pigments at IR, VIS and UV wavelengths

Reference 126 - 0.91% Coverage

¶174: The possibility to use laser radiation to clean historical objects has been established for several years. A complex case and widely met problem are polychromes. They react (chemically as also physically) very sensitively towards laser radiation. In this study, the reaction of pigments was investigated in dependency on the incident wavelength (Nd:YAG, λ = 1064, 532, 355, 266 nm) and energy density. The chemical and also the physical interactions were investigated. In this work, the following analytical methods were utilised: differential thermal analysis (DTA), colour measurements (CIE-L*a*b*), X-ray diffraction (XRD) and energy dispersive X-ray analysis (EDX). It turned out that the colour change of the pigments can have different origins: they can for instance be induced by laser induced oxidation, reduction or phase changing. Most of the pigments show reactions at very low energy densities (H < 100 mJ cm–2). Overall the fundamental wavelength of the Nd:YAG-laser (λ = 1064 nm) proved to be most suitable, whereas λ = 355 nm shows most influence on the colour change.

Reference 127 - 0.09% Coverage

¶175: Studies towards a thorough understanding of the laser-induced discoloration mechanisms of medieval pigments

Reference 128 - 0.74% Coverage

¶176: A significant issue in the current research on laser cleaning studies is the discoloration effect that the laser radiation may cause to many medieval pigments. Towards a thorough study of this effect, specially prepared limestone plates coated with lead, ferrous and copper pigments in linseed oil or the powder pigment itself, have been irradiated with Q-switched Nd:YAG laser radiation at 1064 nm and the discoloured material has been identified using spectroscopic and surface analysis techniques. The observation that the darkening effect in the irradiated lead based pigments decays, and the original colour is recovered after some time, stimulated further research on the possible conditions that may influence this recovery process. A model to describe the phenomenon is suggested where oxidation is not favourable but instead the pigments decompose to their constituent elements.

Reference 129 - 0.07% Coverage

¶177: Laser interaction with polychromy: laboratory investigations and on-site observations

Reference 130 - 0.12% Coverage

¶178: The impact of laser cleaning of soiled natural stone surfaces possibly with underlying polychromy was studied by means of laboratory samples

Reference 131 - 1.38% Coverage

¶178: Paint layers with pigments (1) frequently encountered in historic polychromies and (2) applied with different binders to cardboard strips and stone tablets (and subsequently coated with an artificial black gypsum crust) were irradiated. Laser light at different wavelengths and fluences was used to (a) determine fluence threshold values for pigment alteration, and (b) to determine if the artificial gypsum crust can be ablated from the paint layers without discolouring them. The wavelength-dependent diffuse reflection and scattering of light were measured for the chosen pigment/binding medium combinations and turned into absorption coefficients according to the Kubelka–Munk theory. These data served as a basis for theoretical considerations about the laser–pigment interaction with respect to less critical wavelength regimes. For the pigments under investigation, the following sequence in order of sensitivity to laser irradiation from highest to lowest was found: vermilion, massicot, lead antimonate (Naples yellow), minium, malachite, red ochre, yellow ochre, azurite, smalt, green earth. In the case of malachite, azurite, minium, and vermilion, the chemical reaction which brings about the colour change was deduced from the X-ray diffraction curves of irradiated and altered pigment powders. Observations made during trial laser cleanings in the laboratory and on-site suggest that historic polychromies are more endangered by the loss of pigment flakes than by discoloration. The role that the binding medium and ageing effects play in the interaction of the laser with polychromies must be the subject of further investigations.

Reference 132 - 0.02% Coverage

¶179: Non-cleaning applications

Reference 133 - 0.04% Coverage

¶180: Non-divestment laser applications in art conservation

Reference 134 - 2.26% Coverage

¶181: Just as lasers have found applications in entertainment, science, industry, and medicine, numerous real and potential uses for lasers in art-conservation analyses and practice have been investigated over the past three decades. Initially, these included archival holographic recording, holographic non-destructive testing (NDT) of statues and paintings, laser-induced ultrasonic imaging of frescos and paintings, laser scattering for surface characterization of paint layers, photoacoustic spectroscopy (PAS) of pigments and varnishes, atomic and molecular microprobe analyses of artwork surfaces (e.g., LIBS), surface modification of stone, laser-induced chemistry (LIC), and surface divestment of art materials from leather to stone. In recent years, this list has been extended considerably. It now includes 3D replication, Raman spectroscopy and mapping, laser-induced fluorescence (LIF) detection and imaging, object repair through laser cutting and welding, laser-doppler techniques for the study of surface motion in order to discern internal features, and laser ranging for contour mapping. Twenty-five years ago, laser divestment/cleaning was, by widespread consensus of the conservation community, the least plausible laser application in art conservation. This attitude was fostered by several circumstances. Foremost, was a general ignorance of laser technology and its potential. Second, were genuine problems with laser reliability, cost, and maintenance. Third, were technology limitations in available wavelengths and beam director options. However, after 20 years of research and development, laser divestment (principally for stone) emerged to dominate all the other initial and latter applications noted above. In light of the current widespread acceptance of radiation-induced divestment (brought about by its practical

successes), it is a propitious time to revisit and review those that overshadowed early alternative laser applications in terms of their histories, status, and prognoses. Subsequent advances in laser science and technology (as well as in associated computer systems for digital signal processing and laser control) will enhance and facilitate the practical uses of those other early opportunities for lasers in art conservation. Toward this end, the initial endeavors in exploring and assessing the utility of these tools for art conservation are recounted. Together with the manifest success of laser cleaning, both in the conservation laboratory and in the field, this review may serve to reinvigorate interest in these powerful scientifically established technologies and extend their application and acceptance to the broader art-conservation community.

Reference 135 - 0.06% Coverage

¶182: A topographical assessment and comparison of conservation cleaning treatments

Reference 136 - 0.40% Coverage

¶183: The development of laser cleaning as a conservation treatment has imposed a need for the evaluation and assessment of other cleaning techniques. The use of more traditional methods like abrasive cleaning, steam cleaning and chemical cleaning has relied so far on visual assessment, unlike much of the research applied to laser cleaning. A conscientious use of these cleaning methods requires their assessment as well as the need for a comparison based on a common methodology.

Reference 137 - 0.77% Coverage

¶183: A topographical assessment of laser cleaning, abrasive cleaning, steam cleaning and chemical cleaning (using hydrofluoric acid, ammonium carbonate and EDTA) is presented. Topographical variations induced on marble, oolitic limestone and architectural terracotta surfaces are assessed by means of light interferometry, showing the potential of this non-contact and non-destructive technique for surface studies in conservation. The comparison between cleaning treatments is based upon key parameters associated with cleaning surfaces. The aesthetic impact of these treatments is verified by means of optical microscopy and quantified by colour measurement. Chemical analysis of the cleaned surface (EDS) is performed to investigate the removal of surface pollutants and the presence of residues. Finally, petrographical analysis was used to investigate the removal of pollutant layers and its effect on surface texture.

Reference 138 - 0.13% Coverage

¶186: Raman laser fibre optic strategy for non-destructive pigment analysis. Identification of a new yellow pigment (Pb, Sn, Sb) from the Italian XVII century painting

Reference 139 - 0.14% Coverage

¶187: In this work, the strategy, performances and applications of a Raman spectroscopy system with both optical fibre technology and two lasers (red and green) are presented.

Reference 140 - 0.28% Coverage

¶187: The comparison of its Raman spectrum with the spectra of two yellow patterns that we have produced demonstrates the triple oxide composition (Pb, Sn and Sb) of this Italian pigment. This result is in good agreement with the previous works obtained by other authors with scanning electron microscopy-energy dispersive X-rays (SEM-EDX).

Reference 141 - 0.04% Coverage

¶188: Study of Raman spectra of pigment mixtures

Reference 142 - 0.97% Coverage

¶189: Raman spectroscopy provides useful information for detecting and identifying constituent materials in artworks; but due to the fact that in most cases it is not possible to obtain spectra of single pigments, an informatic tool (named Analyser of Pigments) has been developed to identify all the pigments present in the samples tested 〖M. Breitman, in: Optics and Lasers in Biomedicine and Culture, OWLS V, Springer Verlag, Berlin, 2000, pp. 127–130〗. When mixed pigments do not behave as expected, problems of identification arise. These are the cases we deal with here. A comparative study with different concentrations of two pigments (ultramarine blue and massicot) was carried out. Using our techniques for spectra analyses, it was found that, compared with the theoretical results, some Raman peaks of one pigment were not detected in most of the Raman spectra mixtures 〖M. Breitman, Análisis, Diseño e Identificación de Algoritmos para Reconocimiento de Espectros Raman. Ph.D., June 2000〗. In this work, we present the theory that when the reflection coefficient of one component is larger than the other, a contribution to the spectra of mixture may occur

Reference 143 - 0.61% Coverage

¶191: Disorder phenomena related to formation conditions of natural and synthetic spinels, both stoichiometric (MgO·Al2O3) and those exhibiting different Al/Mg ratios, are investigated by photoluminescence spectroscopy. The same approach appears to be less adequate when dealing with more complex materials, such as beryls (3BeO·Al2O3·6SiO2). On the other hand, Raman spectroscopy allows easy identification of different varieties of beryls and of their inclusions, together with that of widely used imitations. The above techniques are totally non-destructive and do not require any treatment of the samples. The apparatus developed at our laboratories allows investigation of irregularly shaped samples within a large range of sizes.

Reference 144 - 0.13% Coverage

¶192: New applications of Scanning Laser Doppler Vibrometry (SLDV) to non-destructive diagnostics of artworks: mosaics, ceramics, inlaid wood and easel painting

Reference 145 - 0.77% Coverage

¶193: The basic idea behind the proposed technique is to substitute human senses with measurement instruments: surfaces are very slightly vibrated by mechanical actuators, while a laser

Doppler vibrometer scans the objects measuring surface velocity and producing velocity amplitude and phase two-dimensional (2D) or 3D maps. Where a defect occurs velocity is higher than neighbouring areas, so defects can be easily spotted. Laser vibrometers also identify structural resonance frequencies thus leading to a complete characterisation of defects. This work will present the most recent results coming out of the application of scanning laser Doppler vibrometry (SLDV) to different types of artworks: mosaics, ceramics, inlaid wood and easel painting. Real artworks and samples realised on purpose have been studied using the proposed technique and different measuring issues resulting from each artwork category will be described.

Reference 146 - 0.10% Coverage

¶194: A novel hyper-spectral imaging apparatus for the non-destructive analysis of objects of artistic and historic value

Reference 147 - 1.23% Coverage

¶195: We have developed a computer controllable hyper-spectral imaging apparatus, capable of acquiring spectral images of 5 nm bandwidth and with 3 nm tuning step, in the spectral range 380–1000 nm. The critical component of the apparatus is the innovative imaging monochromator, which enables the tuning of the imaging wavelength. This module is coupled with a two-dimensional detector array composing a tunable wavelength camera system. Electronic controllers are employed for detector and monochromator synchronization and driving, while the system calibration, image processing and analysis are performed with the aid of specially developed software. The system records light intensity as a function of both wavelength and location. In the image domain, the data set includes a full image at each individual wavelength. In the spectroscopy domain, a fully resolved diffuse reflectance and/or fluorescence spectrum at each individual pixel can be recorded. The developed spatially resolved spectral acquisition system is ideal for the non-destructive analysis of heterogeneous materials such as objects of artistic and historic value. Experimental studies show its potential in assisting the identification and mapping of painting materials in situ. Furthermore, it was shown that it enables the recovery of erased–overwritten scripts in old manuscripts and the determination of proper spectral bands for the on-line monitoring of laser and non-laser cleaning procedures.

Reference 148 - 0.11% Coverage

¶196: Laser cleaning of inorganic encrustation on excavated objects: evaluation of the cleaning result by means of multi-spectral imaging

Reference 149 - 0.59% Coverage

¶197: the removal of inorganic encrustations from excavated marble objects. The use of laser radiation was compared with established cleaning methods (micro-air abrasive, ultrasound pick, etc.) and proved to be the most desirable method as it preserves the authentic surface relief. In order to choose the best parameters for laser cleaning, additional tests were performed to compare the effect of ultraviolet and infrared Q-switched pulses. The results were evaluated by means of multi-spectral imaging. It has been proven that such an imaging system can give significant information

regarding the cleaning result and therefore highlights the potential for the in situ assessment of the laser cleaning process.

Reference 150 - 0.06% Coverage

¶198: Low-cost sensor system for online monitoring during laser cleaning

Reference 151 - 1.26% Coverage

¶199: The self-limiting effect during laser cleaning only occurs in a limited amount of specific applications in restoration (e.g. removal of black crust from white marble). In all the other cases, a control of the removal process will be necessary either by the operator himself or by the employment of sensor equipment. Various methods, mainly spectroscopic (e.g. LIBS), have been investigated and proposed by others. Despite the fact that these have been shown to be promising, they all have in common rather high investment cost close to that of the cleaning equipment. Furthermore, this highly sophisticated control equipment is not easy to handle by conservators in practice. As an alternative low-cost method, we employed a simple photodiode to detect the scattered light from the irradiation area on the artwork surface. In many cases, this signal contains several pieces of information on the layer just being removed. The scattered radiation detected by the photodiode originates from the laser-induced plasma as well as reflected laser radiation. A separation, if necessary in order to separate the information, is possible by spectral filters. First applications during laser cleaning of corroded metal, encrusted glass and stone were promising. It has turned out that there is a distinct influence on the scattered light amplitude or even the pulse-bandwidth once the laser has removed the encrustation completely. The corresponding signal can be used in a closed loop control or for online monitoring.

Reference 152 - 0.07% Coverage

¶200: Structural evaluation of restoration processes with holographic diagnostic inspection

Reference 153 - 1.46% Coverage

¶201: Implementation of laser technology in art conservation has resulted in an increased consideration of intervention restoration processes. Skepticism is raised regarding the side effects of interactions that could induce either short- or long-term irreversible physical alterations. Herein, an integrated laser-optic module based on the principles of holographic interferometry (HI) has been developed to study existent structural condition and probable alterations. The experimental procedure involved allows repeatable data acquisition in long-term monitoring. The tested system and methodology overcome a fragmented structural approach imposed in art conservation diagnostics by existing instruments and practices, and a full field response offering a detailed source of information is obtained. The controlled procedures by which interference fringes are formed by laser cleaned surfaces permit their long-term comparison. The results urged studies on the fundamental mechanical behavior of defects. Thus, the high resolution of HI recording was used to study the dynamics of deterioration by detecting the potential of existing defects' natural propagation, which for the first time is described here. The study can form the basis to distinguish natural from artificially induced alterations. Comparative evaluation during conventional

conservation consolidation processes was performed on an early El Greco painting which resulted in a direct evaluation of the restoration action. The results thus far were acquired in laboratory facilities. A custom-developed system was next transported to the museum floor and a significant outcome of on-field holography complementing established structural conservation diagnostics was accomplished.

Reference 154 - 0.09% Coverage

¶202: A novel approach for high selective micro-sampling of organic painting materials by Er:YAG laser ablation

Reference 155 - 0.73% Coverage

¶203: A new approach for sampling micro-amounts of mainly organic materials from thin layers of a painting is described. A pulsed Er:YAG laser system operating at 2.94 μm was used for collecting ablate materials. The experimental ablation conditions optimised on reference paint layer samples resulted in using laser energy lower than 20 mJ at 15 pulses/s (pps) assisted by water/ethanol mixtures. The ablate materials condensed on glass coverslips were characterised by Fourier transformed infrared spectrometry (FT-IR) and gas chromatography-mass spectrometry (GC-MS) procedures. The results showed that the laser energy did not significantly degrade the ablate organic material collected which can be successfully identified. The procedure, tested and calibrated on reference paint layer specimens, was applied for the sampling and characterisation of two old paintings.

Reference 156 - 0.02% Coverage

¶204: Application of laser welding

Reference 157 - 0.09% Coverage

¶205: We report what to our knowledge is the first application of laser welding in the conservation of artworks.

Reference 158 - 0.19% Coverage

¶205: The reconstruction of the ostensory has been carried out by using a long pulse Nd:YAG laser equipped with a stereomicroscope for precise control of the operations, which allowed welding spots of a few hundreds of microns.

Reference 159 - 0.04% Coverage

¶206: The laser recording and virtual restoration

Reference 160 - 0.23% Coverage

¶207: By using the technique of 3D laser scanning, we have recorded the surface of the sculpture to sub-millimetre detail. The scanned data can then be used to generate a computer model of the sculpture that then acts as a framework onto which surface colour and texture may be added.

Reference 161 - 0.20% Coverage

¶207: By taking non-destructive surface colour measurements and by examining the layer structure of minute paint samples under magnification, it is proving possible to build a clear idea of how the sculpture may have appeared in previous centuries.

<Internals\\JCH 2004 Abstracts> - § 59 references coded [41.86% Coverage]

Reference 1 - 1.23% Coverage

¶5: by means of an algorithm and some statistical mathematical analyses. For the first time this issue shows the analytical procedure of this algorithm. The algorithm is part of a wider-ranging method in which data coming from historical, historico-architectural, archeological and building-technical analyses, is considered in a repetitive and interdisciplinary way. The method has been tested on some medieval monuments of Southern Italy. The tests have revealed criteria and fields of application for the method itself, of which the aim is to provide information that helps to establish dates for monuments or parts of them.

¶6:

Reference 2 - 0.15% Coverage

¶7: During this process, archaeometric research was carried out on the decorations

Reference 3 - 0.68% Coverage

¶15: The study of materials consisted in the identification of the pigments and binding media, as well as the base mortars. Conventional analysis methods were used: optical microscopy, scanning electron microscopy (SEM), and chromatographic methods (gas chromatography, GC and high-pressure liquid chromatography, HPLC) and X-ray diffraction (XRD).

Reference 4 - 0.72% Coverage

¶17: GPR surveys were very useful in evaluating the state of conservation of the facade and in identifying the thickness of its walls, the forms and deterioration of its masonry with its ashlar facing and rubble core, and the forms and locations of its middle cornice supports. GPR was demonstrated to be an ideal non-destructive method to investigate ancient structures

Reference 5 - 2.66% Coverage

¶20: The recovery of biodeteriorated books and archive documents through gamma radiation: some considerations on the results achieved

¶21: In this review, we have recalled the main test stages carried out, aimed at receiving the authorization for ionizing radiation treatment for deteriorated books and archive documents, as a

physical means for their recovery from the most important biodeteriorating agents. The first radiobiological tests were carried out on the efficiency of the treatment against insects and micro-organisms; after, we carried out other tests to identify any damage caused by radiation to the constitutive material of books (i.e. cellulose and paper) and to the printing inks that could endanger the mechanical and physical properties of this material during the following conservation period, or even to facilitate the attack of the harmful deteriorating agents or strengthen their harmfulness. The whole field evidence leads to state that gamma radiation treatment, if carried out using the correct doses needed for the recovery of the material, does not cause any contra-indication for the material itself. A responsible cost–benefit analysis of the action indicates that the use of this treatment is a valuable option compared to the chemical substances used so far, which have proven to be toxic and harmful for men and environment.

Reference 6 - 1.06% Coverage

¶22: Research aims: The present work [describes and] summarizes the experimental research performed by the author on the effects of gamma radiation on organisms that damage books: insects and microscopic fungi (molds). Paying particular attention to the depolymerization of cellulose, the author investigated whether and to what extent this undesirable collateral effect of irradiation on the principal structural component of books represents a real obstacle to the introduction of a promising technology for sanitizing of infested material.

Reference 7 - 0.16% Coverage

¶23: Applications of infrared thermography for the investigation of historic structures

Reference 8 - 0.38% Coverage

¶24: This paper contains an overview of infrared thermography and its applications relating to the investigation of historic structures. In particular, this state of the art, non-destructive technique

Reference 9 - 1.32% Coverage

¶24: Non-destructive testing and evaluation was performed on the materials and structures in order to assess the physicochemical behaviour of conservation treatments such as stone cleaning, stone consolidation, repair mortars, as well as to disclose any substrate features, such as tesserae on plastered mosaic surfaces. Wherever necessary, the emissivity values of the investigated materials were taken into account, after their determination in the laboratory on representative samples. The outcome of this work provides strong evidence that infrared thermography is an effective technique for the evaluation of historic buildings and sites.

¶25: A short note on Egyptian blue

Reference 10 - 1.25% Coverage

¶26: We studied first the feasibility of the reaction synthesis of EB in molten alkaline carbonates; then we changed to “solid phase” syntheses, comparing the yields according to the proportion of the various components. In molten carbonates azurite was produced, which turned to malachite at room

temperature. Three “dry ways” were performed: the stoichiometric one, with Na2CO3 as a flux, the Schippa and Torraca recipe, and a “Bolognese” method, which uses NaHCO3 as a flux. Good results in colour and yields were obtained with the Schippa and Torraca recipe, with the stoichiometric molar ratio and with the “Bolognese method” at 860 °C.

Reference 11 - 0.35% Coverage

¶30: A detailed mineralogical and petro-physical characterization was carried out on Campanian Ignimbrite (CI) formation, a volcaniclastic rock widespread over the Campania region.

Reference 12 - 2.45% Coverage

¶30: As expected, CI in its different facies resulted the most common building stone, also affected by severe weathering such as lacks, alveolization and biological patinae, decay forms likely related to the high textural heterogeneity of the rock. Mineralogical and petro-physical characterization allowed to distinguish, within the investigated outcrop area, three different facies: dark, light and earthy grey tuff (DGT, LGT and EGT, respectively). Differences in mineralogical data mainly consist in the presence of clay minerals in the EGT facies only. K-feldspar always occurs in very high amounts (80–90%). As far as geomechanical parameters are concerned, the most pronounced differences are recorded in water absorption capacity, ultrasonic velocities and UCS values. These tests evidenced a substantial homogeneity of DGT and LGT facies and an overall worse behavior of EGT. Tests performed on CI samples from both monuments and outcrops gave similar results. This evidence strengthened the former hypothesis of a location of CI historical quarrying sites close to Casertavecchia. The only exception is the tuff used for the Mastio of the castle, whose chemical features are definitely referable to a different volcaniclastic formation.

Reference 13 - 2.31% Coverage

¶36: A large variety of pictorial models capable of simulating the ancient polychromes of wall paintings and paintings on mobile supports has been prepared and aged by appropriate procedures under different climatic conditions, such as exposure to UV radiation or chemical pollutants (i.e. NOx, SOx). A comparison of the physicochemical properties of these models, particularly concerning their material components, with those resulting from the ageing procedures revealed significant differences that can be used as possible “decay markers”. Micro-FT-IR, NIR, UV–vis, SEM-EDS, XRD and, where possible, Mössbauer spectroscopy have been used in order to identify surface and/or bulk variations in the physicochemical properties of the samples prepared. Decay markers have been found for aged models containing linseed oil, copper resinate, lead white and zinc white. Moreover, interactions between organic and inorganic components have been revealed. The data obtained have been evaluated also by comparison with the results obtained by other techniques, albeit complementary, (i.e. GC–MS, XPS) on the same pictorial models, within an inter- and multi-disciplinary collaboration.

Reference 14 - 0.11% Coverage

¶37: by the combined use of PIXE and XRF portable systems

¶38:

Reference 15 - 0.51% Coverage

¶38: PIXE and XRF portable systems have been used to determine the matrix composition and the trace-elements, respectively. The results indicate that the arsenic is present as trace-element only after 1520.

¶39: Study of tin corrosion: the influence of alloying elements

Reference 16 - 1.66% Coverage

¶40: A set of authentic objects was investigated using optical microscopy (OM) and scanning electron microscopy with energy dispersive X-ray detection (SEM-EDX). The goal existed in acquiring information on the appearance of the corroded surfaces and the chemical composition of the alloys. The analyses made it possible to obtain an overview of typical corrosion forms seen on ancient tin objects. In order to study the influence of the alloying elements and corrosive agents on the corrosion behaviour, a simulation study was set up in which five ancient alike tin alloys were produced and artificially corroded by using different corrosive agents. The corroded surfaces were analysed using OM, SEM-EDX and Fourier transform infrared spectroscopy (FTIR) and the results were compared with those obtained from the authentic samples.

¶41: CFD modeling

Reference 17 - 0.14% Coverage

¶42: A work was carried out to simulate the virtual microclimate conditions

Reference 18 - 0.44% Coverage

¶42: A computational fluid dynamic (CFD) code based on the finite volumes method solved all the equations needed to predict the detailed temperature and humidity distribution as well as the air movement in each part of the Hall

Reference 19 - 0.47% Coverage

¶48: Indoor and outdoor atmospheres of the ‘Koninklijk Museum voor Schone Kunsten’ (KMSK, Royal Museum of Fine Arts) in Antwerp, Belgium, were thoroughly characterised to determine the air quality inside the museum and the factors controlling it

Reference 20 - 2.77% Coverage

¶48: During a winter and a summer campaign aerosol particles, pollutant gases, bacteria and fungi were sampled and different indoors microclimatic parameters were measured. The chemical composition of particulates suspended in indoor and outdoor air was analysed, both with reference to bulk aerosol matter and to individual particles. Outdoor sources largely determined the composition of indoor aerosol. The main particle types identified in winter were Ca-rich, Ca–Si and sea salt particles. In summer, S-rich particles were most abundant. Dry deposition was sampled in order to determine the amount of particulate matter that could potentially deposit onto the works

of art. The concentrations of NO2 and SO2 amounted to 12 and 5–6 ppb, respectively, both in winter and in the summer. The microclimates inside the exhibition rooms were affected by poorly balanced heating and air-conditioning, free-standing humidifiers, ventilating and lighting systems and the daily flux of visitors, which produced rapid changes and marked thermo-hygrometric gradients. Based on these results, suggestions for the improvement of the heating and air-conditioning system could be made. Microbial loads were higher in summer than in winter. However, the proportion of microorganisms capable of degrading proteins or hydrolysing fats, and thus pernicious to works of art, was not significantly increased inside the museum.

Reference 21 - 0.17% Coverage

¶49: Identification of binding media in works of art by gas chromatography–mass spectrometry

Reference 22 - 0.74% Coverage

¶50: This work presents a compilation of analytical procedures based on gas chromatography–mass spectrometry identification, which allow the determination of most of the binding media used in works of art, such as oils, wax, paraffin wax, lac resin, terpenic resins, glues and polysaccharides. The study of commercial products was done to determine markers for each binding media.

Reference 23 - 0.13% Coverage

¶51: Analysis and identification by paramagnetic resonance spectroscopy

Reference 24 - 0.07% Coverage

¶56: a non-invasive NMR study of paper

Reference 25 - 1.06% Coverage

¶57: A new portable nuclear magnetic resonance (NMR) device allows in situ non-invasive investigation of paper in order to examine some aspects of the microscopic healthy state of documents of historical and artistic interest. The apparatus has a NMR surface probe, which permits to perform most of the NMR relaxometric measurements on objects of almost every size and shape. It uses non-ionizing radio frequency electromagnetic waves and is easily transportable without hazard for people or environment. Some results obtained with this device

Reference 26 - 0.30% Coverage

¶57: The NMR results provide indications about the spread of the deterioration process of the paper and of the corrosion effect caused by the iron-gall ink.

Reference 27 - 0.44% Coverage

¶61: This paper presents the results of a joint research aimed at collecting technical information through an historical survey and studying the results of the scientific examinations carried out on the paint samples collected

Reference 28 - 0.60% Coverage

¶61: Optical microscopy of the cross-sections, scanning electron microscopy coupled with energy-dispersive X-ray analysis (SEM-EDX), X-ray diffraction as well as pyrolysis-gas chromatography–mass spectrometry have been used to both characterise the inorganic pigments composition and the binding media used.

Reference 29 - 1.21% Coverage

¶61: The analytical results showed that the materials composition and technique used to plaster the wooden surface are in good agreement with the information gathered through the historical survey. In fact, clay, lime, siccative oil, probably tung oil and fabrics' strips are the main plaster components. At the same time the plaster represents the priming material for the painted decorations whose pigments composition, indicates that they are both original and applied on the occasion of a past restoration procedure carried out in the XVIII century even though the binding medium used follows the ancient tradition.

Reference 30 - 0.27% Coverage

¶62: Integrated digital photography and image processing for the quantification of colouration on soiled limestone surfaces in Oxford, England

Reference 31 - 2.17% Coverage

¶63: An integrated digital photography and image processing (IDIP) method has recently been developed and is presented here. This method enables cheap and reproducible measurements of lightness and chroma, using the L*a*b scheme, across a range of sample sizes. Of notable advantage is its allowance for areal rather than point sampling of surfaces. The IDIP method has been tested on limestone sensors which have been exposed between 1 and 5 years in the city centre of Oxford, England as part of a bigger project and for which spectrophotometric data are also available. Mean values of L*a*b derived from digital images using Adobe Photoshop were compared with similar data collected using an X-Rite SP68 sphere spectrophotometer. The IDIP method produces less variable data than the spectrophotometer, and there is good correlation between the two methods for lightness values. Chroma measurements using IDIP are less reliable than those collected using spectrophotometry. Both methods indicate that soiling of the exposure tablets increases dramatically over 5 years, with notable increase after 4 years.

Reference 32 - 0.27% Coverage

¶65: The use of computers together with image synthesis techniques can support the visual analysis and comparison of restoration simulation.

Reference 33 - 0.31% Coverage

¶65: The enhanced interaction with high quality images of the model through the Java application, allows a visual qualitative evaluation of restoration hypotheses.

Reference 34 - 0.27% Coverage

¶69: focused on the analysis of some metallic materials (lead cames and iron supporting elements) from Spanish Medieval stained glass windows

Reference 35 - 0.28% Coverage

¶69: The main goal of the research was to assess their current state of conservation by studying processes of decay and corrosion due to weathering.

Reference 36 - 0.42% Coverage

¶69: The samples were characterised through metallographic examinations, conventional wet chemical analysis, scanning electron microscopy (SEM), energy dispersive X-ray microanalyses (EDX), and X-ray diffraction (XRD)

Reference 37 - 0.52% Coverage

¶69: The degree of deterioration has proved to be stronger in iron elements than in lead ones, providing data that are useful for future restoration and conservation of such historical materials and for approaching technological aspects of ancient production processes.

Reference 38 - 0.19% Coverage

¶70: A case study: characterisation of blue panels of the xvi century with micro-analytical techniques

Reference 39 - 1.06% Coverage

¶72: First of all, the rock has been petrographically and geochemically characterised: based on the field and laboratory observations, the pyroclastic rock forming the “Tomba della Sirena” can be considered as belonging to the “Sovana Formation” in the Vulsinian complex (Roman Comagmatic Province). Afterwards, geomechanical investigations (inventory of the rock discontinuities, sampling and laboratory testing and back analysis) have been undertaken in order to understand the failure mechanisms and the preparatory and triggering factors.

Reference 40 - 0.26% Coverage

¶76: a study of painting materials and technique by SEM-EDS microscopy, X-ray diffraction, micro FT-IR and photoluminescence spectroscopy

Reference 41 - 0.28% Coverage

¶77: have been investigated by optical and SEM-EDS microscopy, X-ray powder diffraction, micro FT-IR, photoluminescence and Mössbauer spectroscopy

Reference 42 - 0.40% Coverage

¶77: Smalt was found to have an anomalous discoloration, while the ultramarine blue pictorial layers were studied in order to understand the nature of the employed pigment (natural or artificial) and binders.

Reference 43 - 1.53% Coverage

¶77: Micro FT-IR and photoluminescence spectroscopies were particularly successful in the identification of the nature of this pigment, helping us in assessing whether the blue painting layers are original or not. These techniques applied to a series of ultramarine blue samples of well-known provenance, allowed us to propose specific markers. Micro FT-IR spectroscopy, applied directly to the sampled powders and fragments or to their solvent-soluble fractions, could be a fast and easy technique for the identification of organic binders, coatings and adhesives. Specific infrared bands can be used to identify the employed materials and/or as decay markers, rendering easier therefore a more appropriate description of the state of conservation of the investigated paintings.

¶78:
Reference 44 - 0.40% Coverage

¶78: Microanalysis and characterisation of technique

¶79: The pigments, organic materials and techniques used on a post-Byzantine icon of St Nicholas were determined by means of several micro-analytical techniques.

Reference 45 - 0.24% Coverage

¶79: FTIR spectroscopy has identified another layer, 30–60 μm thick, of the same material applied as a primer above the silver

Reference 46 - 0.45% Coverage

¶79: The colour palette, determined by means of scanning electron microscopy and FTIR spectroscopy, is very simple. Only seven colours were identified: lead white, caput mortuum, red and yellow ochre, cinnabar, carbon black and smalt.

Reference 47 - 1.76% Coverage

¶81: The purpose of this study was to determine the susceptibility of the commonly used coating Incralac to biodeterioration by microorganisms. A yeast was isolated from a bronze statue treated with Incralac and its ability to degrade Incralac was determined using growth curves, scanning electron microscopy (SEM), and electrochemical impedance spectroscopy (EIS). The organism grew slowly on Incralac in liquid culture, but SEM images demonstrated its ability to adhere to Incralac

coated metal. Additionally, the yeast caused a rapid drop in the low frequency impedance of Incralac coated metal that was not observed under sterile conditions, indicating that the organism accelerated deterioration of the coating. The potential for microbial growth to accelerate deterioration of Incralac should be considered when developing a maintenance strategy for the protection of outdoor metal monuments.

Reference 48 - 0.20% Coverage

¶82: Elemental analyses by laser induced breakdown spectroscopy as restoration test on a piece of ordnance

Reference 49 - 0.15% Coverage

¶83: Laser induced breakdown spectroscopy was used to investigate the composition

Reference 50 - 0.66% Coverage

¶83: Optical emission spectra of the laser-induced plasma from the surface of the piece of ordnance were recorded before and after its restoration. The metal alloy of the gun was determined through the identification of characteristic atomic emissions and confirmed through microanalysis carried out by energy dispersion X-ray spectroscopy.

Reference 51 - 0.30% Coverage

¶83: Performed elemental analyses confirmed that laser induced breakdown spectroscopy is a useful diagnostic tool to test the restoration degree of artworks.

¶84:
Reference 52 - 0.15% Coverage

¶85: describes the numerical techniques implemented in the finite-element code NOSA

Reference 53 - 0.41% Coverage

¶85: The displacement and stress fields, as well as the distribution of cracking have been calculated with NOSA, and the numerical results analysed and compared to the actual distribution of fractures in the tower.

Reference 54 - 0.16% Coverage

¶88: A color image segmentation method as used in the study of ancient monument decay

Reference 55 - 1.42% Coverage

¶89: In this paper, a color image segmentation approach, based on histogram threshold and edge detection techniques is presented, to extract degradation regions, characterized by holes or cavities,

from color images of stone-materials. The goal is to provide an aid to the decay diagnosis by segmenting degraded regions from color images, computing quantitative data, such as the area and perimeter of the extracted zones, and processing qualitative information, such as various levels of depth detected into the same zones. Since color is a powerful tool in the distinction between objects, a segmentation technique based on color, instead of intensity only, has been used to provide a clearer discrimination between regions

Reference 56 - 0.22% Coverage

¶89: In particular, we have processed and analyzed some color images of the theatre puddingstones, acquired by a camera

Reference 57 - 0.18% Coverage

¶90: Radiation background due to radioactivity in palaces and museums: influence on TL/OSL dating

Reference 58 - 1.24% Coverage

¶91: The environmental radiation level is unknown for objects that have been in collections for decades or centuries. We have performed dose rate measurements in museums representative of ancient castles and palaces. Annual dose rates between 0.3 and 1.3 mGy/year have been measured. There is a correlation between annual rates and the materials close to the dosimeters. The dating of objects by luminescence (TL and OSL) requires accurate knowledge of the dose rate in the minerals under investigation. An estimation of the errors on ages can be deduced from our measurements for typical situations of works of art and museum objects.

Reference 59 - 0.12% Coverage

¶92: for the control of biodeterioration in archaeological hypogea

¶93:
<Internals\\JCH 2005 abstracts> - § 53 references coded [34.07% Coverage]

Reference 1 - 0.12% Coverage

¶6: Analysis, diagnosis of the state of conservation and restoration

Reference 2 - 0.14% Coverage

¶7: using magnetic susceptibility, and petrographic and chemical parameters

¶8:
Reference 3 - 0.24% Coverage

¶9: Study on the technique of the Roman age mural paintings by micro-XRF with Polycapillary Conic Collimator and micro-Raman analyses

Reference 4 - 0.09% Coverage

¶10: XRF and micro-Raman stratigraphic microanalyses

Reference 5 - 0.13% Coverage

¶11: Integrated methods for analysis of deterioration of cultural heritage

Reference 6 - 0.45% Coverage

¶12: In this paper we propose a study of the problem of deterioration, covering different aspects and disciplines, with the aim to put in evidence parameters and information that can be carried out following different and complementary surveys.

Reference 7 - 0.27% Coverage

¶12: We outline non-destructive, different biological and physical (microclimatic and Ground Penetrating Radar) techniques to investigate these damages

Reference 8 - 0.45% Coverage

¶24: were investigated by means of cross-sections, optical microscopy, scanning electron microscopy with energy dispersive X-ray analysis (SEM-EDS), Fourier-Transform Infrared (FTIR) spectroscopy and gas chromatography–mass spectrometry (GC/MS)

Reference 9 - 1.54% Coverage

¶24: The bas-reliefs showed the presence of ancient paint (probably original) laid directly onto the marble's surface. The peculiar painting technique employing paint layers made of gypsum, egg, and pigments (the palette consisting in different ochres, green earth, and vermilion), was pointed out. In particular, on the lintel and capital, the presence of glue was detected, which could be interpreted as an original pre-treatment of the marble substrate. Evidence for a later maintenance operation of repainting was also found, consisting of layers made with azurite, barite, gypsum, lead white, and nut oil. The analytical findings are put in context with published results on coeval Cathedrals, looking at the obtained data from the point of view of a general survey of painting techniques applied on stone materials.

Reference 10 - 0.12% Coverage

¶27: Analysis, diagnosis of the state of conservation and restoration

Reference 11 - 0.14% Coverage

¶29: results derived from a chemico-physical characterisation study undertaken

Reference 12 - 0.46% Coverage

¶29: Selected samples from these materials were characterised through optical microscopy (OM), X-ray fluorescence (XRF), scanning electron microscopy (SEM), energy dispersive X-ray microanalysis (EDX), VIS spectrophotometry, and X-ray diffraction (XRD)

Reference 13 - 0.20% Coverage

¶29: Resulting data have been useful to design and optimise a combined conservation and restoration strategy

Reference 14 - 0.71% Coverage

¶31: A comprehensive laboratory characterization of the different parts of the statue has been performed: X-ray radiography to evidence the mode of casting of the statue itself, of the assembled parts as the arms and the wig and of the base; analyses by non-destructive ion beam techniques on the particle accelerator AGLAE of the various inlays present on the statue and on the base.

Reference 15 - 0.26% Coverage

¶32: Detecting and mapping detachments in mural paintings by non-invasive acoustic technique: measurements in antique sites in Rome and Florence

Reference 16 - 0.53% Coverage

¶33: A novel non-invasive acoustic technique displays in acoustic images the presence of surface anomalies such as detachments and fractures. A set of laboratory tests were carried out, employing artificially-made models of detachments, in order to validate the novel acoustic method,

Reference 17 - 0.86% Coverage

¶35: Recent research has led to the development of a computer program Environmental Control of Salts (ECOS), which utilises a thermodynamic model to predict which solid minerals will exist in equilibrium at any given temperature and relative humidity, given the ionic composition of the contaminating salts. This, in turn, permits the prediction of the range of ambient relative humidity under which the salt-contaminated object is less at risk of salt damage.

Reference 18 - 0.22% Coverage

¶36: This paper discusses the application of the ECOS program to provide an insight into the salt deterioration problems

Reference 19 - 1.29% Coverage

¶36: The work was realised through a combined process of sampling and analysis, condition assessment and documentation, and environmental monitoring. Analytical data were input into the ECOS program to obtain predictions for the phase transition behaviour of the salts present. By

drawing together the different investigative strands of the project, the source of significant discrepancies between observed and predicted salt behaviour was identified. Once this had been addressed, the resulting thermodynamic calculations not only correlated well with the in situ observations and recordings, but also offered a plausible explanation for the dynamic deterioration processes taking place.

Reference 20 - 0.15% Coverage

¶39: experimental measurements in an old Italian museum and proposal of a methodology

Reference 21 - 1.15% Coverage

¶40: This paper describes some results from an experiment carried out regarding a procedure to be adopted for temperature and R.H. monitoring of indoor spaces designed for exhibiting events, such as museums and similar institutions. The monitored data employed in this study has been collected by the Department di Ricerche Energetiche ed Ambientali of the Università degli Studi di Palermo in co-operation with the Regional Gallery ''Palazzo Abatellis'' of Palermo. The study analyses a simple method for characterising the environmental quality of museums so as to ensure the optimal conservation of works of art

Reference 22 - 1.03% Coverage

¶40: This methodology is based on the procedure (where thermal and hygrometry parameters are concerned) proposed by an Italian standard rule. A new technique, firstly applied to the industrial environment, based on the passive reactive monitoring of proper coupons is also proposed for monitoring air quality in museums. The methodology adopted, has been applied to two survey campaigns which were carried out at a distance of 5 years. This shows the two aspects of thermal-hygrometry and levels of indoor air quality aimed at preserving works of art.

Reference 23 - 0.24% Coverage

¶41: Identification of pigments used on late 17th century Albanian icons by total reflection X-ray fluorescence and Raman microscopy

Reference 24 - 0.36% Coverage

¶42: have been identified. The analysis was carried out to establish whether the same pigments were used on all the icons and whether this information could form a basis for future restorations.

Reference 25 - 0.46% Coverage

¶42: Total reflection X-ray fluorescence (TXRF) and Raman microscopy (RM) were both used to identify the pigments and the combination of techniques minimised the number and amount of samples which needed to be taken from each icon for the analyses

Reference 26 - 0.12% Coverage

¶53: Analysis, diagnosis of the state of conservation and restoration

Reference 27 - 0.32% Coverage

¶59: The main purpose of this work is to characterise from the petrographical, mineralogical and chemical point of view the mixture utilised to produce the artificial stone used

Reference 28 - 1.26% Coverage

¶59: with a particular care to the characterisation of the binder used for its realisation. The analytical results show that all the mortars are characterised by a binder with a granular aspect and low birefringence. The aggregate is made by a silicatic sand and the binder/aggregate ratio is between 1/1 and 1/3. In some samples the presence of larnite, a calcium silicate often presents in the hydraulic mortars, and brownmillerite was surveyed. The thermal analysis of the binders allows to classify the four materials as hydraulic mortars. Mineralogical and petrographical differences were evidenced between the mortars laid in mould and those laid directly in the façades.

Reference 29 - 0.24% Coverage

¶60: Study and synthesis of organic precursors for salt treatments developed to protect and strengthen building materials and “frescos”

Reference 30 - 1.62% Coverage

¶61: An attempt to find out possible ways to synthesise sulphates and oxalates, to be utilised for strengthening and consolidating limestone and “frescos” surfaces was made. Particularly organic sulphates were prepared and tested for their reactivity with barium salts, trying to obtain slow sulphates hydrolysis and, so, BaSO4 precipitation. Different solutions were applied on Opificio delle Pietre Dure's standards using different methodologies and applications times. The characterisation of chemical interactions between carbonaceous bodies and solutions was done by X-ray diffraction (XRPD), Fourier transformed infrared spectroscopy (FT/IR), scanning electron microscopy (SEM-EDS). The synthesis of organic sulphates resulted not difficult and the solutions are very easy to use. More difficult was oxalate synthesis. The application results are promising.

Reference 31 - 0.14% Coverage

¶62: Protective coating for paper: new development and analytical characterization

Reference 32 - 0.64% Coverage

¶63: A novel modified “sol–gel” method based on the carboxylate-alumoxanes has been developed for the fabrication of coatings for the protection of degradation of paper. Two types of paper chosen for study: the filter paper (Whatman) and particulate matter from the several pages of ancient manuscript at Lithuanian National M. Mazvydas Library.

Reference 33 - 1.31% Coverage

¶63: All paper samples used in this study were coated by hexanato-alumoxane. The obtained hexanato-alumoxane was dissolved in CHCl3, and paper specimens were treated in hexanato-alumoxane solution. The filter paper samples were artificially aged at different conditions. All the filter paper samples (untreated, impregnated with hexanato-alumoxane and treated-uncoated) were examined by SEM. The hexanato-alumoxane treated and treated-uncoated paper samples were visually indistinguishable from their untreated equivalents. Analytical characterization of hexanato-alumoxane coated and treated-uncoated of particulate matter from the ancient manuscript showed no degradation of its cellulosic substrate.

Reference 34 - 0.18% Coverage

¶64: Calcium carbonate binding mechanisms in the setting of calcium and calcium–magnesium putty-limes

Reference 35 - 2.89% Coverage

¶65: Calcium and calcium magnesium putty-limes (C-L and C-M-L) were characterized, through SEM, Porosimeter and Chemical Analysis, to obtain information on the microstructure of their solid-phases. Irregular agglomerates of portlandite grains and large acicular crystallites of brucite are differently interconnected to form a cellular solid matrix dispersed into the saturated aqueous solution of the hydroxides. The setting of these putty-limes was followed also in a thermobalance with a thermostatic chamber designed to keep the temperature in the range 15–30 °C. The tests were done at a constant humidity of 80%, under isothermal conditions, and a wet and carbonated N2 flux with 1% of CO2 was added. The microstructure of the final samples was characterized by the usual methods of investigation at micro–macro scale. Drying kinetics and the related shrinkage processes were discussed on the basis of a modified Kelvin equation, which predicts for the C-L lime putty a larger shrinkage (50.3%) than for C-M-L (35.5%). The binding mechanisms of the calcium carbonate in the strengthening of the putty-lime systems is due to the interconnected texture formed by the calcium carbonate fine crystallites formed during the precipitation process. The scientific reasons for this microstructure evolution have been discussed and explained on the basis of experimental data and theory, leading to a better understanding of the complex relationships between drying, shrinkage and the chemical processes occurring in the setting of putty-lime.

Reference 36 - 0.57% Coverage

¶69: It is increasingly the case that assessments of large salt deteriorated objects, such as wall paintings, involve sampling and analysis to determine the object's salt content. However, the usefulness of this is somewhat compromised by the fact that the salt distribution within the object is apt to change.

Reference 37 - 0.48% Coverage

¶69: presents a new approach to salt sampling, using statistical and experimental design techniques to determine the degree to which analytical results are potentially affected by factors such as the sampling location and prevailing environmental conditions.

Reference 38 - 0.43% Coverage

¶70: Analysis of variance (ANOVA) techniques were applied to the sampling data, and conclusively demonstrated that the salt content of the wall paintings varied significantly, not only with location, but also with depth, and over time

Reference 39 - 0.47% Coverage

¶72: On this basis and by means of a specific software, quantitative evaluations of lithotypes were obtained. The research evidenced that the use of different natural stones was conditioned by their availability and their different petro-physical features.

Reference 40 - 0.12% Coverage

¶74: Analysis, diagnosis of the state of conservation and restoration

Reference 41 - 0.16% Coverage

¶75: An ionic conductivity-based methodology for monitoring salt systems in monument stones

Reference 42 - 1.15% Coverage

¶76: Unlike metallic corrosion, though, for which there is an array of electrochemical techniques available for real-time surveillance, the intrinsic non-conductive nature of geomaterials (electronic conductivity) has so far prevented the development of an on-line monitoring of stone decay based on electrical signals—by far the most convenient in terms of acquisition/processing. This article presents the rationale behind a proposed methodology for following the behaviour of soluble salts within an actual geomaterial through conductivity measurements, and the corresponding evaluation for an important limestone

Reference 43 - 1.90% Coverage

¶76: This particular limestone thus appears as an obvious choice for an experimental substratum which the behaviour of soluble salts percolating multiphase, heterogeneous, porous materials could be monitored from. Ionic conductivity measurements were performed upon samples of “Pedra de Ançã” treated with NaCl or KCl aqueous solutions in different concentrations, and conducted under closed conditions relative to water and salt transfer, or under near-closed conditions relative to water transfer. Even if an attenuation of ionic conductivity figures induced by the overall stone-matrix composition and the geometry of the porous-network was apparent, it has been possible to monitor the onset and development of the crystallisation process inside the stone in real-time mode, and in an almost non-destructive way. Moreover, the present methodology allows an estimation of

the quantity of (hygroscopic) soluble salts inside the stone, and an eventual automation for surveillance routines within specified limits.

Reference 44 - 0.86% Coverage

¶78: was investigated by integrated physical–chemical and analytical methodologies in order to obtain scientific data capable of elucidating the state of conservation and the painting technique. Optical (OM) and electronic (SEM-EDS) microscopy, micro-FT-IR spectroscopy, gas chromatography–mass spectrometry (GC–MS) and pyrolysis GC–MS were applied on two microfragments and some organic samples obtained by solvent extraction using the swab cleaning technique.

Reference 45 - 2.12% Coverage

¶78: The obtained results indicated that Caravaggio probably reused an old shield as a previous gypsum preparation layer has been detected under the original painting layers. He used white lead, natural earths, verdigris and lead–tin yellow type I mixed with drying oils to paint. The considerable amount of amorphous particles of copper chlorides found in the green pigment verdigris suggests that it could have been produced according to the ancient recipe of verde salsum described by Theophilus. Mordant gilding has been identified on the upper part of the shield that can be related to an abandoned experiment to give the painting a mirror-like reflecting effect. Three different varnishes layers have been detected above the painted surface. The original and restoration varnishes have been identified and they contain a mixture of drying oil, mastic and turpentine and some beeswax. Cleaning tests, performed with different organic solvents, suggest the use of isopropyl alcohol as cleaning agent because it is less efficient in comparison to others solvents; thus it ensures a careful and controlled removal of the varnishes.

Reference 46 - 0.03% Coverage

¶83: Laser cleaning

Reference 47 - 1.78% Coverage

¶84: A simultaneous laboratory study performed on a representative sample helped to identify the optimum laser conditions to remove the dark soiling layer produced by air pollution. It was found that irradiation at 1064 nm with a Q-switched Nd:YAG laser was more effective than the harmonic wavelengths of 532 or 266 nm. LIBS and Raman microscopy gave information on the composition of terracotta and identified the presence of a protective layer made of gypsum and calcite. As detected by Raman spectroscopy, laser irradiation caused the elimination of the carbon component of the soiling layer and the appearance of an anhydrite component in the laser irradiated gypsum layer applied over the terracotta substrate for protective purposes. Local heating of the surface caused by laser irradiation at 1064 nm, the laser wavelength used for restoration of the portal, might be responsible for a process of partial dehydration of gypsum into anhydrite.

Reference 48 - 0.12% Coverage

¶85: integration of art-historical analysis with imaging spectroscopy

Reference 49 - 0.34% Coverage

¶86: Due to the extreme fragility of paper-based artefacts, few techniques are available for scientific investigation and characterisation of ancient drawings or paper-based artefacts

Reference 50 - 0.33% Coverage

¶86: Image reflectance spectroscopy represents an almost unique tool for scientific analysis on precious drawings, for which even micro-invasive techniques of analysis cannot be used

Reference 51 - 1.17% Coverage

¶86: Non-invasive measurements of image spectroscopy (IS) have been employed to support the work of art-historians in the critical re-examination and interpretation of the graphical work of the artist. The multispectral analysis has been carried out over the extended spectral region (400–1700 nm), in order to provide simultaneous indications both on the pictorial materials and on possibly underlying hatches. The data processing has been performed by means of Principal Component Analysis (PCA) and the elaboration of each case has been addressed to specifically respond to questions related to the art-historical problem

Reference 52 - 1.64% Coverage

¶94: The study of the samples involved the identification of the pigments, additive materials and organic binding media. The study was performed using various analytical methods such as polarising microscopy (PLM), scanning electron microscopy equipped with energy dispersive X-ray analyser (SEM-EDX), inductively-coupled plasma (ICP-AES), X-ray diffraction (XRD) and Fourier-transform infrared spectroscopy (FTIR). These complementary analytical techniques provide precise identification of inorganic and organic substances used in the pastes. The results indicated that the red pigment is mainly obtained from red ochre containing hematite, whereas amorphous carbon (bone black and charcoal) was used to obtain the black colour. Both samples contain calcium sulphate, which was used to give some hardness to the pastes. Beeswax was used as an organic medium in both pastes

Reference 53 - 0.09% Coverage

¶95: “Alkoxysilanes and the consolidation of stone”.

<Internals\\JCH 2006 Abstracts> - § 65 references coded [55.90% Coverage]

Reference 1 - 0.12% Coverage

¶3: Analysis, diagnosis of the state of conservation and restoration

Reference 2 - 0.82% Coverage

¶5: It is evidenced that authentication requires a global approach based on the investigation of the metallic materials–patina–close environment system. On this basis the complex relationships between alloys, alteration (patinas) and environment (soil…) are successively pointed out, and investigation of the consequence of decuprification (as a global phenomenon of bronze corrosion), taking into account the coupled interactions, is discussed

Reference 3 - 0.23% Coverage

¶5: A methodological approach is finally proposed, in which many improvements requiring further research could be integrated.

¶6:
Reference 4 - 0.27% Coverage

¶10: Spectroscopic ellipsometry as a tool for the optical characterization and ageing studies of varnishes used in Post-Byzantine icon reconstructions

Reference 5 - 2.29% Coverage

¶11: Although several analytical chemistry techniques have been used in the field, information on the optical properties of picture varnishes is not extended. Most of the optical measurements on picture varnish refractive indexes, have been done by the immersion method (at 589 nm) while ageing studies are usually based on UV-Visible transmission curves. The aim of this paper is to present the potential of spectroscopic ellipsometry as a powerful tool in picture varnish studies. The main advantage of the technique is that it can measure refractive index, absorption coefficient and varnish thickness at the same time. Furthermore, it gives more reproducible and accurate results than traditional optical techniques, since relative instead of absolute values are measured. It is also very sensitive to surface roughness and thickness inhomogeneity. That is why it is more effective on Christian icons, which traditionally have very flat paint surfaces. Several examples on the application of the technique on fresh natural and synthetic varnishes (dammar, mastic and egg white, rosin and Paraloid B72) are presented in this work, showing the potential of the technique on varnish characterisation and alteration due to ageing.

Reference 6 - 0.25% Coverage

¶12: Mechanical response of wooden boards subjected to humidity step variations: climatic chamber measurements and fitted mathematical models

Reference 7 - 4.97% Coverage

¶13: This paper describes selected results from a research focused on the behaviour of wooden boards, simulating the supports of panel paintings, subjected to cyclic humidity variations. It describes the mechanical response of two boards made of Poplar (Populus alba) wood, 400 × 400 × 40 mm (longitudinal × transversal × thickness), assumed to behave as “structural replicas” of true panel paintings, subjected to step variations of air humidity under controlled conditions. One of the two boards was free to deform, and its cupping was monitored; the other was prevented from deforming, and the forces it exerted against its constraints were also monitored by means of an

expressly developed measuring apparatus, named monitoring cross beam (MCB). Free deformations of a third “dummy” board, smaller in size, were also monitored. Instantaneous values of forces and deformations, together with temperature and relative humidity of the controlled microenvironment, were monitored at 15 min intervals, and stored in a data logging system. Several adsorption–desorption cycles were carried out in a climatic chamber, keeping T = 30 °C and imposing RH step variations between approximately 35 and 50 and 65%. During some cycles both faces of the boards were free to exchange moisture with the environment, during other cycles one face was waterproofed, to simulate paint layers. Each cycle lasted approximately 3 months, in order to reach constant equilibrium moisture content throughout the whole thickness of the boards; in total, the tests lasted over 2 years. In response to each step variation of RH, both forces and deformations showed the same kind of response: 1) with both faces free, response was asymptotic, reaching final state after approximately 2–3 months; 2) with one face waterproofed, the asymmetrical moisture gradients produced—in addition to asymptotic ones—transient responses as well, culminating in about 15 days and fading out after about 6 months. Descriptive models of the board’s mechanical behaviour were developed by fitting experimental data to the following general exponential equation, made by the sum of a “short period” and a “long period” component: Parameters p1 to p6 were computed for all cycles. Although the time required to reach equilibrium to the new steady humidity conditions in the reported tests lasted approximately 3 months, very fast responses to hygrometric disturbances were also detected, lasting hours, or even minutes. Further analysis of the collected data needs to be performed, based on the constitutive equations of the involved phenomena, namely moisture diffusion and mechano-sorptive behaviour of wood.

Reference 8 - 0.10% Coverage

¶15: Biomediated reinforcement of weathered calcareous stones

Reference 9 - 1.76% Coverage

¶16: a new conservation treatment for the reinforcement of weathered monumental calcareous stones and sculptures, based on bioremediation application, is validated both in laboratory and in a field test site. It is necessary that the reinforcement is achieved without the introduction of material that would irreversibly change the work of art being conserved. To achieve this, calcite crystals are grown in the porous the stone to bridge across the pore and reinforce. Natural and synthetic polypeptides are used to control the crystal growth within the pores. Calcium and carbonate ions for crystal growth are supplied by a saturated solution of calcium bicarbonate, supplemented in some cases by calcite nanoparticles, to maintain a saturated carbonate solution, over a prolonged period, in the pore. Delivery of the protein, calcium ions and nanoparticles into the pores is achieved using a fine spray and the natural capillarity of the stone.

Reference 10 - 2.31% Coverage

¶18: The sampling program included decayed granitic stones (to study the characteristic of salt pollution affecting the stones), soils between pavement slabs and lime mortar joints (considering that these media constitute passive and cumulative indicators of salt-pollution sources and conditions). Results of water-soluble extracts indicate geochemical patterns with height that support the importance of capillary-rising pollution and which indicate that erosive-decay features affecting granitic stones occur associated with a range of total salt load and with diverse ionic compositions in

a single monument. Distribution of stone erosive-decay features and geochemical characteristics of water-soluble extracts of decayed building stones, lime mortar joints and soils also indicate that cycles of capillary-rising contamination and drying of stones are predominant factors in the development of erosive decay features that affect the granitic stones, favouring salt fractionation with height and surface concentration of soluble salts. These processes are especially active in the walls (particularly in the portals), which are more exposed to cycles of capillary rise of solutions (namely, by rainwater accumulation near the walls).

Reference 11 - 0.18% Coverage

¶19: Use of pyrolysis-gas chromatography/mass spectrometry to characterise binding media and protectives

Reference 12 - 0.62% Coverage

¶20: In order to characterise the organic material (original or added in restoring procedures) we employed pyrolysis-gas chromatography/mass spectrometry (Py-GC/MS). The analytical results reveal the presence of the original materials, such as natural gums and animal glues, together with industrial products, such as synthetic germicides.

Reference 13 - 0.43% Coverage

¶22: Hence, a new device, named “dew point sensor”, was built and patented to protect the stained glass windows by detecting the condensation on the glass surface. The research was focused on laboratory tests and experimental campaigns

Reference 14 - 0.95% Coverage

¶22: Three different systems were used to detect the phenomenon of condensation in order to evaluate and compare their accuracy and reliability: the indirect measurement through mathematic calculations using air temperature and relative humidity, and two direct measurements by means of the dew point and the leaf wetness sensors. The laboratory tests and research in the field made evident the errors associated with the measurements of the condensation process, and the accuracy and reliability of the new device

Reference 15 - 0.29% Coverage

¶25: Evaluating the salt content of salt-contaminated samples on the basis of their hygroscopic behavior. Part I: Fundamentals, scope and accuracy of the method

Reference 16 - 1.49% Coverage

¶26: The hygroscopic moisture content (HMC) method for determining the salt content of salt-contaminated samples is described and discussed on a theoretical basis. It is shown that the method may allow either an absolute or a relative (quantitative or qualitative) measurement of the salt content, in the case of samples contaminated with salts of known or unknown thermodynamic

properties. Possible criteria for detecting the appropriate end-moment of the test are discussed. It is demonstrated that the accuracy of the HMC method strongly depends on the capability of the climatic chamber for maintaining homogeneous and stable environmental conditions. Acceptability of the error associated to HMC measurements depends on the specific purposes of the test and, thus, requires a case-by-case evaluation.

Reference 17 - 0.08% Coverage

¶27: Information, technology in Cultural Heritage

Reference 18 - 0.15% Coverage

¶28: Computer-aided monitoring of buildings of historical importance based on color

Reference 19 - 1.41% Coverage

¶29: an application of image processing tools in the field of cultural heritage. The proposed strategy allows us to improve and make semi-automatic the study of chemical decay causing visible changes in color of some regions. So, it is possible to semi-automatically detect the regions corrupted by a specific kind of decay from a color image showing the degraded surface of a building of historical importance. The decay will be indicated by the expert via mouse clicks on the image under study. The second phase of the proposed framework consists of selecting a subset of the regions achieved in the first one. The number of regions in the subset is selected by the expert. The remaining operations are automatically performed via an optimization approach.

Reference 20 - 0.53% Coverage

¶29: The final result will be a map of points on the surface from which extracting a bit of material to study in depth via chemical laboratory tests. We outline the potentialities of the proposed non-invasive technique, oriented to avoid some drawbacks of the classical “naked-eye” approach.

Reference 21 - 0.08% Coverage

¶29: Experimental results, achieved on some images

Reference 22 - 0.06% Coverage

¶29: will be presented and discussed.

¶30:

Reference 23 - 0.18% Coverage

¶33: New treatment methodologies for the restoration and protection of movable and unmovable artefacts

Reference 24 - 0.23% Coverage

¶34: Nanotechnology in cultural heritage conservation: nanometric slaked lime saves architectonic and artistic surfaces from decay

Reference 25 - 2.19% Coverage

¶35: The aim of this study was to evaluate the effectiveness of inorganic compatible treatments, based on nanosized particles of calcium hydroxide (slaked lime) dispersed in alcoholic medium, as consolidants for limestones and painted surfaces affected by different kinds of decay. Both in situ and laboratory tests were carried out on carbonatic, low-porosity stones and on frescoes. The re-aggregating effects of the deposited phase were investigated by superficial area analyses (BET) and SEM-EDX; it was also possible to obtain an estimation of the depth of penetration of the product inside the porous matrix by adopting nanoparticles of magnesium hydroxide as markers. Changes in water-interaction properties were evaluated by water absorption capillarity measurements. The consolidating action of the applied material was also pointed out by observations performed in grazing light on treated areas of painted surfaces. All the results converged in individuating these nanometric particles of slaked lime as an innovative, completely compatible, and efficient material for the consolidation of artistic (lime-based wall paintings) and architectural (limestones) surfaces.

Reference 26 - 0.12% Coverage

¶36: Analysis, diagnosis of the state of conservation and restoration

Reference 27 - 1.77% Coverage

¶38: The present research shows that it is possible to obtain, from mercury porosimetry, suction curves useful to describe how and how fast two touching porous materials exchange water. Suction curves correlate the mass water content with the capillary suction pressure, such a comparison making it possible to know, by means of a potential scale similar to temperatures, the water exchange possibilities between layers and also, through their first derivatives, the transfer velocity according to the saturation degree of initial and final materials. On the basis of these curves a hypothesis on the possible role played by the technological complexity of historical plasters as described in ancient treatises is put forward. A comparison between the suction properties of plaster sheets realised as ancient plasters, show that the stratification and the complexity may be a regulating system to prevent water penetration from the wall and the exterior.

Reference 28 - 0.31% Coverage

¶39: Characterisation of compounds emitted during natural and artificial ageing of a book. Use of headspace-solid-phase microextraction/gas chromatography/mass spectrometry

Reference 29 - 2.21% Coverage

¶40: An optimised headspace-solid-phase microextraction (HS-SPME) coupled with a gas chromatography/mass spectrometry (GC/MS) method has been applied to the analysis of volatile organic compounds (VOCs) emitted from a groundwood pulp book naturally and artificially aged. In

order to assess the potentiality of HS-SPME for accessing the compounds produced during the degradation of paper, two different accelerated ageing treatments were applied on an early 20th century book. First, a dry heat ageing was used. Then, the humidity level was increased to take into consideration the role of the hydrolysis reactions in the degradation of paper. The influence of these parameters (temperature and relative humidity) on the reaction products characterized was evaluated separately and discussed. This HS-SPME/GC/MS method associated with accelerated ageing enabled the characterisation of 36 VOCs of which four—furfural, 5-methyl furfural, vanillin and guaiacol—can be considered as relevant carbohydrates and lignin degradation compounds. Their relative abundance has been followed during ageing treatments in order to evaluate their potential role as lignocellulosic degradation markers.

Reference 30 - 0.88% Coverage

¶41: HS-SPME/GC/MS appears to be a suitable method for investigating volatile compounds emitted by an old book, and for distinguishing some relevant degradation compounds. Moreover, the method allowed us to monitor their relative abundance. It would now be worthwhile trying to detect these four relevant compounds in naturally aged books using a non-destructive microextraction method and, likewise to suggest a new approach to evaluate the state of deterioration of old books.

Reference 31 - 0.03% Coverage

¶42: EDXRF analysis

Reference 32 - 0.10% Coverage

¶43: EDXRF analyses of cobalt-blue pigments were performed

Reference 33 - 0.87% Coverage

¶43: The comparison between EDXRF spectra from coloured and non-coloured areas contains information about the pigment composition. Elements like Mn, Fe, Co, Ni, Cu, Zn and As are identified as characteristic of blue pigments; different associations of these elements were found and correlated with the chronology of the samples. The results can be used for identifying the different types of cobalt ores employed in the manufacture of blue pigments and their provenance.

Reference 34 - 0.45% Coverage

¶45: The study was performed with optical microscopy, XRF and INAA analyses. Petrochemical features substantiate the provenance from the aforementioned volcanic areas and furthermore provides indications for the origin of investigated samples.

¶46:
Reference 35 - 0.12% Coverage

¶50: Analysis, diagnosis of the state of conservation and restoration

Reference 36 - 2.11% Coverage

¶52: A mathematical model for vacuum freeze-drying of waterlogged and PEG impregnated wooden objects has been developed. The model is based on basic physical laws for heat and mass transfer in vacuum and porous objects. The heat transfer to the object is considered to be radiation and the drying to take place as an ice front retreating parallel to the surface of the object. The model was used to determine the heat and water vapour transfer coefficient for waterlogged oak, birch and balsa wood, and for frozen aqueous solutions of PEG 4000. Based on the aforementioned data, theoretical transfer coefficients for PEG treated wood were derived. A numerical model based on linear drying in finite time intervals was developed. The model, which has as its output the position of the ice front, surface and ice temperatures, was found to predict vacuum freeze-drying processes in waterlogged wood and PEG with excellent accuracy. The model can be used as a tool for development of freeze-drying equipment especially designed for waterlogged archaeological wooden objects and for new and less resource demanding freeze-drying procedures.

Reference 37 - 0.85% Coverage

¶54: Colour measurements have been performed on outdoor bronze patinas and protective coating systems with a portable spectrophotometer. Colour difference reduction upon patinas cleaning on a monument is monitored. Colour differences upon natural weathering measured on coatings applied to bronze coupons show they are mainly due to the decrease in lightness L*. Application of colour measurement in support to outdoor bronze monument conservation is discussed.

Reference 38 - 0.18% Coverage

¶55: Mineralogical and petrographic study of materials, painting techniques and state of conservation

Reference 39 - 1.28% Coverage

¶56: Scientific research was carried out to acquire detailed information to provide technical and philological support to the current restoration. This paper deals with the mineralogical and petrographic characterization of the materials, as well as inferences about the painting techniques (suitable reference specimens were prepared for this purpose) and the state of conservation of the wall paintings. The study is primarily based on analyses of microfragments in thin cross-sections by means of a polarising microscope equipped for observations in transmitted and reflected light; XRD, SEM-EDS and Micro-Raman spectroscopy were also used to confirm and supplement the microscopic data.

Reference 40 - 1.62% Coverage

¶56: Two main types of plasters were observed: lime plaster and lime plaster with cocciopesto. In the first type plant fibres are locally present. The paint film is often multilayered. Thirteen pigments were identified, all of them used in the original paintings or, at most, in repaintings before the middle of the fourteenth century. Two pigments, crocoite and chrysocolla, have never been found before in medieval wall paintings. The finding of crocoite (very probably of natural origin) is of particular historical-scientific importance. The most typical microstratigraphies in the main figurative elements are illustrated. The painting techniques used are fresco (including the variant lime fresco

painting), tempera and lime painting, very often combined in the paint film. The distinguishing petrographic features of each technique are described and illustrated.

Reference 41 - 0.36% Coverage

¶56: Referenced digital mapping of the preservation status was carried out for the major scenes using a Geographic Information System (GIS), which allowed adequate processing of the entire data set.

Reference 42 - 0.26% Coverage

¶57: Image analysis and flatbed scanners. A visual procedure in order to study the macro-porosity of the archaeological and historical mortars

Reference 43 - 0.24% Coverage

¶58: This paper describes a low cost method that allows to identify, map and quantify the macro-porosity (Ø ≥ 1/16 mm) of mortar samples

Reference 44 - 1.18% Coverage

¶58: A specific tool connected to flatbed scanner has been devised for this purpose: it makes possible to acquire images of thin sections through transmitted polarised light. These images can then be elaborated by an ordinary image analysis software programs in order to extrapolate the required information. The technique can be used on mortars which have been buried underground for a considerable period of time (archaeological mortars) or on mortars exposed to sub-aerial weathering (historical mortars). In this way, carbonatic binder dissolution phenomena, and the consequent porosity increase, can be verified and studied in detail.

Reference 45 - 0.29% Coverage

¶59: Evaluating the salt content of salt-contaminated samples on the basis of their hygroscopic behaviour: Part II: experiments with nine common soluble salts

Reference 46 - 2.23% Coverage

¶60: This article concerns experimental research carried out in order to test the applicability of the hygroscopic moisture content (HMC) method to determine the salt content in lime-mortar and ceramic brick samples contaminated with nine distinct soluble salts (NaCl, KCl, Na2SO4, K2SO4, NaNO3, KNO3, Na2CO3, K2CO3 and CaSO4.2H2O). It was verified that the nature of the base-materials does not influence the results. For the salts with RHeq below the RH of the testing environment, excellent linear correlations between HMC and salt content were obtained. However, in the case of Na2SO4, several non-equilibrium situations occurred, indicating that the HMC method should not be “blindly” applied to samples contaminated with this salt. It was also shown that the use of deep narrow receptacles may delay the dissolution process but also that, with shallow receptacles, it may be more difficult to reach stabilization of the masses of samples due to the inevitable fluctuation of the climatic parameters in the climatic chamber. A complementary HMC

experiment on NaCl and on Na2SO4 corroborates the thesis that states that mirabilite can not normally be formed by direct hydration of thenardite.

¶61:
Reference 47 - 1.14% Coverage

¶62: This work presents a physical analysis of the process of grain detachment at microscopic level. It is suggested here that the impact of solid particles on the surface may be used as the basis on which to construct a method to measure the mechanical strength of surfaces, also in relation to the assessment in quantitative terms of the performance of consolidants currently used in the conservation sector. The experiments showed that the approach was effective in discriminating the different parameters used in the test (diameter of impacting particles, position of surface, operational pressure of nozzle).

Reference 48 - 0.08% Coverage

¶66: Information technology in cultural heritage

Reference 49 - 0.10% Coverage

¶67: Beyond manual drafting: a restoration-oriented system

Reference 50 - 1.62% Coverage

¶68: In this paper we present a computer-aided methodology to produce technical drawings of CH artifacts. A pre-requisite of our methodology is the acquisition of an accurate digital 3D model of the artifact, which is now possible at affordable costs using 3D scanning technology. We discuss the specific needs that a drafting system oriented to the CH domain should satisfy and we present the design, features and performances of a computer-aided drafting system, called Cavalieri. Cavalieri allows to manage the huge digital models produced with 3D scanning devices and supports easy specification of orthographic drawings and cut-through sections, which are given in output as very high-resolution images (with user-selected reproduction scale and printer resolution). We conclude with some results of Cavalieri's assessment in the framework of two restoration projects.

Reference 51 - 0.12% Coverage

¶70: Analysis, diagnosis of the state of conservation and restoration

Reference 52 - 0.25% Coverage

¶71: Development of a mild method for the extraction of anthraquinones from their aluminum complexes in madder lakes prior to HPLC analysis

Reference 53 - 2.05% Coverage

¶72: A mild extraction approach using HF, a weak acid but a strong aluminum-complexing agent, was investigated as an alternative to usual methods such as treatment by strong acid solutions (HCl or

H2SO4) at high temperature, or methylation by BF3 in MeOH, for the extraction of alizarin and other colorants from their aluminum complexes in madder lakes. HF and HCl extractions were tested on a series of home-made lake powders. HF allowed the recovery of components such as pseudopurpurin, munjistin and glycoside precursors, all of which were partially or totally hydrolyzed when HCl method is used. Furthermore the amount of alizarin recovered was often higher with HF. These improvements are mainly due to the complexation of aluminum by fluoride ions, which allows the extraction of the colorants from the lakes (conveniently accompanied by a visible color change), at pH > 1 and at room temperature. Applied to a micro-sample of 19th century lake powder, HF extraction revealed the presence of many colorant glycosidic precursors, which would have been undetectable by using the strong acid methods.

Reference 54 - 0.23% Coverage

¶73: Water dispersed polymers for textile conservation: a molecular, thermal, structural, mechanical and optical characterisation

Reference 55 - 3.08% Coverage

¶74: With the aim of identifying new water dispersed polymers for textile conservation, the structure and properties of three commercial polyacrylates and one commercial polyvinylacetate were analysed. The characteristics of these materials, not previously used in the conservation and restoration fields, were compared with that shown by Primal AC33 and Mowilith DMC2 and SDM5, widely used as consolidating or adhesive agents of ancient textiles. To achieve a thorough characterisation of each polymer, molecular, thermal, structural and mechanical investigation techniques were applied on film samples, obtained from polymer water dispersions through water casting at room temperature and/or compression moulding. The photo-oxidative resistance of these materials was also assessed by artificial weathering of water cast films and by measuring the Yellowing Index (YI) as a function of the exposure time under xenon-arc lamp. Collected data were used to appropriately compare the performances shown by these polymers when applied on artefacts consisting of natural fibres. In particular it was found that, among the products not previously used in the conservation and restoration fields, a high potential for carrying out treatments on textiles is shown by the samples commercialised with the trade names of Acrilem RP6005 and Acrilem 30WA. These products, in fact, exhibit properties that make them suitable as substitutes for Primal AC33 and Mowilith DMC2 and SDM5, respectively, depending upon conservation needs. It was very interesting to note that Acrilem 30WA, also after aging, shows YI values lower than that shown by Mowilith DMC2 and SDM5.

Reference 56 - 0.17% Coverage

¶77: How wet are these walls? Testing a novel technique for measuring moisture in ruined walls

Reference 57 - 1.89% Coverage

¶78: Two methods of moisture measurement were used, i.e. a novel adaptation of 2D electrical resistivity surveys and the well-established wooden dowel method. Medical ECG electrodes were utilised to provide a completely non-destructive resistivity measurement. At Hailes Abbey wooden

dowel and 2D resistivity measurements were made of soft capped vs. uncapped wall sections. The wooden dowels showed drier conditions in the core of the capped sections, although the resistivity surveys were influenced by a different stone structure in the wall core. At Byland Abbey, resistivity surveys indicated drier stone blocks and wetter mortar in the near-surface zone, and illustrated the success of the soft-capping technique in reducing water contents in the core of the wall in comparison with hard-capping with mortar. The 2D resistivity technique is shown to be a useful and fast non-destructive technique with the capacity to provide good spatial and temporal resolution information on moisture distribution in walls.

Reference 58 - 0.19% Coverage

¶79: Deacidification of paper using dispersions of Ca(OH)2 nanoparticles in isopropanol. Study of efficiency

Reference 59 - 2.08% Coverage

¶80: The efficiency of a recently described non-aqueous method for paper deacidification using Ca(OH)2 nanoparticles in isopropanol was evaluated by pH and colorimetric measurements and by the analysis of the degree of polymerization (DP). Samples of plain paper and paper with iron gall ink were tested. The results were compared with non treated samples and samples submitted to the traditional treatment with saturated aqueous Ca(OH)2 solution. By comparing the two conservation methods, the aqueous one shows higher neutralization reaction kinetics than the non-aqueous one. The iron gall ink samples maintain their coloration closer to the original after the non-aqueous Ca(OH)2 nanoparticles treatment, in contrary to the aqueous treatment that changes the ink aesthetics considerably. Artificial aging tests revealed a general increase in the aging stability of deacidified paper samples. The Ca(OH)2 nanoparticles treatment can be an alternative for papers who can not be treated by the classical aqueous treatment, e.g. papers with water soluble components.

¶81: Diagnostic analysis of the lesions and stability

Reference 60 - 0.56% Coverage

¶82: authors present the results of the Finite Elements Method (FEM) tests conducted on the digital model of the statue's surface. The analysis of these results made it possible to identify the static conditions that generated the cracks in the lower part of the left leg and in the tree trunk of the David.

Reference 61 - 0.08% Coverage

¶87: Information technology in cultural heritage

Reference 62 - 0.26% Coverage

¶94: Non-destructive identification of inorganic pigments used in 16–17th century Albanian icons by total reflection X-ray fluorescence analysis

Reference 63 - 0.19% Coverage

¶95: The application of total reflection X-ray fluorescence (TXRF) to the analysis of inorganic pigments used

Reference 64 - 1.13% Coverage

¶95: After removing the protective varnish with a solvent, a dry cotton-wool bud (Q-tip) was rubbed over the painted surface to collect the micro-samples. Samples, covering the main colors and their hues, were collected of each icon. A part of the small amount of the sample was transferred to a glass carrier and analyzed by TXRF. Main types of inorganic pigments used for different colors could be identified. The results indicate a palette which included white lead, calcium white, gold, orpiment, yellow and red ochre, vermilion, red lead; a cooper based green pigment (malachite or verdigris) and smalt.

Reference 65 - 1.19% Coverage

¶99: In this paper different existing methods of graphic and metric documentation are analysed in order to select the most suitable for the documentation of agro-industrial buildings according to their characteristics. The selected one is a simple close-range photogrammetry method, which is affordable and easy to understand for non experts. It is based on the use of plumb lines, a conventional digital camera and monoscopic restitution. The application of the method is illustrated in a particular case consisting on the graphic and metric documentation of a windmill. Also the accuracy of the method is evaluated in this particular case.

<Internals\\JCH 2007 Abstracts> - § 87 references coded [52.86% Coverage]

Reference 1 - 0.15% Coverage

¶3: Particle-modified consolidants: A study on the effect of particles on sol–gel properties and consolidation effectiveness

Reference 2 - 0.99% Coverage

¶4: we have performed a systematic characterization of sol and gel properties for particle-modified silica consolidants filled with titania (TiO2-PMC), alumina (Al2O3-PMC), and silica (SiO2-PMC) particles. Viscosity of the sol is not increased much by loading with particles, especially for TiO2-PMC and SiO2-PMC. Composites show a strong reduction of silicate network shrinkage. Also, the incorporation of oxide particles into the matrix increases the elastic modulus while decreasing the thermal expansion. In agreement with the improvement of bulk gel properties, we observed better performance of PMCs against unfilled silicate upon consolidation of Ohio Massilian sandstone. Notably, the sulfate crystallization test has less effect on PMC-treated than on silica-treated samples

Reference 3 - 0.24% Coverage

¶6: Two methods were applied for the analysis of aerosol samples collected inside and outside the churches: energy dispersive X-ray fluorescence analysis and electron probe X-ray microanalysis

Reference 4 - 0.07% Coverage

¶7: A physico-chemical diagnosis of the pictorial cycle

¶8:
Reference 5 - 0.11% Coverage

¶8: has been investigated by optical and SEM-EDS microscopy and microFT-IR spectroscopy.

Reference 6 - 0.85% Coverage

¶8: Paint layers, gildings and other metallic decorations have been analysed to elucidate the execution technique, the state of conservation and the possible retouchings in consequence of deterioration processes. Organic binders, coatings and adhesives have been also identified especially by microFT-IR spectroscopy applied directly to the sampled powders or fragments and to their solvent–soluble fractions. The obtained data offer a correct and satisfactory knowledge of the original organic and inorganic materials and those used in the subsequent retouches and restorations, their state of conservation and the painting techniques (fresco, mezzo fresco and secco).

Reference 7 - 0.52% Coverage

¶9: The physico-chemical investigations allowed to identify the nature and sometimes the provenance of the employed materials (i.e. ultramarine blue pigments) and some decay markers, particularly useful in understanding and describing the cycle realised by the authors and the modifications suffered along the centuries, and also to propose an integrated methodology for the scientific study of the mural paintings.

Reference 8 - 1.62% Coverage

¶14: The complex notion of compatibility is here decomposed into simpler and workable parameters called “compatibility indicators”, similarly to what other disciplines call as “performance indicators” or “environmental indicators” [European Environment Agency, Environmental benchmarking – from concept to practice, Environmental Issue report no. 20, 2001 Luxembourg, Expert group on Urban Environment, Towards a local sustainable profile: European common indicators, European Commission 2000, HQE2R – “INDI (INDicator Impact) model” – EU-project HQE2R contract EVK4-CT-2000-00025]. In order to make it possible to integrate the different parameters in the overall assessment of compatibility and to give each parameter the role that it effectively has in the final (in)compatibility, the paper proposes a system of translating the diverse quantifying units or descriptive terms into a uniform system, thus allowing the integration of components that are intrinsically inhomogeneous in nature. The translation tool is called the “rating system” and it consists of qualifying the position of a given action in a rational grading between 0 and 10, for each Compatibility Indicator, according to its potential as inducer of negative (harmful) effects for the conservation objectives

Reference 9 - 0.39% Coverage

¶15: With this rating system properly defined, it is possible to integrate the identified indicators into a quantifiable unified assessment designated as the “incompatibility degree”. Specific tables containing indicators and ratings are presented for illustrating the basic assumption of the proposed methodology.

Reference 10 - 1.66% Coverage

¶16: Analysis of calcium acetate efflorescences formed on ceramic tiles in a museum environment

¶17: Salt crystallization is a major cause of damage in porous materials such as stone, brick and ceramics. The paper reports results of an analytical study on tiles of glazed ceramics that are seriously damaged by acetate salt crystallization. Measurements of the ionic composition of the salt mixture in the tiles and in the efflorescences were carried out. Based on the available information on the phase equilibria in the system comprising of the main constituents chloride, nitrate, acetate, calcium and sodium, the crystallization pathways of the various solid phases are traced. It is shown that a combination of qualitative XRD analysis of the phases present in the efflorescences together with a quantitative determination of the ionic composition is sufficient for the quantitative analysis of major crystalline species in the efflorescences, i.e. Ca3(CH3COO)3Cl(NO3)2 · 7H2O, thecotrichite, and NaCl, halite. The concentrations of these salts are obtained from a solution of the mass balance by least squares analysis. Their formation from the salt mixtures present in the tiles that are subject to acetic acid vapor attack is consistent with the solubility diagram of the above mentioned quinary system

Reference 11 - 0.06% Coverage

¶20: Composition and technology of historical stuccoes

Reference 12 - 0.45% Coverage

¶21: to study the binder and the working techniques. Three types of mixtures based on calcite and magnesite, on calcite, magnesite and gypsum and finally only on calcite were detected. The presence of magnesite in stuccoworks brings up questions about the employment of this substance, probably added to modify the workability and the aspect of the stuccoes.

Reference 13 - 0.24% Coverage

¶23: the first occurrence of the combined use of lead and tin yellow type I and type II identified on the same paint layer. The two forms have been identified by Raman microscopy on a green layer

Reference 14 - 0.12% Coverage

¶24: Assessment of synthetic polymeric coatings for the protection and preservation of stone monuments

Reference 15 - 0.65% Coverage

¶25: The performance of five synthetic coatings for the protection of stone monuments of Hellenistic and Byzantine period has been evaluated. The selected coatings included four commercially available siloxane-, siloxane/acrylic- and perfluoroether-based compositions, as well as a new composition based on newly synthesized fluoro-organosilane. The coatings were applied onto petrologically different stone substrates, such as marble, travertine, sandstone and a newly baked brick compatible with Roman period bricks,

Reference 16 - 0.39% Coverage

¶25: The coatings' protective efficiency was investigated by measurement of water–stone contact angles, water vapor permeability, and water absorption by capillarity. The optical properties of the applied coatings were also investigated and they were also ranked with regard to their optical characteristics.

¶26:
Reference 17 - 0.11% Coverage

¶29: The paper describes the results of the geomorphological and stability studies carried out

Reference 18 - 0.06% Coverage

¶37: Methods for 3D digitization of Cultural Heritage

Reference 19 - 0.06% Coverage

¶42: A finite element model was developed to analyze

Reference 20 - 1.34% Coverage

¶42: In the structural analyses, account was taken of permanent loads (self-weight), boundary displacements increasing in time, and seasonal thermal changes. Thanks to previous topographical surveys of part of the building, to chemical and mechanical investigations, the geometry of the Basilica and the main physical properties of the materials are reasonably well defined. The geometric model does not virtually neglect any structural element and accounts for the lack of symmetries in the building. Because of the complexity of the geometric model, a simplified (linearly elastic, isotropic) constitutive law had to be assumed to keep the computing time within reasonable limits. Accordingly, the performed analyses constitute only a first step toward the understanding of the structural behavior of the Basilica, as the adopted constitutive law can only partially explain the surveyed crack pattern, which is influenced by the brittleness and the anisotropy of the constituent materials.

¶43: Analysis, Diagnosis of the State of Conservation and Restoration

Reference 21 - 0.06% Coverage

¶44: The use of nanotechnological cleaning agents

Reference 22 - 0.37% Coverage

¶45: In the present article we report a study on some sodium dodecyl sulphate/propylene carbonate based aqueous micellar solutions developed with the aim of setting up a nanotechnological cleaning system to remove naturally aged polymeric acrylic layers from the surface of the wall paintings

Reference 23 - 1.00% Coverage

¶45: Being these systems mainly composed of water (more than 70% by weight), the cleaning of the painted surface have been performed with low environmental impact, due to the small amount of the pure organic solvents used (always less than 25% by weight). Furthermore, the aqueous phase constitutes a hydrophilic barrier to the penetration of the hydrophobic acrylic materials into the porous support. Fourier Transform InfraRed spectroscopy (FTIR), Scanning Electron Microscopy coupled with Energy Dispersive X-rays analysis (SEM/EDX) and in situ capillary water adsorption measurements indicated the efficacy of this cleaning procedure. Finally, the chemical diagnostics investigation enabled to ascertain the presence of both salts (nitrates and gypsum) and the acrylic polymeric material.

Reference 24 - 0.15% Coverage

¶46: Isolation and attempts of biomolecular characterization of fungal strains associated to foxing on a 19th century book

Reference 25 - 2.65% Coverage

¶47: The brownish spots known as foxing, commonly found on old paper artefacts contain sometimes structures, which look like filamentous fungi. Attempts to grow these structures in vitro have been always unsuccessful so far. In order to study the role of these biological elements in paper decay, it is essential to identify them. This study is aimed at the identification of isolates from these brownish areas by culture-independent approaches using molecular biology techniques. The two Internal Transcribed Spacers and the 5.8 S gene (ITS1-5.8S-ITS2) from the nuclear ribosomal DNA were amplified, cloned and sequenced. Following a preliminary treatment with cellulase from Trichoderma reesei, DNA extractions were successfully achieved directly from paper samples. From 22 selected stained spots from a book dating from the 19th century, 8 extracts of genomic DNA were entirely analysed, which yielded 145 sequenced clones. No DNA could be sampled in unstained areas. Multiple alignment of the ITS sequences and comparison with reference sequences published in the NCBI database allowed to identify 14 groups of fungi belonging mainly to the following genera: Aspergillus, Bjerkandera, Chaetomium, Gloeotinia, Penicillium, Polyporus, Saccharicola, Trichoderma and Ulocladium. Some of these fungi are cellulolytic species but are not commonly found as indoor contaminant in storage rooms of graphic documents. The majority of the foxing spots exhibited sequences identified as Penicillium minioluteum. Gloeotinia temulenta occurred also frequently. Few isolates such as Aspergillus japonicus, Aspergillus oryzae, Chaetomium globosum, Penicillium citrinum, Trichoderma citrinoviride, Ulocladium chartarum and Ulocladium cucurbitae were present in only 1 or 2 clones. One of the foxing spots produced only one type of sequence

similar to both Cordyceps sinensis and Fusarium lateritium, which have identical sequences in this rDNA region. This molecular approach, simple and rapid, could provide additional data for further discussion on the origin of the phenomenon of biological foxing.

Reference 26 - 2.28% Coverage

¶49: Usually these kinds of measures have been carried out with resistance/conductivity and thermographic systems, which are all affected by weaknesses and intrinsic restrictions. Thermographic investigations are affected by temperature differences and the evaporation–cooling effect. In the case of electric measures, the signal does not originate from the water present, but from the conductivity of the water itself, which is strictly connected to the presence of ion species that can modify it significantly. Moreover, interruptions, like air gaps or fractures, cancel the signal. For both methodologies the quantitative water evaluation is difficult. Although some minerals, like iron-based ones, could disturb the NMR measure, the signal is not influenced by the presence of most common soluble salts or pollutants in the solution (such as nitrates, chlorides or sulphates) and it is only generated by the number of water molecules present in the sensitive volume. In this paper the results, obtained in the laboratory with a portable NMR device, developed within the framework of the Eureka Project E!2214-MOUSE, are shown. The encouraging results obtained in this preliminary experiment, concern mainly the investigation of stone materials that have different porosimetric features and the calibration of the instrument under different working conditions. The experiments focused on the correlation between the content of water absorbed by capillarity and the NMR signal intensity obtained by this device. Different materials have been investigated, such as calcarenite and bricks. The experimental work will define a starting platform to successfully transfer the analytical procedure from the laboratory to in situ measurements.

¶50: Application of Laser Ablation ICP-MS for characterization

Reference 27 - 0.69% Coverage

¶51: This paper presents the results of a geochemical study on obsidian fragments by Inductively Coupled Plasma Mass Spectrometry associated with Laser Ablation (LA-ICP-MS). This analytical method, almost non-destructive, has proven to be a powerful tool for “in situ” determination of trace elements, and is very useful in characterizing and determining the provenance of obsidian fragments of archeological interest. Its major advantage is that 29 trace and rare earth elements can be analysed in a very short time, without any sample manipulation.

Reference 28 - 0.21% Coverage

¶55: This study aims to analyze two-dimensional (2-D) images of stones by using mathematical tools that enable the description of the pore and solid phase distribution

Reference 29 - 1.08% Coverage

¶55: Backscattered electron scanning images obtained on thin sections of the stones were studied by using autocorrelation function analysis and chord distributions. Results showed that these mathematical tools are able to discuss, quantitatively and statistically, differences of pore and solid distributions between quarried limestones, and to discuss the degree of weathering of stones

collected from buildings. Thus, very small differences of pore and solid phase distribution between the samples studied were revealed by chord distribution analysis and autocorrelation function analysis. Resulting characteristics obtained with such an analysis are promising information for a better understanding of weathering mechanisms.

¶56: Effective biocide to prevent microbiological contamination during PEG impregnation of wet archaeological iron-wood artefacts

Reference 30 - 1.81% Coverage

¶57: A new conservation process was developed for archaeological iron-wood artefacts. Metal part protection was achieved by adding a corrosion inhibitor (Hostacor IT®) in the polyethylene glycol (PEG) soaking solutions. Nevertheless, a significant microbiological growth was observed in the baths and around the objects. From the different soaking solutions, 23 bacterial strains and 12 strains of filamentous fungi were isolated. Adding compatible biocide has been absolutely essential to allow the PEG and Hostacor IT® to be effective. Among biocides tested, Dowicide®A that contains sodium o-phenylphenate is the most efficient. As shown by electrochemical measurements (corrosion potential, intensity and polarization resistance), this biocide does not destabilize the formation of protective film created by Hostacor IT®. There is no competition of adsorption between Hostacor IT® and Dowicide®. In the presence of Dowicide®, Hostacor IT® acts more quickly and in a significant way.

¶58: At the concentration of 3000 ppm, Dowicide® is effective to protect the aqueous solutions of PEG 400+ Hostacor IT® from the development of the selected microorganisms. Adding the biocide at the beginning of the object impregnation was the most effective way to prevent bacterial and fungal growth. Tests in real conditions showed that after two months of impregnation, solutions reminded clear and no biofilm was observed around artefacts.

Reference 31 - 0.12% Coverage

¶60: Decay regions segmentation from color images of ancient monuments using fast marching method

Reference 32 - 2.14% Coverage

¶61: This work faces the problem of detecting decay zones from color images of stone materials. In Cultural Heritage, the extraction of degradation regions from images of ancient monuments represents an important step forward in studying and analyzing the state of preservation of historical buildings. Generally the decay diagnosis is provided by “naked eye” analysis done by expert scientists “walking around” the artifact and recording the conservation state of each individual element they observe. In addition to this kind of investigation, the application of an image segmentation strategy to color images of stony materials can be used in order to extract regions characterized by a visible chromatic alteration, changes in color, for example, as oxidation or concretion. This paper features a color image segmentation approach founded on the fast marching numerical method. We have applied this technique for its possibility to work locally, that is, only the contour of the region under study is processed. In addition to this method, we present a global approach, that is, the possibility to extract decay regions from the entire image; these regions are spatially disconnected but with similar colorimeter value. The main aim of the present work is to

provide a tool that helps the expert to contour the degraded regions. In this sense even if the results of the proposed procedure depend on the expert evaluation, the approach can be a contribution to improve the efficiency of the boundary detection process. The study case concerns the impressive remains of the Roman Theatre in the city of Aosta (Italy). In the image segmentation process the color space L*a*b* is utilized.

Reference 33 - 0.11% Coverage

¶65: Durability of the artificial calcium oxalate protective on two Florentine monuments

Reference 34 - 1.37% Coverage

¶66: The use of the artificial calcium oxalate treatment providing a protective patina to marble sculptures and a mural façade has been investigated. The longevity of the protective method is controlled at a distance of 3–4 years from its application on two diversely externally exposed Florentine monuments. Micro samples were analysed by optical microscopy (OM), scanning electron microscopy-energy dispersive X-ray spectrometry (SEM-EDX) and MicroRaman spectroscopy to characterize products of deterioration and the efficacy of the applied treatment.

¶67: Decay is predominately noted at a superficial level and in all cases the calcium oxalate is still present, thus the protective action of the treatment is confirmed and moreover, a consolidant effect is also considered. Both statues present fractures and cavities filled with calcium oxalate residues and various degradation products such as gypsum, lichens and pollution particles. This study contributes to ascertain that artificial calcium oxalate prevents further decay of carbonate materials in urban polluted environments

Reference 35 - 0.32% Coverage

¶69: This was the initiative to start a combined analysis of mortars by determining their physical and chemical characteristics in order to find the textural features and the alterations of the structure in order to understand their resistance to weathering.

Reference 36 - 0.36% Coverage

¶70: The paper focuses on the interrelation of findings from the above-referred examinations. The use of reactive siliceous materials in combination with lime as well as the excellent gradation of aggregates used seems to be the secrets of the good performance of the ancient mortars.

Reference 37 - 0.31% Coverage

¶79: The most frequent dating methods of wooden artefacts are briefly introduced and discussed. Each of them shows merits and shortcomings. Therefore, an integrated approach of different techniques sometimes allows overcoming specific difficulties.

Reference 38 - 0.60% Coverage

¶80: The dating of a wooden support of a precious panel painting through a detailed xylological analysis and the joint use of dendrochronological and radiocarbon dating techniques is proposed. While any single dating technique demonstrated ineffective, the simultaneous use of several approaches in the study of the artefact led to excellent results in terms of both reliability and resolution, thus contributing to the inclusion of this painting in a specific historical period

Reference 39 - 0.17% Coverage

¶80: On the basis of the performed dating, supported by the features of the panel and by a chemical-stratigraphic analysis of paint fragments,

Reference 40 - 0.08% Coverage

¶84: Analysis, diagnosis of the state of conservation and restoration

Reference 41 - 0.12% Coverage

¶85: The contribution of numerical simulation for the diagnosis of the conservation of art objects

Reference 42 - 0.85% Coverage

¶87: The purpose of this research project is to study delayed phenomena, and it lies in the evaluation of the coupled mechano-sorptive effects likely to generate a critical state which would threaten the stability and the durability of the structure. This study highlights a problem which is already very real, even though irreversible consequences may not appear until the future. This work shows the importance of taking into account the variations in relative humidity undergone by the environment in which the sphere is exposed. These changes are at the origin of increasing deformations which could soon become prejudicial to the satisfactory conservation of the object.

Reference 43 - 0.12% Coverage

¶88: Effectiveness of crystallization inhibitors in preventing salt damage in building materials

Reference 44 - 0.82% Coverage

¶89: Salt crystallization in porous materials constitutes one of the most frequent causes of decay of buildings in a wide range of environments. Up to now no definitive solution exists to limit salt crystallization damage, unless of removing either the salt or the moisture. The possibility of making the process of salt crystallization less harmful by means of crystallization inhibitors has only recently been considered. Crystallization inhibitors are known to delay nucleation and to modify the growth rate of the crystals in bulk solution, but their possible application for the prevention of salt decay in porous material is still controversial.

Reference 45 - 0.78% Coverage

¶90: The present paper reports a series of systematic investigations performed on three different materials (a limestone, a sandstone and a brick) contaminated with two types of salt (sodium chloride and sodium sulphate) and two types of inhibitors (sodium-ferrocyanide and diethylenetriaminepentakis methylphosphonic acid). Drying experiments have been performed to study the effect of the inhibitors on the salt solution transport. Accelerated crystallization experiments have investigated the possible consequences of the application of the inhibitor on salt crystallization damage (quantified as material loss).

Reference 46 - 0.21% Coverage

¶91: Environmental Scanning Electron Microscope (ESEM) has been used to study how the presence of inhibitors affects the crystallization morphology of salt in the material.

Reference 47 - 0.67% Coverage

¶92: The results show that the effect of the inhibitor strongly depends on the type of substrate. NaFeC, when applied on NaCl contaminated limestone and brick was able to enhance the drying and to favour the appearance of efflorescences, whereas the effect on the sandstone was very limited. DTPMP enhanced the drying of Na2SO4 laden sandstone, but had no influence on the drying of both brick and limestone. These different have been attributed to the properties of the materials, in particular pore size distribution and composition.

Reference 48 - 0.26% Coverage

¶93: The effects of the inhibitor on salt crystallization damage were less evident: no differences in surface damage, quantified as material loss, were observed between specimens with and without inhibitor.

Reference 49 - 0.10% Coverage

¶94: A novel diagnostic tool for non-invasive in situ diagnosis

¶95: Experimental data

Reference 50 - 0.70% Coverage

¶95: The chromophores were identified non-invasively in situ by means of a spectro-analyser equipped with optical fibres. The novelty of the method consists in the use of the external solar light as a lighting source so as to increase the signal to noise ratio. Moreover, data on the chemical composition of the glasses and their alteration products, which were obtained from small fragments, are reported. Finally, a hypothesis about the origin of a colour change from blue to purple inside a pane is put forward on the basis of the spectroscopic results.

Reference 51 - 0.05% Coverage

¶96: On-site Raman identification and dating

Reference 52 - 0.15% Coverage

¶97: The experimental procedures and most important conclusions of the first on-site Raman study of the stained glass windows

Reference 53 - 1.07% Coverage

¶97: Measurements were performed with a new portable Raman instrument on colourless, blue and green stained glasses. We illustrate how the Raman signature of the glass makes it possible to distinguish between medieval K/Ca or 19th century restored Na/Ca-based silicates and to determine their weathering degree. This is achieved by means of the extraction of vibrational parameters and then processing them, using chemometric approaches, principal components and cluster variation analyses with varying degrees of complexity. The Raman scattering intensity of weathered glasses is used to determine their relative age. The results differ from those presented in the Corpus Vitrearum Medii Aevi (obtained by visual inspection) and therefore demonstrate the need for updating these reports with modern methods such as in situ Raman spectroscopy.

Reference 54 - 0.15% Coverage

¶101: Comparison of hot-air and low-radiant pew heating systems on the distribution and transport of gaseous air pollutants

Reference 55 - 0.15% Coverage

¶102: The concentrations of CO2, CO, formaldehyde (H2CO) and water vapour were simultaneously monitored in various sections

Reference 56 - 1.91% Coverage

¶102: Experiments with sulphur hexafluoride (SF6) tracer-gas showed a considerable influx of external air through the hot air carrier ducts of the old heating system, and also the leakage of the internal air mostly via the apertures of the doors. The ventilation rates for the total volume of the church with the hot-air heating system (on for 1.5 h), the new heating system (on for 2 h), and without heating were calculated to be 0.25, 0.18, and 0.13 h−1, respectively. Without heating, a nearly homogeneous distribution of gases has been observed along both the horizontal and the vertical cross-sections of the church. Immediately after switching on the hot-air heating system, the levels of CO2 and water vapour showed a sharp increase. After turning this system off, the levels of gases showed a slow fall and they developed a highly non-homogeneous spatial distribution indoors for many hours. In the upper region of the church, being airtight, higher concentrations of the pollutants could be detected. The low levels of CO and H2CO, mostly originating from incense burning during services, were correlated to that of CO2. The hot-air heating system has been proved to present a potential deterioration risk to artworks, as it increases the supply, transport and deposition probability of air pollutants. On the other hand, the novel, symmetrical heating system eliminates these undesirable effects, thus its application is advantageous to all churches involved in the preservation of works of art.

¶103:
Reference 57 - 0.22% Coverage

¶109: integrated physico-chemical measurements, particularly optical and scanning electron microscopy, μ-infrared spectroscopy, mass spectrometry and X-ray powder diffraction.

¶110:
Reference 58 - 0.48% Coverage

¶112: Three different products, belonging to restoration interventions, have been also identified: the natural product shellac, ascribable to next-to-last restoration and scarcely removed during last restoration also because of its insolubility, the synthetic vinyl acetate and acrylic polymers. Particularly the latter one indicates an on-going degradation of the applied fixatives.

Reference 59 - 0.22% Coverage

¶113: The extensive deterioration of the surfaces is also due to the widespread presence of salts, such as chloride, nitrate and sulphate clearly identified by XRD measurements.

Reference 60 - 0.40% Coverage

¶114: The obtained results give a comprehensive overview on the employed painting technique and its state of preservation and on the causes of the painting deterioration. Therefore, they are a fundamental tool to develop durable and compatible materials and methodologies for a future conservation strategy of this site.

Reference 61 - 1.07% Coverage

¶116: were tested by Optical Microscopy (OM), employed to reveal the existing pigment layers and High Performance Liquid Chromatography (HPLC) combined with spectrophotometric UV-Vis detection, used for dyestuff identification. OM showed that organic dyes had been applied either as exclusive colouring materials or in combination with inorganic pigments. HPLC results showed that reddish cochineal and a “soluble” redwood appear to be the most common organic dyes of the icons tested. The limited use of madder, found only in one icon, suggests that the widespread plants of the Rubiaceae family were probably not frequently used by the iconographers during the historical period investigated. Similarly, an indigoid dye source was found in one sample. The results show that mixtures of organic dyes were used in Byzantine and post-Byzantine icons.

Reference 62 - 0.82% Coverage

¶118: The colours, applied on parchment, are orange, red, green, blue, gold and a reddish brown. They were applied with a common binding medium, a vegetal gum. With the exception of the brownish red, all the colorants were of inorganic origin, synthetic or mineral: vermilion, red lead, azurite and malachite. In the synthetic colours, fillers such as calcium carbonate and lead white were added. The reddish brown used in the background of the main initial is an organic dye. Gold was used in the main initial as well as in some details in the decorative border. The gold was applied on a substrate of gypsum and lead white in a proteinaceous medium.

Reference 63 - 0.22% Coverage

¶119: The materials were characterized by non-destructive techniques, in situ (microEDXRF, UV-VIS emission fluorescence, colorimetry), or, when needed, by micro-sampling (microFTIR),

Reference 64 - 0.25% Coverage

¶121: has been done using the PIXE technique in a fully non-destructive way without any sample preparation. The results have been validated with a set of standards and using PIGE data acquired in parallel.

Reference 65 - 1.75% Coverage

¶123: It is faced with poorly preserved stone, which has recently been subjected to preliminary laboratory studies for the purpose of collecting data useful for its restoration. The results of such studies indicate the presence of two macroscopically similar grey stones, classified as slates, which were probably sourced from quarries situated not far from the city of Marrakech. The schistosity of such stones, namely their laminated fabric, has much influenced the morphology of deterioration. The causes and mechanisms of decay have been investigated and connected to the presence of soluble salts, mainly chlorides and sulphates deriving from the mortar used to fix the stone blocks to the wall, and to local air pollution. Their concentration in the bottom 3 m of the gate due to rising damp has produced strong exfoliation and flaking phenomena through rapidly repeating crystallization/dissolution cycles. A minor contribution to the overall deterioration is due to hydrolytic phenomena partly responsible for the formation of natural brown patinas on the stone surface. Another brown patina formed of Ca-oxalates and with residual proteinaceous matter was also detected and is probably due to partly mineralized protection-treatments made with natural products such as animal glue. General indications for the restoration of the gate, based on these results, are proposed.

Reference 66 - 0.04% Coverage

¶124: Microanalyses and monitoring

¶125:

Reference 67 - 0.92% Coverage

¶127: The project started with a scientific investigation of the employed materials and the painting technique, to achieve information for understanding the causes of the deterioration and to plan the intervention. Micro-chemical analyses, performed with micro-Raman, SEM-EDS, XRD, micro-IR, GC-MS and Pyrolysis/GC-MS, revealed that the pigment was of inorganic nature, a red earth rich in Fe(III) oxides (haematite, goethite and disordered goethite), with a considerable quantity of carbon particles. The pigment was applied directly on the plaster using a proteinaceous binder. Concerning the whitish film that covers the pictorial coating, micro-Raman demonstrated that this external layer is formed by micro-crystalline gypsum.

Reference 68 - 0.14% Coverage

¶131: Determination of the impregnation depth of siloxanes and ethylsilicates in porous material by neutron radiography

Reference 69 - 1.83% Coverage

¶132: For conservation of the built cultural heritage, the application of conservation products like consolidants or water repellents is often suggested. Their impregnation depth is a key factor for the assessment of the treatment efficiency. It will vary depending on the internal structure of the stone material and the properties of the conservation products. In this study a porous bioclastic limestone from Maastricht (the Netherlands) and a porous sandstone of Bray (Belgium) were selected for treatment with either ethylsilicate-based consolidant products or siloxane-based water repellents. We explore the potential of neutron radiography to visualize the conservation products after polymerization, since previous experiments already proved their detectability before polymerization. Additionally, water absorption by capillarity was monitored inside the samples. The experiments in this study illustrate that the ethylsilicate-based consolidants remained visible for neutrons even after the polymerization process, while the siloxane-based water repellents can only clearly be distinguished in the stone as long as they contain a certain amount of solvent. The study proves that neutron radiography can provide important additional information for the research in the built cultural heritage domain, especially as it allows to successfully visualize the impregnation depth of silicate-based consolidants inside natural building stones.

Reference 70 - 0.13% Coverage

¶133: Non-destructive methods for chemical, optical, colorimetric and typographic characterisation of a reprint

Reference 71 - 0.38% Coverage

¶134: The quality of a 1978 reprint of a book from 1921 was studied using standard and non-destructive testing methods such as microscopic and spectroscopic techniques. Chemical, physical and colorimetric properties of the papers, colour differences of the prints and typographic tonal density were analysed.

Reference 72 - 0.48% Coverage

¶134: The results of the research, using non-destructive methods such as microscopy, spectroscopy and image analysis, are useful for characterising the properties of paper and printing ink, typography and reproduction of illustrations.

¶135: Microtextural and microchemical studies of hydraulic ancient mortars: Two analytical approaches to understand pre-industrial technology processes

Reference 73 - 0.21% Coverage

¶136: Two different analytical approaches have been taken into account to investigate the role of Si-rich phases in enhance hydraulic reactions of bedding mortar mixtures

Reference 74 - 0.85% Coverage

¶136: In the first case, mortars show clear hydraulic type reactions in the form of coronal layers between the reacting additive and the binder mass. In the second one, the hydraulic reactions do not develop visible mineral phases and processes have been inferred from chemical, mineralogical analyses and mass balance calculation. The microstructural studies not always are sufficient to understand the complex dynamics of reaction attained during pre-industrial manufacturing processing of mortars and related binders. In fact, if the reacting raw materials are fine-grained and/or have remarkable chemical reactivity, no relicts are preserved by mortar microtextures.

Reference 75 - 0.77% Coverage

¶138: The measurements show that although irradiation at the floor level increases temperature and reduces relative humidity in the interior of the church, the effect out of the heated zone and for the surfaces sheltered from irradiation is very limited, i.e. their extent is comparable with natural fluctuations inherent to the local climate of the church. The radiant heaters proved to generate little convectional flow of the air. Therefore, the heating system was not found to increase the concentration of SPM indoors; in particular, no re-suspension of particles already present in the church was observed.

Reference 76 - 0.22% Coverage

¶140: The use of numerical simulation methods for the Cultural Heritage is of increasing importance for the analysis, conservation, restoration and appreciation of works of art

Reference 77 - 0.06% Coverage

¶140: concerns the thermal and air velocity analysis

Reference 78 - 0.95% Coverage

¶140: In this paper an appropriate transient 3D model by Computational Fluid Dynamics (CFD) software based on the finite element method (FEM) was used. Variations and interaction between indoor and outdoor microclimatic conditions, and thermo-physical behaviour of the building connected to lighting, visitor presence and cooling–heating fan coils system were considered. The 3D modelling method provided by the present paper can be applied to several situations where there is interaction between outdoor and indoor climate variations and the building structure. It can be very useful for defining measures to preserve tapestries, understanding deterioration processes, and developing new conservation techniques and strategies for care and exhibition.

Reference 79 - 0.19% Coverage

¶141: Microanalytical identification of Pb-Sb-Sn yellow pigment in historical European paintings and its differentiation from lead tin and Naples yellows

Reference 80 - 0.24% Coverage

¶142: The work is focused on identification of lead tin yellow types I and II, Naples yellow, and also on discrimination of a less common, distinct yellow pigment, the ternary Pb-Sb-Sn oxide.

Reference 81 - 1.50% Coverage

¶144: Pb-Sb-Sn yellow has recently been identified in colour layer of 17th century Italian paintings by Sandalinas and Ruiz-Moreno [C. Sandalinas, S. Ruiz-Moreno, Lead tin-antimony yellow, historical manufacture, molecular characterization and identification in seventeenth-century Italian paintings, Stud. Conserv. 49 (2003) 41–52], and here we report the finding of this pigment in Mid-European painting of the 18th and 19th centuries. Lead tin yellows, lead antimony yellow (Naples yellow), and lead antimony tin yellow were synthesized in laboratory following historical recipes, their colour was analyzed, and their structure was confirmed to provide a basis for their routine identification in microsamples of artworks by X-ray microdiffraction. Unequivocal identification of Pb-based yellows could help in authentication of traditional European paintings, because their use was temporally and also geographically specific. Combination of elemental microanalysis (X-ray fluorescence electron microanalysis) and X-ray powder microdiffraction were found very efficient in the microanalysis of colour layers of artworks with Pb-based yellows and their unequivocal identification.

Reference 82 - 0.06% Coverage

¶145: ATR-FTIR imaging of albumen photographic prints

Reference 83 - 1.31% Coverage

¶146: Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) spectroscopic imaging is presented for the first time as analytical methodology for the study of albumen photographs. This paper shows the feasibility of obtaining FTIR images of samples from albumen photographs with a high spatial resolution using a Ge ATR objective coupled with an infrared microscope. The improved spatial resolution compared to FTIR images obtained by the reflection method is due to the high refractive index of the ATR crystal, which gives a high numerical aperture and hence, a higher spatial resolution. The technique reveals detailed information on the organic functional group distribution in the individual layers of embedded cross sections and is used complementary to visual microscopy and scanning electron microscopy/energy dispersed X-ray spectroscopy. The main results of the study are discussed with regard to their historical and artistic significance, and they are compared with data from historical and conservation literature.

Reference 84 - 0.99% Coverage

¶148: Geographical Information Systems have proved their potentialities in this scope, but they are not always adapted to the management of features at the scale of a particular archaeological site. Therefore this paper aims to present the development of a Virtual Research Environment dedicated to the exploitation of intra-site Cultural Heritage data. The Information System produced is based on open-source software modules dedicated to the Internet, so users can avoid being software driven and can register and consult data from different computers. The system gives the opportunity to do

exploratory analyses of the data, especially at spatial and temporal levels. The system is compliant to every kind of Cultural Heritage site and allows management of diverse types of data.

Reference 85 - 0.98% Coverage

¶154: The close range photogrammetry has been used successfully for documentation of cultural heritage. With recent developments in computer and information technologies, this well-known traditional method has been replaced with digital close-range photogrammetry. This new method offers us new opportunities such as automatic orientation and measurement procedures, generation of 3D vector data, digital ortho-image and digital surface model. Terrestrial laser scanning is another technology that in recent years has become increasingly popular for documentation which provides very dense 3D points on an object surface with high accuracy. In addition, the 3D model and digital ortho-image can be easily generated using generated 3D point cloud and recorded digital images.

Reference 86 - 0.57% Coverage

¶156: Digital and 3D data, rich visual images obtained by digital close-range photogrammetry, and orthophoto images of edifices, are governed and shepherded in documentation and future conservation projects. Also, these methods supply much ease, precision and time-saving in measured drawing projects when compared with conventional methods. In this study, contributions of digital close-range photogrammetry to measured drawing projects were evaluated.

Reference 87 - 0.51% Coverage

¶156: The building's present status and its reconstruction project is indicated and how digital close-range photogrammetry contributes to measured drawing, reconstruction and restoration projects is presented. Furthermore, the significance of present-day use of digital close-range photogrammetry in the acquisition of data and preparation of measured drawing projects for historical buildings is emphasized.

<Internals\\JCH 2008 Abstracts> - § 120 references coded [47.23% Coverage]

Reference 1 - 0.06% Coverage

¶6: Non-destructive characterisation of glasses and glass paintings

Reference 2 - 0.51% Coverage

¶9: The combination of the different analyses on the different glass samples allowed knowing the composition of the glasses and glass paintings. Using UV–vis spectroscopy, both the oxidation state of an element and its coordination, which are responsible for the colours displayed, could be determined. The presence and distribution of silver and copper in glass surfaces painted with yellow silver stain were also studied.

¶10: From Siena to Barcelona: Deciphering colour recipes of Na-rich Mediterranean stained glass windows at the XIII–XIV century transition

Reference 3 - 0.45% Coverage

¶11: In order to decipher the colour recipes in an original set of glass pieces, a number of chemical analyses have been performed, namely quantitative EPMA on thin sections cutting orthogonally the glass surface. This comparative approach is useful since the studied glass is well preserved in terms of good chemical conservation against corrosion and biological attack. Also, chemical composition of glass provides evidence of preservation of homogeneous original glass sets at each site.

Reference 4 - 0.26% Coverage

¶12: Also, some chemical data on Cu–Fe-rich green glass provide evidence tentatively related to the use of metal-rich slag as colouring component. The Barcelona samples offer evidence of new recipes (i.e. yellow glass) and hence look more evolved from the glassmaker's point of view

Reference 5 - 0.15% Coverage

¶15: The only nonstone material used in the decoration is vitreous paste: it was used to make the entire mosaicated ceiling and in some other areas beside opus sectile.

Reference 6 - 0.07% Coverage

¶23: Studies of deterioration of the tin–mercury alloy within ancient Spanish mirrors

Reference 7 - 0.64% Coverage

¶24: In this work, a qualitative analysis of the crystalline phases of the alloy surface of ancient mirrors was done using the grazing incidence X-ray diffraction technique (GID). Their morphologies were studied by scanning electron microscopy (SEM), and the elemental analyses were done by energy dispersive X-ray spectrometry (EDX). X-ray photoelectron spectroscopy (XPS) was used to characterize the atomic composition of the surfaces. Our results indicate that the amalgam is composed of a binary alloy of tin and mercury (Hg0.1Sn0.9). Mercury is volatile and slowly evaporates, leaving finely divided particles of tin that are easily oxidized, forming romarchite (SnO) and cassiterite (SnO2).

¶25:

Reference 8 - 0.10% Coverage

¶27: Characterization of Iranian Moarraque glazes by light microscopy, SEM-EDX and voltammetry of microparticles

Reference 9 - 0.20% Coverage

¶28: Several advanced instrumental techniques including light microscopy, scanning electron microscopy–X-ray microanalysis and voltammetry of microparticles, have been used to perform the characterization of the glazes

Reference 10 - 0.63% Coverage

¶35: Fourteen glass objects with different uranium contents were studied. Dose rates (β + γ radiation) were measured with a beta/gamma probe at several distances from the glass objects. In general, the determined dose rates did not raise any concern as long as some precautions were taken. Radon (222Rn), usually the most important contributor for the overall natural dose exposure resulting from radium (226Ra) decay in the uranium natural series, was also evaluated and it was found to be within the background values. Non-invasive analyses of the uranium content were made using micro-EDXRF analysis, measuring the radiation emitted by the objects and fluorescence spectroscopy.

¶36:
Reference 11 - 0.08% Coverage

¶41: We propose an optimized solution to dissolve calcium carbonates and lead sulphates

Reference 12 - 0.28% Coverage

¶41: This system is tailored to control pH, temperature, conductivity and concentration of Ca2+. Continuous on-line analysis of these parameters allows us to monitor the cleaning process. In particular, the Ca2+ concentration in the cleaning solution is controlled by means of a Ca2+ ion selective analyzer.

¶42:
Reference 13 - 0.09% Coverage

¶71: Today, part of this experimentation has been applied for some interventions of coverage, protection

Reference 14 - 0.03% Coverage

¶72: Glass Science and Technology

Reference 15 - 0.06% Coverage

¶73: Laboratory production of Egyptian faiences and their characterization

Reference 16 - 0.80% Coverage

¶74: work on the reproduction and characterization of ancient Egyptian faiences by efflorescence and cementation methods. Previously, a series of reported investigations have clarified the chemical composition of these very particular artefacts but until now no attempts at reproduction have been carried out in order to fully understand the production processes and the difficulties involved. Investigations performed on sintered quartz biscuits and glazed layers by using Optical Microscopy (OM), Scanning Electron Microscopy (SEM), Energy Dispersive X-ray (EDX) analysis showed that certain defects observed in the ancient finds represent intrinsic properties of faiences due to preparation methods. Moreover, efflorescence methods can be applied only in very arid climatic conditions.

¶75: Behaviour of copper and lead as chromophore elements in sodium silicate glasses

Reference 17 - 1.16% Coverage

¶76: Analytical investigations of blue/green glasses used in Middle Age wall mosaics in Venice have shown that the role of lead concentration is fundamental to the green tonality in the tesserae. In this work, copper containing lead silicate glass samples have been studied by changing lead (II) oxide concentration in order to highlight the role of lead (II) in creating changes of hue in glass samples containing copper, to understand the behaviour of copper and lead as glass chromophore elements and, finally, to define the mechanism driving the phenomenon (chromatic synthesis, variation of the copper chemical coordination or production of mixed-valence ions). Our data show that glass samples having only lead oxide or only copper oxide appear, respectively, transparent white and intense blue, while glasses containing low percentages of copper oxide are turquoise-blue with a concentration of lead oxide below 40% and emerald-green with a higher percentage of lead oxide (about 60%). Nine coloured glass samples, prepared by mixing finely ground sodium silicate glass with the same copper (II) oxide weight percentage (2%) and with variable concentrations of lead oxide (4, 8, 12, 20, 40, 60, 70, 90%), were examined using several analytical methods.

Reference 18 - 0.58% Coverage

¶78: Replications of the lustre layers have been produced using laboratory-controlled conditions, based on a 13th century AD lustre recipe. The characteristics of the lustre layers obtained by using different paint and glaze compositions, thermal paths and atmospheres are summarised. The key parameters needed to reproduce the colours, composition and metallic optical response shown by medieval lustres are given. Analysis of the microstructural, chemical and optical characteristics of the reproductions gives a deep insight into the conditions needed for the production of lustre layers with different colours and shines.

Reference 19 - 0.03% Coverage

¶79: Float glass colouring by ion exchange

Reference 20 - 0.71% Coverage

¶80: This coloration is mainly caused by the extinction – absorption and, to a lesser extent, scattering – of light occasioned by silver nanoparticles formed inside the glass. This colouring technique comprises a heat treatment divided in two stages: in the first one, an ion exchange between the silver ions in the mixture and the alkali ions in the glass takes place. This process is called nucleation of silver nanoparticles. The second stage consists of a reduction process that causes the growth of these nanoparticles and the development of colour. This is known as growth and aggregation of nanoparticles. In our work, systematic working procedures have been developed with the aim of reproducing silver-stain in modern soda-lime glasses formed by flotation.

Reference 21 - 0.05% Coverage

¶81: Gold nanoparticles in ancient and contemporary ruby glass

Reference 22 - 0.52% Coverage

¶82: Gold ruby glass was made by irradiating a soda-lime-silicate glass with ca. 0.2 weight % of gold with gamma rays and further heating instead of using a reducing agent such as stannous oxide. Different colours were obtained by controlling the temperature and heating times. A comparison of this process to develop ruby glass with the conventional ones is discussed. Ruby glass was also made by dissolving gold metal in soda-lime-silicate glass and using stannous oxide at 1500 °C. The colour of the gold ruby glass is due to the presence of gold nanoparticles.

Reference 23 - 0.22% Coverage

¶83: it was found to contain only manganese as the colouring agent; in this case the colour is due to electronic d–d transitions. A tentative experiment to reproduce the colour of this vase showed that the oxidation conditions are critical.

Reference 24 - 0.24% Coverage

¶85: In this study the application of luminescent glasses under UV light in artworks is explored. Several lanthanide oxides were used in the glass composition to obtain different colours. A brief comparison with the conventional glass artwork using neon is made.

Reference 25 - 0.04% Coverage

¶86: Silica thin-films from perhydropolysilazane

Reference 26 - 0.09% Coverage

¶87: The aim of the work is to synthesise a new silica coating to protect ancient glass from weathering.

Reference 27 - 0.24% Coverage

¶87: The coating is prepared starting from an unusual precursor (Perhydropolysilazane – 20%, NL120A-20, Clariant) that allows to achieve high-quality thin-films of silica at room temperature. The obtained films are uncoloured, even in absence of strong heat-treatment.

Reference 28 - 0.61% Coverage

¶88: Perhydropolysilazane (PHPS) is a polymer of [–SiH2–NH–SiH2–]n units. When deposited on a typical microscope slide, it reacts with atmospheric moisture, the Si–H and Si–NH bonds are hydrolysed to Si–O bonds and the typical structure of silica is produced. The conversion to silica is completed in about 66 h when operating at room temperature, using vapours of a 15 mol L−1 ammonia solution. A quicker method is the application of a weak heat-treatment (45 °C), achievable using as heater a common tungsten filament lamp. With this approach, the conversion to silica films is completed in 2 h. The coated glass samples have been studied by XPS and OM techniques

Reference 29 - 0.10% Coverage

¶92: A non-linear model of sulphation of porous stones: Numerical simulations and preliminary laboratory assessments

Reference 30 - 1.10% Coverage

¶93: More recently, some mathematical models used for civil works have been applied to study the evolution of degradation phenomena; however, they did not fit sufficiently for artistic and historical hand-works, since they only give an averaged description of the damage. Between these mathematical models the Lipfert formula is the more diffuse, based on statistical models of atmospheric corrosion. In this paper a differential model was approached, which gives a quantitative description of the diffusion and the chemical action of sulphur dioxide on the porosity of calcium carbonate stones starting from the hypothesis that the interaction between stone surface and polluted air is due to its diffusion in the porosity of the material. The model has been validated by numerical simulations and a number of experimental tests in the laboratory. This approach gives a quantitative law for the penetration of the sulphation front inside of the stone, in accordance with the experimental data. Moreover, it is important to assess and prevent damage on the surfaces of historical monuments, considering also the local geometry, the nature of the polluted air, and the type of exposures.

Reference 31 - 0.08% Coverage

¶96: Ettringite and thaumasite: A chemical route for their removal from cementious artefacts

Reference 32 - 0.86% Coverage

¶97: The present paper reports a new method for converting ettringite and thaumasite in non-expansible and insoluble phases, for its application in the restoration of concrete artefacts subjected to deterioration through sulphate attack. The salts were synthesized by different processes and, after characterization by means of XRD, FT-IR and optical microscopy, were treated with a series of chemicals in order to induce their decomposition. In particular, different solutions containing barium nitrate, barium hydroxide and ammonium oxalate were used to achieve the complete transformation of both phases in barite, witherite, scarbroite and whewellite. Barium hydroxide seemed to be the most appropriate reactant because the others could give rise to efflorescence within the pores of the mortars by leaving free nitrate or sulphate ions inside the materials. The experimental technique was also tested on two concrete samples

Reference 33 - 0.57% Coverage

¶99: Four types of carbonate stones and three consolidation products were used in a systematic study to assess the influence of the application procedures on the amount of product applied, as a primary step to evaluate consolidation treatments. Microdrilling, ultrasonic velocity and flexural resistance were used as performance indicators. The amount of product of a specific treatment and its action depend on the application procedures, both when the treatments are carried out in the

laboratory and on site. The results are expected to contribute to the standardisation of testing protocols on stone consolidation.

Reference 34 - 1.21% Coverage

¶100: V. Fungistatic properties of papers treated with aminoalkylalkoxysilanes

¶101: A new process using aminoalkylalkoxysilanes (AAAS) was developed recently for paper and book mass deacidification. This process is entirely novel in that, besides deacidifying, it also improves the mechanical properties of paper. In the present article, the properties of inhibition of fungal growth of the treated papers are investigated. It was found that the AAAS tested acted as surface-active antifungal agents when introduced in the paper, significantly reducing the growth of Aspergillus niger and Paecilomyces variotii, two fungal species commonly found in storage areas of libraries and archives. The AAAS which seemed the most efficient in preventing the fungal development was 3-aminopropylmethyldimethoxysilane (AMDES), functionalised with a primary amine. The effect was significant in the different papers tested which demonstrated the protection against the proliferation of filamentous fungi in vitro for papers treated with AMDES. The higher concentration of AMDES inside the paper proved to be the most effective. The highest efficiency was reached for AAAS uptakes around 6%. At this concentration the sporulation of the two strains was inhibited and the development of A. niger mycelia was highly reduced.

Reference 35 - 0.13% Coverage

¶102: Magnesium distribution in paper subjected to deacidification investigated by means of Laser Ablation Inductively Coupled Plasma Mass Spectroscopy

Reference 36 - 0.66% Coverage

¶103: Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA ICP MS) was used to investigate the distribution of magnesium in paper subjected to selected deacidification mass processes. Paper samples have been taken from the early XX century books, which had been previously deacidified with the use of either Book Saver or Bückeburg process. Both methods incorporate the use of magnesium compounds therefore the enrichment of the paper with magnesium was expected as a consequence of the undertaken deacidification. The aim of our investigation with the use of LA ICP MS was to evaluate a possible variety in magnesium distribution over paper within µ-meter resolution, depending on the applied process.

Reference 37 - 0.55% Coverage

¶105: is highly sensitive to processes of decay because of a combination of factors that are intrinsic and extrinsic to the material. The mineralogy, texture and porous system of the sandstone and the proximity of the church to the sea all play a part in these processes. X-ray diffraction reveals that there are interstratified chlorite/smectite clays among the minerals that make up the rock. These mixed layer clays have been shown to undergo hydric expansion. This phenomenon may be accompanied and augmented by the presence of NaCl which acts as an electrolyte in osmotic swelling processes

Reference 38 - 0.10% Coverage

¶105: The latter is more porous and undergoes greater hydric expansion, showing a higher degree of deterioration.

Reference 39 - 0.55% Coverage

¶105: Ultrasound analysis has demonstrated that both varieties are anisotropic because they contain bedding planes and are affected by the preferred orientation of the phyllosilicates in the rock. The anisotropic nature of these stones was confirmed by capillary suction tests. The capillary front reaches a relatively low height which means that when water is absorbed, the anisotropic textural properties combined with the presence of chlorite–smectite mixed layers in the sandstone result in mechanical (shear) stress between the first few centimetres of the wet stone and the dry area behind.

Reference 40 - 0.06% Coverage

¶106: Documentary and physicochemical codification of organic colorants

Reference 41 - 0.13% Coverage

¶107: physicochemical investigation, and to examine the influence of environmental factors on the chromatic profile originally sought by the artist.

Reference 42 - 0.51% Coverage

¶107: In the experimental section a series of colorants are investigated concerning the effects of accelerated ageing on experimental painting tables, prepared as watercolor and gouache layers on paper ground. The resulting samples are subjected to colorimetric and spectroscopic measurements, and analogous analytical procedures are applied on samples taken from selected paintings. A systematic comparative study of all data permits evaluation of the materials used in terms of their stability towards extrinsic factors, and proposal of degradation routes

Reference 43 - 0.04% Coverage

¶110: investigated by micro-Raman and GC/MS

¶111:

Reference 44 - 0.22% Coverage

¶111: The pigments, the binders and the materials used for the application of ground and priming layers were studied using micro-Raman spectroscopy, gas chromatography coupled with mass spectrometry (GC/MS), optical and electronic microscopies

Reference 45 - 0.21% Coverage

¶111: Gypsum and anhydrite were found in the ground layer, while carbon black and lead white were used in the priming layers. The precious pigments of the artist's palette and the binders used (egg and animal glue) were determined.

Reference 46 - 0.04% Coverage

¶112: The binding media of the polychromy of

Reference 47 - 0.07% Coverage

¶115: An efficient gray-level thresholding algorithm for historic document images

Reference 48 - 0.75% Coverage

¶116: This paper presents a new method for thresholding images of historical documents. The main objective is to create monochromatic images with high quality at low processing time. This allows easier access to the contents of the image files. One important problem arises when the document is written on both sides of the paper. The thresholding process can lose the contents of the document completely if the separation between the ink and the background is not correctly defined. We present a new efficient algorithm for binarization of historical documents and we analyze its performance by comparing it to other nineteen classic thresholding algorithms using measures like precision, recall, accuracy, specificity and a fidelity index. Our method achieved better results than other well-known algorithms.

Reference 49 - 0.06% Coverage

¶121: Evaluation of five fluorinated compounds as calcarenite protectives

Reference 50 - 0.73% Coverage

¶122: Ten fluorinated compounds were selected from the Dupont catalogue in order to evaluate their possible use as protection of calcarenite surfaces. Five of them were selected on the basis of their behaviour as regards the static contact angle test. In order to achieve a deeper insight on the chemical composition of the surface, these five compounds were analysed by time of flight secondary ion mass spectrometry (ToF-SIMS) and by X-ray photoelectron spectroscopy (XPS), before and after ageing in a climatic chamber simulating exposure to solar radiation. Finally the efficiency of these five products, as protectives of calcarenite surfaces, was evaluated by capillarity water absorption test. The behaviour of these compounds in relation to the attack of algae was also evaluated.

Reference 51 - 0.10% Coverage

¶123: The suitability of DSC method for damage assessment and certification of historical leathers and parchments

Reference 52 - 0.25% Coverage

¶124: The DSC analysis was used for investigation of thermal behaviour in water and nitrogen, oxygen and synthetic airflow of some collagen-based materials (pure collagen, recent manufactured (new) parchments and tanned leathers, and historical (old) parchments and leathers).

Reference 53 - 0.38% Coverage

¶125: The shrinkage temperature values (Ts) of the investigated materials, determined by DSC analysis of the samples immersed in water, are in good agreement with those determined by Micro Hot Table technique. The following increasing order of Ts was obtained: old leathers ≈ new and old parchments < recent leathers manufactured by vegetable tanning < recent leathers manufactured by combined (vegetable + Cr) tanning.

Reference 54 - 0.24% Coverage

¶126: At the progressive heating in gas (N2, O2, synthetic air) flow in the temperature range 25–260 °C (for N2) or 230 °C (for O2 and synthetic air), all the investigated materials exhibit two main processes, associated with the dehydration and softening (melting).

Reference 55 - 0.40% Coverage

¶127: The analysis of softening curves obtained by DSC analysis in N2 flow has revealed that new and old parchments and naturally aged leathers (old leathers) exhibiting at least an endothermic peak in the range 126–228 °C. The new vegetable tanned leathers have shown one peak at a higher temperature (around 243 °C) just before pyrolysis, while the majority of recent leathers manufactured by combined tanning do not exhibit such a peak.

Reference 56 - 0.51% Coverage

¶128: The results obtained by DSC analysis in O2 and synthetic airflow show that pure collagen, and new and old parchments exhibit softening temperatures close to those obtained by DSC analysis in N2 flow. On the other hand, all new leathers (vegetable tanned) and heritage leathers have exhibited a softening process at relative lower temperatures (around 125 °C), which cannot be correlated with the material damage. These results have confirmed that pure collagen and parchments have a higher thermo-oxidative stability than the new and old leathers.

Reference 57 - 0.16% Coverage

¶129: The identification of copper oxalates in a 16th century Cypriot exterior wall painting using micro FTIR, micro Raman spectroscopy and Gas Chromatography-Mass Spectrometry

Reference 58 - 1.24% Coverage

¶130: resulted in the identification of a copper-based, pigment degradation product – a hydrated copper oxalate, analogous to the naturally occurring blue-green mineral Moolooite. The

identification of copper oxalate, a deterioration (alteration) product more often associated with the deterioration of bronze was possible through the integrated use of both micro-FTIR in reflectance for spot analysis of areas on the surface of an embedded cross-section, and FTIR reflectance imaging for the localisation of the presence of copper and calcium oxalates within the stratigraphy of the painting. Further, micro-Raman spectroscopy was employed for the analysis of unembedded fragments of the painting, confirming the presence of both copper oxalate and calcium oxalate. Finally, novel methods for the removal of salt interferences were employed for analysis using Gas Chromatography-Mass Spectrometry (GC-MS), which revealed the presence of both oxalate and phosphate ions and, following multivariate analysis of the amino acid profile, identified casein as the binder of the paintings. The imaging of calcium oxalates within the stratigraphy of wall painting samples is important and significant not only for the study of copper-based pigments in general, but especially for the analysis of pigments used for painting on exterior surfaces.

¶131:
Reference 59 - 0.31% Coverage

¶132: Optical microscopy (OM), scanning electron microscopy with energy dispersive X-ray spectroscopy (SEM-EDS), micro-Raman spectroscopy and pyrolysis–gas chromatography–mass spectrometry (Py-GC/MS) were applied on various samples taken from significant parts of the painting. Several in situ micro-Raman analyses were also performed.

Reference 60 - 0.30% Coverage

¶132: Furthermore, combination of various analytical techniques revealed that the 13th century original background, which now appears dark grey, was realised by applying a tin foil covered by a mecca layer composed of siccative oil and heated Pinaceae resin. Thus, originally the background should have had a gold-like appearance.

Reference 61 - 0.45% Coverage

¶134: A method was also proposed for evaluating daylight distribution in rooms of ancient buildings with small transparent surfaces and high thermal inertia, using solar shadings and light redirecting devices. It enabled a simplified hourly evaluation of the daylight utilization with reasonable accuracy and calculation speed and, because it was coupled to a simplified thermal model, evaluation of the impact of daylight utilization on hourly temperatures, heating and cooling demand.

Reference 62 - 0.04% Coverage

¶135: Physico-chemical and analytical studies

Reference 63 - 0.21% Coverage

¶136: Optical (OM) and Scanning Electron Microscopy (SEM-EDS), μFT-IR spectroscopy and Gas Chromatography-Mass Spectrometry (GC-MS) have been used to ascertain, at molecular, nano- or micrometric level, the state of conservation

Reference 64 - 0.51% Coverage

¶136: The characterization of the original organic and inorganic materials used in the painting preparation and plaster layers allows to define the painting techniques. Furthermore, the nature and the extent of the degradation phenomena and the materials used in subsequent restorations have been identified. The poor state of conservation of the pictorial cycle, due to quite severe deterioration processes, noticeable detachments, presence of salts, etc., strongly calls for a prompt intervention, guided by an exhaustive and appropriate scientific approach.

Reference 65 - 0.17% Coverage

¶137: The present study offered the possibility to compare the results obtained by different techniques on the same samples, in order to evaluate performance, advantages, limits of each of them.

Reference 66 - 0.40% Coverage

¶139: The unaltered gold is lost due to the alteration of the material used to adhere the leaf gold on the ceramic. Tin is transformed to romarchite and is lost due to a similar alteration as with the gold leaf adhesive. Silver is altered to Ag2S due to environmental contamination. Part of the bronze powders and silver used in Huercal-Overa altarpiece are altered to atacamite and AgCl, respectively, due to an unsuitable cleaning process.

Reference 67 - 0.11% Coverage

¶140: Scientific examination of classic Spanish stamps with colour error, a non-invasive micro-Raman and micro-XRF approach

Reference 68 - 0.04% Coverage

¶141: A complete Raman and X-ray fluorescence study

Reference 69 - 0.24% Coverage

¶141: As a result of the scientific analysis, the differences of the colour lie only in the use of different kinds of inks. The nature of the inks as well as the way this error happened is discussed, discarding the presence of fakes or forgeries in the stamps analysed.

Reference 70 - 0.80% Coverage

¶145: The degree of damage as a function of the sampling depth is evaluated by combining visual observation, scanning electron microscopy, X-ray diffraction, ion chromatography, differential and gravimetric thermal analysis and the quantitative determination of elemental carbon. Sulphation is found to be the main damage mechanism occurring on the cement mortar constituting the base section of a building since the concentration of sulphate increases from the inner to the outer layer at the expense of the carbonate. The absence of sulphite indicates a direct formation of sulphate, possibly due to the catalytic effect of heavy metals present in the carbonaceous particles of the

black crust. Insoluble sulphates, such as ettringite, do not form at the surface, but within a deeper layer of the basement due to its instability to atmospheric carbon dioxide.

¶146:
Reference 71 - 0.77% Coverage

¶147: The techniques used to analyze the samples were optical microscopy, TXRF, micro-FTIR and SEM-EDS. Similar materials were used in the construction of the wall paintings of both churches, marking a continuation in the Byzantine technology in the construction of wall paintings. The presence of calcium carbonate reveals the use of the fresco technique. Colors were rendered by the application of calcite, azurite, green earth, cinnabar, ochres and carbon black. Plaster was composed in all cases mainly of calcite with small amounts of silicates and organic fibers while there were characteristic differences between the plaster samples of the church of the 16th century in the presence of gypsum, originating to its use by the painter as a constituent element. All painted samples suffered from deterioration, identified even visually.

Reference 72 - 0.06% Coverage

¶152: Analysis, Diagnosis of the State of Conservation and Restoration

Reference 73 - 0.10% Coverage

¶153: Portable electronic speckle interferometry device for the damages measurements in veneered wood artworks

Reference 74 - 1.34% Coverage

¶154: Insight into decay mechanisms can be obtained by monitoring surface deformation and displacement fields. This paper presents the application of Electronic Speckle Pattern Interferometry (ESPI) to detect damages of wood samples invisible into the surface. Two different damages were created on the model simulating cabinet wood panels: delaminating and worm galleries, all defects are invisible by naked eye. All optical arrangements of speckle interferometry are divided in two types of fundamentally different speckle patterns: photographic speckle patterns, which contain information only about the light wave amplitude, and holographic speckle patterns, which contain both phase and amplitude information for comparison potentialities of two approaches we present the results obtained by thermography and ESPI investigations of the wood panel under test. The fiber-optic ESPI set-up based on a He–Ne CW laser has been developed and used for studying the possibility to reveal the invisible damages and determine their locations, sizes and shapes. For this end the two digital holograms of the test object, corresponding to the non-heated and heated states of object, are captured at two video frames of the CCD camera, and then processed in a PC. The resulted fringe pattern has the information about the damages. The purpose of the work was determining the possibilities of ESPI method in revealing of different kinds of invisible damages.

Reference 75 - 0.76% Coverage

¶155: Our results indicate that developed variant ESPI system is well adapted to reveal the under surface damages in veneered wood samples. The set-up may be used in out-of-laboratory conditions

and without severe anti-vibration preoccupations. The comparison of results obtained by developed ESPI system and thermo camera shows the higher sensitivity the ESPI system. The thermo camera does not indicate the presence of under surface damages like delaminating and worm galleries in contrast with ESPI system which is well adapted to extract information about these defects. Applying ESPI set-up we have determined the presence of different kind of damages located under surface: big delaminating and little worm galleries. The developed ESPI set-up is capable of predicting the position, shape and size of revealed damages.

Reference 76 - 0.11% Coverage

¶156: The results presented in this paper show that the ESPI technique is a promising tool for testing the wood artworks.

Reference 77 - 0.10% Coverage

¶157: Identification of parameters involved in the photochemically induced degradation of CD-R phthalocyanine dye

Reference 78 - 1.16% Coverage

¶158: This article focuses on the long term ageing of CD-R with phthlalocyanine dye. The aim of this preliminary research is to understand the chemical evolution of the dye and to find relevant parameters that could be correlated to the degradation of CD-R. This study reports on the chemical evolution of the phthalocyanine dye under light irradiation, either in solution in ethanol and cyclohexane, or in the solid state. A peculiar attention was given to the role played by oxygen in the degradation of the dye in solution. Analysis in solution was carried out by UV-visible spectroscopy, both in steady state and time resolved conditions. The study at the solid state was performed by in situ analysis of the dye with SEM and AFM on the polycarbonate layer obtained from commercial CD-R. In both cases, dye samples obtained from virgin and recorded CD-R were investigated. The results permit evidencing parameters representative of the degradation of the CD-R, such as the formation of photoproducts coming from the degradation of the dye which can be detected by UV-visible spectroscopy, or the modification of the topographic parameters at the surface, which can be analysed by AFM.

¶159: Comparison of adsorbent materials for acetic acid removal in showcases

Reference 79 - 1.03% Coverage

¶160: The effect of selected adsorbents in the preservation of objects of cultural value was studied. For this, two adsorbents that, in previous studies, revealed to be effective in the adsorption of acetic (ethanoic) acid vapors (activated carbon RB4 and NaX zeolite), were used in tests where lead sensors were exposed to the vapors of an acetic acid aqueous solution (corresponding to a concentration of acetic acid in atmosphere of about 160 mg m−3). The protection provided by the adsorbents was measured through the comparison of the increase of the sensor mass in the presence and in the absence of the adsorbents. The RB4 activated carbon has shown to be the most advantageous adsorbent. With amounts corresponding to 3.3 kg per m3 of the volume showcase, it originated a decrease of the lead alteration of 50–70% for some months. It was verified that it is possible to

recycle the RB4 with good yield by heating it at 120 °C during 24 h. It was not detected any decrease of efficacy after one cycle of use. The extension of the regeneration suggests that it will be possible to reuse the material several times.

Reference 80 - 0.09% Coverage

¶161: New polymeric nanocomposites for improving the protective and consolidating efficiency of tuff stone

Reference 81 - 1.09% Coverage

¶162: Nanocomposite systems based on the commercial polymer Fluormet CP and different amounts of the Cloisite 30B organoclay (1, 2 and 4 wt%) were tested as protective and consolidating agents for the Neapolitan yellow tuff. The conservation and restoration efficiency of these treatments was evaluated through physical investigations (water capillary absorption, permeability to water vapor, abrasion resistance and mechanical properties) and aesthetic-morphological observations (colorimetric measurements and SEM analyses). The results have evidenced that the nano-scale dispersion of low amounts of Cloisite 30B into the polymeric matrix enhances the consolidating and protective action of Fluormet CP. In fact, yellow tuff stone treated with the nanocomposite systems exhibits a more marked reduction in water absorption and water vapor permeability as well as improved mechanical and abrasion resistance with respect to stone treated with the neat Fluormet CP. Furthermore the applications of these nanocomposites systems do not alter the chromatic appearance of the stone substrate and not considerably modify the reversibility properties of the original polymeric matrix.

Reference 82 - 0.10% Coverage

¶165: Effect of the impregnation treatment with Paraloid B-72 on the properties of old Portuguese ceramic tiles

Reference 83 - 0.17% Coverage

¶166: In this work, the effect of the impregnation with Paraloid B-72, using the protocol commonly followed in museum restoration departments, on the mechanical and water absorption properties

Reference 84 - 0.41% Coverage

¶166: was studied. Mineralogical characterization of the biscuit was made from X-ray diffraction patterns. Microstructural features (pore size) were determined using scanning electron microscope (SEM) photographs. Mechanical strength was determined with four-point bending tests. The absorption coefficient and the total amount of water retained were obtained from water absorption essays, which also allowed the estimation of the open porosity.

Reference 85 - 0.14% Coverage

¶167: The impregnation treatment, in general, increases the mechanical resistance, reduces the porosity and modifies the water absorption behaviour of the tiles

Reference 86 - 0.09% Coverage

¶168: Physico-chemical characterization and conservation issues of photographs dated between 1890 and 1910

Reference 87 - 0.29% Coverage

¶169: The characterization of the conservation status of photographic materials is usually assessed through visual analysis or optical microscopy. However, a small percentage of these materials cannot be completely characterized by the simple visual-optical inspection and needs a more quantitative investigation.

Reference 88 - 0.72% Coverage

¶169: In order to get to a better comprehension of this subject, we adopted a characterization procedure relying both on the analysis of the photographs' materials and on the knowledge of the techniques and the materials used. Micro-invasive and non-invasive investigations were performed and evaluated in order to understand the chemical and physical degradation processes of photographs from the period around the end of the nineteenth century. We studied two sets of photographs obtained with different techniques but stored under the same environmental conditions. The two sets showed different degradation processes that can be easily attributed to the different photographic techniques used.

¶170: Corrosivity measurements of indoor museum environments using lead coupons as dosimeters

Reference 89 - 0.80% Coverage

¶171: The corrosivity of 19 different indoor environments was investigated by the use of lead coupons, by an adapted methodology from ISO 11844 using weight measurements. The field test was carried out in storage areas of real museum and archive buildings. Parallel with the 3-month exposures of the coupons, climate and pollutants H2S, SO2, and organic acids were measured. Only relative humidity and organic acids showed individual linear correlation with the formation of corrosion mass. Using linear multiregression analysis a prediction expression was found, which included the combined impact of relative humidity, organic acids, and H2S, on the formation of corrosion. The corrosion mass measurements give a more holistic evaluation of the impact of the total environment on materials than if evaluating from single factors, e.g., organic acid concentrations only.

Reference 90 - 0.10% Coverage

¶172: The nanolimes in Cultural Heritage conservation: Characterisation and analysis of the carbonatation process

Reference 91 - 1.43% Coverage

¶173: Water and milk of lime are usually adopted for conservative surfaces treatments, thanks to the conversion of lime into calcium carbonate. Calcium carbonate is, as a matter of fact, very compatible with many carbonatic lithotypes and architectonic surfaces, because its characteristics are very similar to those of the materials to be restored. But there are some limiting aspects to treatments effectiveness: the reduced penetration depth, the binder concentration and the incompleteness carbonatation process. In order to improve lime treatments, Ca(OH)2 particles with submicrometric dimensions (nanolimes) are recently introduced in Cultural Heritage conservation. Lime nanoparticles are typically produced by a chemical precipitation process in supersaturated aqueous solutions of the reactants (calcium chloride and sodium hydroxide). The aim of the present work is to analyse the nanolime carbonatation process in relation to some parameters, like time and the relative humidity conditions. For this scope, lime nanoparticles are therefore synthesised and characterised by X-ray diffraction (XRD), scanning and transmission electron microscopy (SEM–TEM), electron diffraction measurements (ED) and dark field images (DFI). The possibility to improve the nanolime carbonatation process is investigated using an alcoholic suspension and by adding a baking soda solution in order to disaggregate particles and to increase CO2 content in the suspension respectively. The efficiency of the nanolime carbonatation process is reported too.

Reference 92 - 0.35% Coverage

¶174: After that the lime nanoparticles are applied on natural lithotypes (“Estoril” and “Pietra Serena”) and some tests are performed in order to estimate the superficial consolidating and protective effect of the treatment: “Scotch Tape Test”, capillarity and imbibition tests. SEM analyses are performed to evaluate penetration depth and surface adhesion of nanolime treatments.

Reference 93 - 0.25% Coverage

¶176: A method to evaluate the usefulness of data already available

¶177: This work deals with a method to quantitatively evaluate the usefulness of data already available to identify the geological and geotechnical influences that threaten monumental and archeological sites

Reference 94 - 0.15% Coverage

¶178: Once the questionnaire is written up, the usefulness of the available information will be evaluated via the ‘Engineering Geological Usefulness Parameter’ (EGUP).

Reference 95 - 0.79% Coverage

¶186: We propose the creation of a hierarchy among the different projects based on ratings expressed as fuzzy numbers. Fuzzy numbers are a particular category of fuzzy sets and can be considered an extension of the concept of “ordinary” numbers. Teams of experts on the different factors are called upon to give their respective fuzzy ratings based on scientific knowledge acquired with laboratory, environmental and theoretic investigations as well as on their experience during the implementation, management, and critical assessment of similar projects. Fuzzy numbers

mathematics can be the bearing structure of the language and of proposed ranking method. This is a procedure in which the data set of a given archaeological site can be framed rationally and holistically, and therefore one can proceed to the progressive fine tuning of future projects.

Reference 96 - 0.08% Coverage

¶188: Arabo-Moresque decor images retrieval system based on spatial relationships indexing

Reference 97 - 0.09% Coverage

¶189: describes a new indexing method that can be used for indexing an Arabo-Moresque decor database.

Reference 98 - 0.33% Coverage

¶189: The new indexing method consists of both the representation of the spatial relationships between objects belonging to the spine and the Fourier shape descriptors. Combining the shape descriptors and the spatial relationships indexing techniques is the contribution done through this work for the development of an Arabo-Moresque decor image retrieval system.

Reference 99 - 0.06% Coverage

¶193: Analysis, Diagnosis of the State of Conservation and Restoration

Reference 100 - 0.06% Coverage

¶194: Comparative evaluation of lime mortars for architectural conservation

Reference 101 - 0.17% Coverage

¶195: International bibliography on conservation usually refers that mortars made with lime putty with long extinction periods behave better than others made with the current dry hydrated limes.

Reference 102 - 0.28% Coverage

¶195: In order to evaluate this assess, an experimental study of lime mortars was carried out, using dry hydrated lime and two lime putties. It becomes clear that the use of lime putties with long extinction periods in mortars allow better performances, particularly in applicability and resistance to sulphates

Reference 103 - 0.04% Coverage

¶196: A new vision through physico-chemical analyses

¶197:
Reference 104 - 0.17% Coverage

¶198: we present the results obtained for two representative objects, one of the Tellem period and one of the Dogon period. The aim is to access the chemical composition of the patinas

Reference 105 - 0.88% Coverage

¶199: Chemical imaging techniques, based on the combination of microscopy and spectroscopy, are well suited to study both the composition and the spatial organization of heterogeneous complex mixtures of organic and inorganic matter. Time-of-flight secondary ion mass spectrometry (ToF-SIMS), followed by scanning electron microscopy with energy dispersive X-ray analysis (SEM-EDS), and synchrotron radiation-based Fourier transform infrared microscopy (SR-µFTIR) have been applied to non-destructive analyses of micro-samples of the patinas of several Dogon statuettes. A very careful preparation, using ultramicrotomy on embedded samples, allowed us to perform successively all these measurements on a single fragment. Comparison and superposition of the different chemical images lead us to identify minerals (clays, quartz and calcium carbonate), and different organic products (proteins, starch, lipids), as well as to map their spatial distribution

Reference 106 - 0.06% Coverage

¶212: Analysis, Diagnosis of the State of Conservation and Restoration

Reference 107 - 0.13% Coverage

¶213: Conservation of historical reinforced concrete structures damaged by carbonation induced corrosion by means of electrochemical realkalisation

Reference 108 - 1.94% Coverage

¶214: Electrochemical realkalisation is a technique aimed at stopping rebar corrosion in carbonated concrete. The alkalinity of the concrete around the rebars is restored, and an environment favourable to the passivation of steel is re-created. The technique is based on the application of a DC current from an anode, placed on the external surface of the concrete, and the rebar. The anode is usually embedded in cellulose pulp soaked with a solution of sodium or potassium carbonate. The rebar and the anode are connected to a DC current feeder, the rebar to the negative terminal and the anode to the positive terminal. The applied current produces alkalinity at the surface of the rebar, while the alkaline electrolyte in which the anode is immersed penetrates from the external surface. In this way the concrete is realkalised, its protective characteristics towards the steel are restored and rebars can return to passive conditions. The treatment is temporary: this feature makes it very attractive in the field of historical buildings and cultural heritage, where the conservation of the original materials and surfaces is often a stringent requirement in the design of the repair. This paper shows the advantages of this technique applied to historical structures by describing the application to a bell tower built in the 1920s. The electrochemical realkalisation treatment was applied to eight columns on the bell tower where a traditional repair (based on the substitution of carbonated concrete with a repair mortar) would have been practically impossible. The application of the treatment followed two steps: initially, a trial was made on two sections of two columns, so as to calibrate the process parameters such as current density, time length and type of anode. Subsequently, the treatment was applied to all the columns. The analyses carried out on the

concrete after the application of the treatment showed that the protection to the reinforcement was mainly connected to the alkaline layer produced around the steel, which is expected to prevent further corrosion of the steel.

Reference 109 - 0.06% Coverage

¶215: A new class of gels for the conservation of painted surfaces

Reference 110 - 1.15% Coverage

¶216: The application of a new class of organogels as cleaning tools for painted surfaces is described. It combines some of the most attractive features of cleaning liquids and normal gels while diminishing the deleterious characteristics of both. Thus, the 'latent' gellant, polyethyleneimine (PEI), reacts with CO2 at room temperature in solutions of several organic liquids to produce an ammonium carbamate form (PEICO2). This charged species organizes itself into 3D polymer networks which immobilize the liquids as gels. The properties of the original solution (i.e. a free-flowing liquid) are re-established immediately after addition of a small amount of a weak acid which displaces the CO2 molecules and makes the PEI chains positively charged. The visual changes are substantiated by rheological analyses. Results from analytical tests to determine the utility of these gels as cleaning tools for painted surfaces of historical and artistic interest, have been obtained from contact angle and FTIR measurements as well as visual comparisons of the surfaces before and after application of the gels. The analyses indicate that the PEICO2-based organogels were very effective in removing different surface patinas from painted supports.

Reference 111 - 0.17% Coverage

¶216: The isothermally rheoreversible gel approach described in this work represents a new, highly versatile, and very efficient method for removing aged surface patinas from works of art.

Reference 112 - 0.07% Coverage

¶217: Water-repellent and biocide treatments: Assessment of the potential combinations

Reference 113 - 1.11% Coverage

¶218: It is a common practice to use several chemical products during restoration projects of monuments or sculptures. However, care must be taken when combining the products to avoid a misuse. For example, it is well-known that applying a biocide on stone before a water-repellent leads to a diminishment of the hydrophobic effect of the treatment. But the application of biocide after a water-repellent treatment has been poorly analysed, although studies have proven that the stone looses its hydrophobicity after the application of the biocide. Henceforth, this study investigates the effects of biocide application on a water-repellent film and focuses on the possibilities to restore the efficiency of the previous water-repellent treatment (after the application of the biocide). At first, the tests were performed on glass slides to understand the mechanisms, with the subsequent results revealing that the biocide product deposits on the water-repellent film. Then, the study focuses on determining methods to remove the remains of biocide on limestone samples, previously treated

with a water-repellent. The water-repellent used in the study is an alkylpolysiloxane, Rhodorsil H224 from Rhodia.

Reference 114 - 0.06% Coverage

¶219: On the use of ASTM closed vessel tests in accelerated ageing research

Reference 115 - 1.48% Coverage

¶220: The ASTM D6819-02e3 standard for testing the accelerated ageing of paper, published in 2002, recommends using closed glass vials in order to keep the degradation products in contact with the paper and thus permitting a better simulation of the natural ageing conditions inside closed books. In the present study, the actual conditions and their stability inside closed vessels have been evaluated. The necessity of assuring a very high sealing performance (tightness) of the systems in order to avoid leakage of water vapour is the main drawback of this ageing method. Systematic studies presented in this publication tried to monitor this tightness and have provided data that helped to answer the question of what circumstances could lead to achieving its improvement. Both gravimetric monitoring of water content in vials and “in situ” IR measurements of the aged paper humidity have been applied for this purpose. As a result, better sealing materials (gaskets and caps) than those recommended by the ASTM standard, have been found. Additionally, application of a dynamometric spanner for closing the vials is recommended, as this is a guarantee of reasonably high and recurring tightness of the systems used in tests. Nevertheless, the systematic, linear with time, loss of moisture for all used vials was observed. A 9% loss of the initial moisture content in samples of the aged paper was observed for the tested conditions (14 days at 90 °C). Therefore, it seems that including some kind of gravimetric control for ageing tests performed in closed vessels is of essential importance

Reference 116 - 0.45% Coverage

¶221: Kinetic studies of accelerated ageing in both closed and open systems, as monitored by DP and breaking length measurements, unexpectedly show that no statistically meaningful difference of degradation rates can be observed. On the other hand, the pH and whiteness index values reveal a meaningful difference between the rates of ageing in these systems, thus confirming the basic assumption of the ASTM test concerning the interaction of paper degradation products with the paper itself.

Reference 117 - 0.05% Coverage

¶222: The characterization of commercial artists’ alkyd paints

Reference 118 - 0.76% Coverage

¶223: Recently, analytical methods have been developed to identify the components in these polymers (oil modified polyesters), rates of cross-linking and mechanical properties. Presented in this paper are some of the characterization results of artists’ alkyd paints using THM (thermally assisted hydrolysis and methylation) gas chromatography– mass spectrometry (THM–GC/MS) and

Fourier transform infrared spectroscopy–attenuated total reflectance (FTIR–ATR). Four brands of artists' alkyd paints containing alkyd resin have been analysed; one containing a phthalic anhydride and pentaerythritol based alkyd resin, two containing isophthalic acid and pentaerythritol based alkyd resins, and the final one containing both phthalic anhydride and isophthalic acid and pentaerythritol based resins among the colours studied.

Reference 119 - 0.04% Coverage

¶224: implementation of an analytical strategy

Reference 120 - 0.63% Coverage

¶225: have been analysed to establish their chemical composition and multi-layered structure. The objective was to rediscover the technology for making the varnish of esteemed Italian violins and to reconstitute it. This paper reviews the physico-chemical studies published on such varnishes and also focuses on a research project carried out since 2002 at the Musée de la musique in Paris. It aims to apply in a comprehensive way different non-destructive or micro destructive methods (Py-GC/MS, IR microscopy, SEM/EDX, EDXRF, synchrotron radiation-based techniques, …) to the study of a large and representative number of ancient varnished musical instruments from a museum collection.

<Internals\\JCH 2009 Abstracts> - § 104 references coded [46.24% Coverage]

Reference 1 - 0.06% Coverage

¶3: Remote Sensing for Cultural Heritage Management and Documentation

Reference 2 - 0.10% Coverage

¶44: Aging and yellowing of triterpenoid resin varnishes – Influence of aging conditions and resin composition

Reference 3 - 0.24% Coverage

¶45: The aging of natural triterpenoid resins used as varnishes on paintings is still insufficiently understood. Although progress has been made, questions concerning the aging pathways in light vs. darkness, or the correlation of oxidation with yellowing, remain open.

Reference 4 - 1.34% Coverage

¶45: The influence of aging conditions, primarily the amount of light, but also resin composition, on the aging process were investigated. The aging reactions are followed using a variety of mass spectrometric and spectroscopic techniques. Aging processes in dammar and mastic varnishes are shown to be more dynamic and extensive than had generally been believed. In unaged bulk resins, large quantities of radicals develop within weeks after application as a varnish, due to the greatly increased surface-to-volume ratio. This is true for all aging conditions, including aging in darkness, and is accompanied by considerable oxidation as well. After a few months, most of the initial

triterpenoids are oxidized. Natural aging in light and darkness leads to the same main aging products. All these findings point to the conclusion that aging largely proceeds by the same pathways in both light and darkness, mainly autoxidation. Without light, enough radicals are formed to maintain extensive autoxidation, although more slowly. Thus, differences between light and dark aging mechanisms are much smaller than often believed. In mastic, the absence of the polymeric constituents is found to enhance oxidation, but reduce yellowing. It appears that the polymer acts as a natural radical stabilizer, favoring the pronounced intrinsic yellowing tendency of mastic. The manipulation of resin composition might lead to improved aging properties of triterpenoid resin varnishes.

Reference 5 - 0.09% Coverage

¶46: Contact sponge method: Performance of a promising tool for measuring the initial water absorption

Reference 6 - 1.11% Coverage

¶47: Porous limestone and mortar are able to absorb large quantities of water. This phenomenon will accelerate the deterioration of the material. In such cases, the material might be treated with a hydrophobic product, which creates a superficial layer that hampers the penetration of water. In order to decide if such a treatment should be applied or not, the water absorbing behaviour of the material should be measured. With the same measuring technique the efficiency of the hydrophobic barrier can be evaluated. Moreover, it allows the monitoring of such barriers as a function of time. At the same time, the water absorption of porous stone material is an indication of the degree of deterioration and its sensitivity to future deterioration. Up to now, two different measuring techniques exist, but one can only be used in laboratory and the other, which can be operated in laboratory as well as in situ, is not always reliable for in situ analyses. This article proposes an alternative method: the contact sponge method. This recently developed method was tested on non-treated porous stone materials in a laboratory environment in order to evaluate its performance in comparison with the two existing methods.

Reference 7 - 0.06% Coverage

¶48: Excimer laser removal of beeswax from galician granite monuments

Reference 8 - 0.08% Coverage

¶49: The paper presents the use of laser radiation for cleaning of beeswax treated granite stone

Reference 9 - 0.33% Coverage

¶49: With time, salt accumulation beneath the beeswax layer has caused an intense surface disintegration of granite. Conventional cleaning methods can destroy sculptured details of these emblematic monuments. For this reason, excimer laser cleaning has been chosen as a promising non contact, selective and environmentally friendly cleaning technique to be studied.

Reference 10 - 0.31% Coverage

¶50: The cleaning tests have been carried out using an excimer laser (ArF, 193 nm), with fluences between 0.5 and 2 J cm−2 pulse−1 and a spot area of 0.025 cm2. Samples representing beeswax films over Roan granite have been irradiated and their degree of cleaning has been studied as a function of the number of pulses and the laser fluence.

Reference 11 - 0.13% Coverage

¶51: Cleaning efficiency has been evaluated by FT-Raman Spectroscopy, allowing to establish the beeswax ablation threshold and the ablation rate.

Reference 12 - 0.15% Coverage

¶52: Excimer laser cleaning allows a progressive and controlled removal of a few tenths of micrometers of beeswax per pulse without damaging the underlying granite stone.

Reference 13 - 0.47% Coverage

¶57: The same experimental protocol has been applied to all the objects, alllowing this study to be one of the most important coherent investigation on this type of bronze decoration. It involves the use of non-invasive analytical methods in order to obtain the maximum amount of information possible about the chemical nature and structure of the surface layer. The protocol makes it possible to compare objects and to propose an interpretation of how this decorative technique evolved during the Egyptian period.

Reference 14 - 0.44% Coverage

¶58: Only ten of these could be described as hmty-km, because the base patinated alloy contains small amounts of gold and/or silver and the black patina is made up mainly of cuprous oxide Cu2O (cuprite). Among the four other objects, one patina is very close to the black bronze patina, but contains neither gold nor silver. Three other pieces have an unusual patina. A lack of other comparable examples makes it very difficult to determine whether the patinas are of ancient origin.

Reference 15 - 0.07% Coverage

¶59: Principal Component Analysis in monument conservation: Three application examples

Reference 16 - 0.32% Coverage

¶60: Multivariate statistics is a well-known and invaluable tool in archaeological science but its use is limited in monument restoration. The aim of this work is to demonstrate the effectiveness of Principal Component Analysis (PCA) on the characterization, technology and weathering condition investigation of building materials from historical monuments.

Reference 17 - 0.05% Coverage

¶62: The first one is a provenance and technology investigation

Reference 18 - 0.21% Coverage

¶62: It was proved by PCA that the original clay, used for the construction of the bricks, is not similar to the clay of other contemporary constructions in Istanbul but presents high similarity to the raw material of the bricks from

Reference 19 - 0.23% Coverage

¶62: Additionally, the technology of the bricks was studied by mercury intrusion porosimetry, strength tests and Scanning Electron Microscopy. The use of PCA gives a very comprehensive way to present the difference in the technology of the dome bricks.

Reference 20 - 0.22% Coverage

¶63: based on their microstructural characteristics (porosity, reverse hydraulicity ratio) and strength measurements. The PCA grouping gives an illustrative diagram depicting the correlation between mortar syntheses and resulting characteristics.

Reference 21 - 0.14% Coverage

¶65: Methodology of analytical study for provenance determination of calcitic, calcite–dolomitic and impure marbles from historical quarries in the Czech Republic

Reference 22 - 0.62% Coverage

¶66: The present provenance study was focused on marbles from historical quarries of one geological unit (Bohemian Massif, Czech Republic) exhibiting complex polyphase geological evolution. A combination of mineralogical–petrographic, geochemical and physical methods has been tested i.e. optical microscopy (OM) of the whole rock, X-ray diffraction (XRD) of the insoluble residues, petrographic image analysis (PIA) of carbonate grains, cathodoluminescence (CL) of microfacies, stable isotope ratio analysis (SIRA) of carbonates in the groundmass and secondary veins, Raman microspectrometry (RM) of the carbonaceous matter and bulk magnetic susceptibility (MS) of the whole rock.

Reference 23 - 0.02% Coverage

¶68: by optical metrology

¶69:
Reference 24 - 0.78% Coverage

¶69: After percussion tests in 1984/1992, an advanced technology of time-average TV-holography has been applied in 2000 and 2005. The primary aim was to substantiate if and to which extent detaching is in progress. This case study explores characteristics and limits of traditional percussion

tests and time-average TV-holography. Extensive mappings by both techniques are carried out on two different structures of wall paintings. The comparison shows that the so-called percussion test – when combined with a close experienced observation – reveals a holistic picture of the general condition of a threatened painting. Time-average TV-holography, on the other hand, yields highly accurate relative information on the spatial distribution of detached areas. Therefore, it is apt to provide an exact answer to the question if detachment is in progress or not.

Reference 25 - 0.23% Coverage

¶70: using hyperspectral imaging fluorescence lidars

¶71: Non-invasive documentation of historic façades with fluorescence lidar techniques can provide helpful information for the cultural heritage sector, especially when large areas outdoors are to be examined.

Reference 26 - 0.31% Coverage

¶71: where both cleaned and heavily soiled areas of the monument were scanned and analysed with two fluorescence lidar systems. Biodeterioration processes were also addressed during the experiment, with the aim of assessing the colonisation extent on selected areas of the monument. Results show the usefulness of a mobile fluorescence lidar system

Reference 27 - 0.03% Coverage

¶76: Bacterial community analysis

Reference 28 - 0.25% Coverage

¶77: Microbial corrosion of glass causes problems on delicates antique glass samples. Until now, the effect of microbial activity on corrosion phenomena has not been well documented. Only a few studies have been published concerning the microflora growing on glass surfaces.

Reference 29 - 0.08% Coverage

¶78: The present study deals with the characterization of cultivable aerobic bacteria isolated

Reference 30 - 0.66% Coverage

¶78: Microbial strains were sampled from four of the 25 panels of the “Natività” in the occasion of a recent conservation treatment, due to the presence of various kinds of crusts. One hundred microorganisms were isolated, about 50% bacteria and 50% fungi. Bacteria were submitted to morphological characterization and classified in the Gram group. For twenty strains, from different glass panels, the 16S rDNA gene was amplified and sequenced. Sequence analysis showed genus Bacillus, Arthrobacter and Paenibacillus as the most representative. In particular Bacillus and Paenibacillus are crusts associated. Phylogenetic relationship among isolates was determined. Chemical analysis of the glass and crusts completed the study.

Reference 31 - 0.25% Coverage

¶85: including the identification of the building materials and pigments used. For this purpose we used XRD analysis which proved that the green pigment in the Church of the Virgin, Wadi El Natrun is a mix of malachite and hydrocerussite, and the black pigment is graphite.

Reference 32 - 0.85% Coverage

¶85: The results proved that the building materials (stones, mortar, and plaster) in Wadi El Natrun are affected by ground water as they have the same soluble salts at different concentrations. The Wadi El Natrun lakes are the native source of natron salt, which has been used in mummification techniques. Soda lakes represent the major types of naturally occurring highly alkaline environments. The factors leading to the formation of the alkaline saline deposits may be divided into climatic, geological, and topographical. Climatic and topographical factors control the amount of water entering the system as rainfall or surface runoff and the amount leaving by evaporation. Geochemical factors determine which ions enter the system. Solutions of carbon dioxide result in the formation of a weak carbonic acid, which dissolutes the mineral components of the surrounding rocks and archaeological buildings, leading to their ion release.

Reference 33 - 0.25% Coverage

¶88: To create photorealistic three-dimensional (3D) models of real scenes and objects is a challenging problem that demands advanced knowledge of computer vision and computer graphics. Systems that can reconstruct the 3D model of cultural artefacts have found many applications

Reference 34 - 0.75% Coverage

¶88: We therefore propose a new method that is applicable for the separation of diffuse and specular reflection components in multi-view image sequence. Also, our method can tackle the specular reflection across the texture boundary. The image sequence is first normalized by the estimated illumination color. Based on the dichromatic reflection model, the specular chromaticity is replaced by the corresponding diffuse chromaticity, which can always be found in neighboring views with the highlights already faded away. We test the new method in modeling Yixing ceramic teapots. The shape model of the teapot is obtained by a laser scanner. The diffuse image sequence is then used to generate the texture map. We create the virtual scene with the photorealistic 3D teapot model, some synthetic 3D models and still pictures.

Reference 35 - 0.09% Coverage

¶89: by microwave remote sensing

¶90: Radar equipment based on microwave interferometry has been employed

Reference 36 - 0.37% Coverage

¶90: The measurement technique demonstrated in this paper results both as sensitive and accurate as the conventional technique, which is based on contact accelerometers, plus allows simple and rapid monitoring of structures even at great distances.

¶91: Characterization of U-matic videotape deterioration by size exclusion chromatography and pyrolysis gas chromatography/mass spectrometry and the role of adipic acid

Reference 37 - 0.96% Coverage

¶92: In order to develop a tool to assess the tape collection condition, 300 U-matic videotapes from the Institut National de l'Audiovisuel (INA) collection dated from 1975 to 1995 were analysed by different analytical techniques. The authors were attempting to constitute a group of 29 reference tapes representative of the INA collection using various analytical testing. The focus of this study was on hydrolytic tape stability using binder polymer identification and ageing tests. It was found that PET based polyester–polyurethane binders demonstrated a higher hydrolytic stability than binders made of poly(butyleneadipate)/polyurethane, which are more susceptible to fast deterioration. The authors examined the role of adipic acid in the hydrolytic degradation process. For such tape binders, a deterioration assessment method could be based on monitoring the adipic acid concentration and adipic acid rich oligomeric fragments in the binders. A method for measuring the amount of polymeric fragments in the low molecular weight region is proposed.

Reference 38 - 0.12% Coverage

¶93: Discrimination of painting binders subjected to photo-ageing by using microspectrofluorometry coupled with deconvolution analysis

Reference 39 - 0.84% Coverage

¶94: Organic binding media found in paintings exhibit characteristic fluorescence properties that strictly correlate with their chemical composition and may vary as a function of the ageing time. The aim of this work was to investigate the capability of microspectrofluorometry to distinguish between different binders. Linseed oil and protein-based media, deposited as thin films on microscope glass slides both in the presence and in the absence of inorganic pigments, were examined before and after artificial photo-ageing. Cross-sections of some paint layers were also examined. The article points out that microspectrofluorometry coupled with deconvolution analysis can be a useful tool for distinguishing between oil- and protein-based media. The curve-fitting analysis furnished a fine characterization of each binder/pigment combination, and highlighted the small spectral differences between their fluorescence signals.

Reference 40 - 0.13% Coverage

¶95: Nanoparticles of calcium hydroxide for wood deacidification: Decreasing the emissions of organic acid vapors in church organ environments

Reference 41 - 1.52% Coverage

¶96: Acetic and formic acid vapors emitted from woodwork in historical organs are very important corrosive agents for lead pipes. These acids are slowly released from the wood both during playing and when the pipes are silent. To inhibit this emission process, the wood surface can be modified, by creating a protective layer with alkaline features. However, a coating of wood is not recommended since this could modify the appearance and create a layer not perfectly compatible with the substrate. For this reason, we propose to use some innovative nanotechnology that has been successfully applied for the deacidification of wood samples coming from the Vasa shipwreck. Application of calcium (or magnesium) hydroxide nanoparticles, with sizes ranging from 30–150 nm, allowed a homogeneous distribution of particles through the surface layer of wood simply by soaking (or spraying) it in a alcoholic (or mixed with less polar solvents) dispersion of nanoparticles. Nanoparticles do not modify the wood appearance and distribute randomly within the first layers of wood. The small size of particles accounts for the high reactivity with CO2 from the air, to give the alkaline reserve of carbonates that provide high efficacy in the neutralization of gaseous acids. The emission of volatile organic compounds (VOC) from the treated wood was determined by using an emission test cell, Field and Laboratory Emission Cell (FLEC). The results show that the emissions of acetic acid vapor from nanoparticles treated wood was very low (< 70 μg/m2 h) during the first 13 month. In contrast, untreated wood emitted high concentrations of acetic acid vapor (200–400 μg/m2 h).

Reference 42 - 0.08% Coverage

¶97: Effects of silica nanoparticle and GPTMS addition on TEOS-based stone consolidants

Reference 43 - 1.40% Coverage

¶98: Consolidants based on tetraethoxysilane (TEOS) have been widely used for the consolidation of decaying stone heritages. These products polymerize within the porous structure of the decaying stone, significantly increasing the cohesion of the material. However, TEOS-based consolidants suffer from practical drawbacks, such as crack formation of the gel during the drying phase due to the developed capillary force, which is typical for TEOS-based consolidants. We have prepared new consolidants TEOS-based consolidants containing flexible (3-glycidoxypropyl) trimethoxysilane (GPTMS) and silica nanoparticles in order to reduce capillary force development during gel drying, and have characterized them for the application of stone consolidants. Different sizes of silica nanoparticles were used, which were smaller than the pore size of the tested stone. The properties of the TEOS/GPTMS/nanoparticle composite solution were compared with those of the commercial products Wacker OH and Unil sandsteinfestiger OH 1:1. The gelation time was similar to that of commercial consolidants, and the TEOS/GPTMS/nanoparticle solution was stable over a period of up to six months. The contact angle of the surface increased with the addition of the nanoparticle, as well as with the addition the GPTMS, which is higher than that of commercial Wacker OH. The addition of a nanoparticle, as well as GPTMS having flexible segment, provided a crack-free material, while the gels obtained from the commercial consolidants exhibited cracking.

Reference 44 - 0.08% Coverage

¶99: A study of mechanical properties of papers exposed to various methods of accelerated ageing.

Reference 45 - 1.24% Coverage

¶100: The damage to historical documents and books caused by the acidic character of paper is often manifested as a complete loss of their mechanical properties. Deacidification and restoration of archived paper objects require knowledge of the long-term behaviour of paper before and after repair actions. Our study was focused on the investigation of mechanical properties (tensile strength, stretch, tensile index, zero-span tensile strength, folding endurance) of original papers (one alkaline and three different acidic samples) exposed to five methods of dry-heat and moist-heat accelerated ageing. The degree of paper deterioration upon ageing was significantly influenced by the temperature and relative humidity, along with the intrinsic chemistry of the individual paper samples. The correlation matrix evaluated at a 95% confidence level for tensile strength, stretch, tensile index and zero-span showed linear correlations between these mechanical properties for all the paper samples. However, a linear dependence of folding endurance on zero-span tensile strength was found only for alkaline paper, which revealed the highest resistance to the accelerated ageing tests. In addition, the concentration of paramagnetic semiquinone species in the acidic lignin-containing paper samples was monitored by Electron paramagnetic resonance spectroscopy.

Reference 46 - 0.06% Coverage

¶101: Analysis of bacterial community composition in concretions formed on

Reference 47 - 0.27% Coverage

¶102: Invertebrate fouling communities called concretions form on archaeological metals submerged in marine environments. The concretions are inhabited by bacteria that play a role in formation and persistence of the concretion layer. We analyzed the bacterial community in concretion samples collected

Reference 48 - 0.58% Coverage

¶102: Variability in the size of the bacterial community was high and the concretions appear to harbor approximately 106 bacteria/g. Analysis of 16S rDNA clones indicated that the community consisted of bacteria related to three phyla: Firmicutes, Bacteroidetes, and Proteobacteria. The low bacterial diversity may indicate a late-succession stage community within the stable concretion. Alternatively, the low diversity could be the result of residual antifouling chemicals applied to the ship hull. It is likely that the bacterial community detected in these concretions plays an important role in the continuing corrosion of the USS Arizona

Reference 49 - 0.06% Coverage

¶105: Application of peptide mass mapping on proteins in historical mortars

Reference 50 - 0.12% Coverage

¶106: The reliable identification of proteinaceous binders in historical mortars and plasters represents a complicated analytical problem.

Reference 51 - 0.19% Coverage

¶106: In this paper the possibility of peptide mass mapping (PMM) in connection with the mass spectrometry is demonstrated. The presence of milk and collagen proteins was trustworthy proved in the samples of mortars

Reference 52 - 1.50% Coverage

¶108: A recent restoration of the mosaics has allowed to characterise the mortars from a compositional point of view by individuating the inorganic mineralogical fraction and by chemically characterising the organic components. The study of stucco samples has been performed through polarising microscope observations, X-ray diffraction (XRD) analyses, thermal analyses (TA) (thermodifferential-DTA and termogravimetric-TGA analysis), Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR) spectroscopy, pyrolysis-gascromatography (PY-GC)–mass spectrometry. The analyses have allowed to distinguish between original stucco, produced and utilized at the same time of the realisation of the mosaics, and other mortars, presumably employed in later times during restoration interventions. The outcomes of the mineralogical investigation and TA indicate the presence of four different types of stuccos, here considered as four characteristic groups. The mineralogical analyses indicate that all the samples are constituted of two main phases: calcite and vaterite and the TA, beyond the quantification of the calcium carbonate content, have shown the presence of organic components in the stucco. The organic fraction was characterised by PY-GC–mass spectrometry, confirming the presence of the linseed oil cited in the ancient recipes. The very interesting outcome of this study is the occurrence of the rare calcium carbonate polymorph vaterite. The ATR-FTIR spectroscopy on the stucco gives further contribution to a better understanding of the FTIR spectrum of the rare mineral and an explanation of its formation is tentatively given.

Reference 53 - 0.02% Coverage

¶111: 3D Photogrammetric model

Reference 54 - 0.41% Coverage

¶114: using non-invasive fiber optics reflectance spectroscopy (FORS) in the ultraviolet (UV), visible (vis), and near infrared (NIR) regions (350-1700 nm). Furthermore, to help in the identification of the pigments used, a suitable spectroscopic database was created for Prussian blue, artificial ultramarine blue, Thénard blue (or cobalt blue), and cerulean blue modern blue pigments, in masstone and in mixtures with lead white as well as zinc white

Reference 55 - 0.05% Coverage

¶115: Qp: A tool for generating 3D models of ancient Greek pottery

Reference 56 - 0.86% Coverage

¶116: The development of content based retrieval mechanisms is a very active research area. Present studies are mainly focused on automating the information extraction and indexing processes. Usually for the development and evaluation of such mechanisms, there is always a need for a ground-truth database. In this paper, we present a software tool named qp that is able to semi-automatically produce a collection of random 3D vessels, with morphological characteristics similar to those found in ancient Greek pottery, a ceramic group exhibited worldwide with great impact to scholars as well as general public. A 3D vessel collection has been produced by qp and can be used as a test bed dataset for the development of shape-based 3D descriptors applicable to pottery. Additionally, qp can be considered as a 3D vessel modelling software tool which can be used by people not related to computer graphics technology and particularly to 3D modelling.

Reference 57 - 0.06% Coverage

¶117: Metadata-based heritage sites modeling with e-learning functionality

Reference 58 - 1.24% Coverage

¶118: In recent years, the innovations, improvements and rapid advances in traditional and geographic (GIS) databases, design computing, digital architecture and archaeology, imaging sensors and scanners, computer modeling software, haptic equipments and e-learning technology, as well as the affordability and availability of many powerful graphics workstations make metadata and 3D modeling techniques for CHM with e-learning and haptic rendering (virtual reality) functionality feasible. This paper addresses the application research issue of incorporating metadata and modeling in a CHM case study and discusses the related e-learning functionality. So, in this article, a practical project is used to demonstrate the functionality and the performance of the proposed 3D modeling metadata based CHM methodology. In particular, the processing steps from image acquisition to the 3D geometric and semantic description of the Galerius Palace “Octagonon” (Thessaloniki, Greece) in a 3D digital environment are presented. Also, emphasis is put on documenting the new term 3D modeling metadata for CHM and on discussing as an open issue the concept personalized e-learning CHM scenarios. The proposed methodology has 10−2 modeling accuracy (i.e. 1% relative inaccuracy) and it is of interest for archaeology, architecture, virtual reality, e-learning, e-culture

Reference 59 - 0.52% Coverage

¶120: In this paper, the airflow patterns, distribution and velocity and the air temperature distribution inside a historical building in Palermo (Italy) were investigated by a transient simulation. A three-dimensional model of the library room, actually used as book deposit, where an ancient natural ventilation system is operating, was investigated using a CFD tool during the hottest day of the summer of 2006 in Palermo. The simulation results are in agreement with the trends of air velocity and temperature of the experimental values measured during a test campaign.

¶121:
Reference 60 - 0.08% Coverage

¶122: Efflorescence of mirabilite, epsomite and gypsum traced by automated monitoring on-site

Reference 61 - 1.82% Coverage

¶123: Short crystallisation and deliquescence cycles of mirabilite, epsomite and gypsum are identified by using an automated monitoring system on-site. It consists of digital cameras and RH/T sensors which are computer-controlled and connected to the Internet. Digital images are processed to form a time-lapse movie, so that surface alterations are easily recognised. High resolution imaging (6 mega pixels) in combination with various lenses (12–24 mm zoom, 28–105 mm zoom, 20 mm inversed) results in a wide range of precise observation from 7 to 500 mm width of image. That is essential for discriminating phase transitions of single crystals at the same time as monitoring the evolution of the efflorescence as a whole. Crystallisation-deliquescence cycles are induced by small temperature and humidity variations. Mirabilite and epsomite undergo phase changes from crystallisation to deliquescence and vice versa at about 83% RH (15–20 °C). These equilibrium relative humidities are considerably reduced compared to the pure salt systems as a consequence of mixed salt solutions. Observations confirm predictions by ECOS simulation based on chemical analyses of water extracts from the site. Dehydration of mirabilite is observed when the relative humidity drops below 65% RH. Mirabilite exhibits the most pronounced and rapid phase changes in response to indoor climate variations. As an example, whisker crystals of 1–3 mm length grow within one up to some days. Epsomite responds fainter and slower. Crystallisation of gypsum is distinguished by the growth of new crystals on the stone surface. They have a size of about 10 μ – which is close to the image resolution – when they appear on the image. Crystallisation is associated with an increased granular disaggregation of the stone surface. Rhythmical crystallisation of gypsum appears to correlate with small relative humidity variations of ±2–5% within a band from 65 to 75% RH in the room. However, this needs to be clarified in detail.

Reference 62 - 0.10% Coverage

¶124: Principal component analysis of colour measurements of patinas and coating systems for outdoor bronze monuments

Reference 63 - 1.21% Coverage

¶125: Principal Component Analysis (PCA) was applied on colour measurements performed on outdoor bronze patinas and protective coating systems on bronze coupons in order to monitor natural weathering and cleaning effects. PCA chemometric technique is shown to be a powerful tool to analyse the large measurement data set which is needed to characterise these kinds of system. The results are compared with previous work where the CIELAB L*a*b space was used, in order to spot the advantages and disadvantages of both techniques and how they can complete each other in order to set up a workflow when dealing with large datasets of colour measurements. As previously stated, quicker colour variations in the early stage of natural weathering of bronze coupons are characterised, which is mainly due to lightness reduction. PCA analysis helps to visualise the different behaviour upon cleaning procedure of different monument patinas and colour difference reduction due to cleaning. It gives the advantage in a first screening phase to possibly highlight the presence of outliers, check the level of noise in the spectra, and select the variables which carry more information. Its integration in a workflow for colour measurement can help in speeding up the process of later analysing data with the well-established CIELAB system

Reference 64 - 0.08% Coverage

¶126: Recording stratigraphic relationships among non-original deposits on a 16th century painting

Reference 65 - 0.13% Coverage

¶128: Nanocontainer aqueous systems for removing polymeric materials from marble surfaces: A new and promising tool in cultural heritage conservation

Reference 66 - 1.05% Coverage

¶129: The present study dealt with the characterisation of marble surfaces coated by three kinds of polymeric material usually employed in stones conservation and with the evaluation of the removal of these coatings from the surfaces by means of new nanocontainer aqueous systems constituted of micellar solutions (MS) and oil-in-water microemulsions (MC). The polymeric coatings were also subjected to accelerated artificial ageing in order to detect possible effects associated to natural photochemical ageing. The aim of the work was the assessment of the performance of such nanocontainer aqueous systems taking acetone (Ac) as a reference “traditional” solvent for the removal procedure. The characterisation was carried out by means of Scanning Electron Microscopy (SEM) and Environmental Scanning Electron Microscopy (ESEM), Fourier Transform Infra-Red (FTIR) and Nuclear Magnetic Resonance (NMR) spectroscopies and the results obtained showed that the performance of these innovative methods based on nanocontainer aqueous systems can be considered highly promising in the view of a “green approach” to the conservation of cultural heritage.

Reference 67 - 0.11% Coverage

¶130: Tert-butyl amine borane complex: An unusual application of a reducing agent on model molecules of cellulose based materials

Reference 68 - 1.25% Coverage

¶131: The cellulose main degradation processes are hydrolysis and oxidation. Only the first one has been widely investigated. The Istituto Centrale per la Patologia del Libro (ICPL) focused its attention on oxidation phenomena and studied a particular class of reducing agents, namely the borane-amine complexes. During the investigation it was found that the borane tert-butylamine complex, besides being the most promising reducing agent, was also able to react with carboxylic functions. In the present study 1H and 13C NMR, Pulsed field gradient NMR spectroscopy as well as Raman spectroscopy were used as analytical tools to disclose the mechanism of the interaction between the borane tert-butylamine complex and the carboxylic functions. Given the complexity of the paper/environment interactions and the subsequent degradation phenomena, we worked on simplified models based on small carbohydrate molecules in order to reproduce the behavior of degraded paper after reductive restoration. Modified D-glucose and D-cellobiose were used in this first step in order to set up the analytical methods before approaching more complex systems such as microcrystalline cellulose and paper. Our results give the experimental evidence that borane tert-butylamine complex is also able to neutralize acidic functions. This finding has important perspectives in paper restoration.

Reference 69 - 0.07% Coverage

¶132: Enzymatic decolorization of bacterial pigments from culturally significant marble

Reference 70 - 0.17% Coverage

¶133: Marble monuments and facades are susceptible to microbial colonization. Microbial growth on a marble surface can develop into unsightly red stains whose removal has proven problematic.

Reference 71 - 0.68% Coverage

¶133: could be caused by pigment-producing microorganisms and to assess the potential of enzymatic stain remediation. Traditional cell culture methods were used to isolate a pigmented bacterium from a stained area of the sculpture. Sequencing and analysis of the 16S rRNA gene identified the organism as a strain of Serratia marcescens, and FT-IR spectroscopy demonstrated that the pigment produced by the bacteria was most likely a prodigiosin. Decolorization of the pigment in solution demonstrated that the enzyme laccase from the fungus Trametes versicolor has potential as a decolorizing agent. This study suggests that enzymatic decolorization may be applicable to stains on culturally significant marble caused by microbial colonization.

Reference 72 - 0.24% Coverage

¶135: Interactions of lead-based pigments with a number of inorganic salts, one of the most dangerous degradation agents of wall paintings, were studied under laboratory conditions. The results were used to interpret colour changes observed in 11th century frescoes

Reference 73 - 1.22% Coverage

¶135: Interactions of selected pigments (lead white, massicot, red lead) with different salt solutions were performed within long-term laboratory experiments. We used a selection of naturally occurring salts (Na2SO4, MgSO4, CaSO4, NaCl, NaNO3, Ca(NO3)2, Na2CO3, K2CO3 and urea) and, additionally, a range of synthetic salts that are often applied to the wall paintings during their cleaning and conservation (NaHCO3, KHCO3, (NH4)2CO3, NH4HCO3). The reaction products were identified by X-ray powder diffraction. Red lead (Pb3O4) has a tendency to darken in all salt solutions containing dissolved atmospheric CO2 due to disproportionation to plattnerite (PbO2) and cerussite (PbCO3). Massicot (PbO) in a wet state reacts with atmospheric CO2 to form hydrocerussite and finally cerussite. Lead white (PbCO3 and Pb2CO3(OH)2) reacts with sulphates, carbonates and chlorides to form their respective salts in high yield and, sometimes, without any apparent colour change. Samples taken from the dark brown parts of the wall paintings in Saint George's church were analysed using laboratory X-ray powder microdiffraction. The presence of hydrocerussite, cerussite, plattnerite and lead magnesium carbonate was revealed. According to the results of laboratory experiments, the original lead-based pigment of the now darkened parts was red lead.

Reference 74 - 0.07% Coverage

¶136: The scientific approach to the restoration and monitoring of mural paintings

Reference 75 - 0.55% Coverage

¶137: is reported as a fruitful example of the synergic collaboration between restorers and scientists in the planning and development of conservative interventions. Before restoration, the painting technique and the state of preservation of the pictorial cycle have been investigated firstly by close examination of the painted surfaces and then by optical and/or SEM-EDS microscopy and μFT-IR spectroscopy on appropriately selected samples. In particular, the original constituent materials and those belonging to subsequent restorations were characterized together with those originating from decay processes

Reference 76 - 0.70% Coverage

¶137: Preliminary conservation trials and scientific studies were carried out to design the most convenient restoration intervention and to verify the correctness and non-invasive of the necessary operations. Special attention was devoted to cleaning procedures, continuously monitored by a physico-chemical methodology, mainly based on microinvasive, microscopic and spectroscopic investigations, to evaluate the efficiency, advantages and drawbacks of the proposed cleaning procedures and define the most appropriate ones. Finally, specific decay markers have been recognized, by a comparison of the results obtained from the detached samples with those deriving from artificially aged models, to be used for a correct future monitoring and maintenance of the wall paintings

Reference 77 - 0.07% Coverage

¶138: Recent advances in swollen-state NMR spectroscopy for the study of drying oils

Reference 78 - 0.13% Coverage

¶139: The cross-linking processes of three drying oils (poppy, linseed, walnut), a class of organic compounds very important in the field of artworks

Reference 79 - 0.90% Coverage

¶139: were studied by means of 1H-NMR spectroscopy, following the change of the protons signals when oils are heated at 60 °C in the presence of air or nitrogen gas. This preliminary information is particularly important to identify the presence of drying oils within a solid painting film. We demonstrated that it was possible to study these films by swollen-state NMR, an innovative spectroscopy method that can directly analyze very small semisolid samples instead of solutions. The main advantages of this method are the short time of analysis, the possibility to analyze samples without any preliminary treatment, and the small quantity of the sample required. Therefore, swollen-state NMR technique was used to characterize three real painting films: in this way, we succeeded in recognizing in real paintings specimens the presence of drying oils employed as binders, avoiding any interferences due to other organic compounds acting as binding agents, like waxes or egg-yolk media.

Reference 80 - 0.05% Coverage

¶140: Evaluation of the effects of environmental conditions

Reference 81 - 0.75% Coverage

¶141: In order to assess the deterioration properties of this new type of canvas, three degradation processes (exposure to wet atmosphere, to acidic attack and to UV light) were simulated and investigated. The deterioration state of the samples was monitored with Infrared Spectroscopy (FT-IR) and Thermogravimetric Analysis (TGA). The structure of the canvas was also analyzed by Scanning Electron Microscopy (SEM). These techniques were successfully applied to study the occurrence significant changes of samples. The exposure to acidic and UV attack produced deep changes on the samples (only on the canvas surface in the case of UV light), while no significant effect was identified on the sample after the exposure to wet atmosphere. The results obtained from Spanish broom canvas are reported in comparison to flax canvas.

Reference 82 - 0.52% Coverage

¶143: Experiments have been carried out with model painted glass samples simulating weathering phenomena of originals. Traditional materials like Paraloid B72, modern ones like SZA (proposed by the Fraunhofer-Institut für Silicatforschung, ISC), and three new consolidants prepared by the sol–gel method and based on different hybrid organic–inorganic alkyl-alkoxysilane systems have been considered. The adhesion, penetration, stability, hydrophobicity, mechanical and chemical resistance are properties and requirements tested to prove their effectiveness and range of use

Reference 83 - 0.43% Coverage

¶145: Laboratory and field observations show that high relative humidity enhances the cementation of particles to underlying surfaces. The hygroscopic nature of particles or the fibres to which they adhere influences this cementation process. The cements, which can form in a matter of hours at high humidity, appear to be microcrystalline calcites. Reducing the impact of this process on heritage objects requires preventing dust deposits, especially in periods of high humidity.

Reference 84 - 0.11% Coverage

¶146: The presence of trapped carbon dioxide in lapis lazuli and its potential use in geo-sourcing natural ultramarine pigment

Reference 85 - 0.87% Coverage

¶147: The source of the previously unassigned weak band at 2340 cm−1 that is occasionally observed in the infrared spectrum of natural lapis lazuli pigment is here attributed conclusively to CO2 trapped in the β-cage of lazurite. In addition, the geo-sourcing potential of this infrared feature for lapis lazuli is tested and found to be more ambiguous than previously suggested. The CO2 absorption band is in fact observed in lapis lazuli samples from numerous disparate geographic locales including

Afghanistan, Canada, Myanmar, Siberia, Tajikistan, and the Ural Mountains, as well as mineral hauyne samples from Germany and Italy. The spectral feature was absent from lapis lazuli samples from California, Chile, Colorado, and New York. Furthermore, poor quality lapis lazuli samples, regardless of locale, highly processed natural pigment samples, and all samples of synthetic ultramarine blue, green, and violet pigments were devoid of encapsulated CO2.

Reference 86 - 0.07% Coverage

¶148: Characterization and degradation pathways of ancient Korean waxed papers

Reference 87 - 0.30% Coverage

¶149: They present nowadays various patterns of degradation. As little is known about the waxes used and the techniques employed to wax the papers, it appeared necessary to identify the substances used and to assess their degree and pathways of alteration to further define adapted conservation treatment and preservation conditions.

Reference 88 - 0.77% Coverage

¶150: A modern Korean beeswax sample was also analyzed as reference. A two-step analytical methodology based on infrared spectroscopy, HT-GC and HT-GC/MS analysis was developed. These investigations led to the identification of beeswax in all the samples. In a single sample, paraffin was also determined, indicating a step of restoration, possibly during the 19th century or afterwards. All the samples revealed an altered pattern of beeswax that is reported here for the first time. Particularly, the presence of hydroxyesters in high amount and the formation of n-aldehydes are new and interesting results that may be explained by the use of previous oxidative treatments. Depletion of the shortest chain n-alkanes and monoesters was also observed. The different alteration pathways of beeswax in Korean wax papers are fully discussed in this paper.

Reference 89 - 0.76% Coverage

¶152: This work applies this model to compare the magnitudes of specific risks estimated for this same archive collection when located in either of two pairs of storage rooms. These rooms are in two different parts of this building: two are in an older part and two are in a recent addition. It was, therefore, necessary to assess the building itself, both structurally and environmentally, as well as analyse its common human practices. In terms of the overall risk magnitude, the best room was found to be in the recent building and the worst in the older building. However, risks related to water problems were found to be higher in the new building. In this work cost-free measures and easy to implement recommendations are given in order to improve the quality of the storage rooms. A final comment on the method itself is also given.

Reference 90 - 0.04% Coverage

¶153: Quantification of mercury in XVIII century books

Reference 91 - 0.53% Coverage

¶153: Energy Dispersive X-Ray Fluorescence (EDXRF)

¶154: This work describes the quantitative analysis of mercury present in the ink used to colour some books of XVIII century. The mercury content was determined by Energy Dispersive X-ray Spectrometry. This is a non-destructive technique which allows elemental identification and quantification (Z > 13) by atomic physics processes. The organic pigments cannot be identified by this technique, taking into account that its composition is mainly C, O and H. Levels of 2 wt.% and 4.5 wt.% were measured in 1756 and 1753 books respectively

Reference 92 - 0.26% Coverage

¶154: High content on Fe were observed in some of the books. This work highlights the application of a physics technique in a very important aspect for art and cultural heritage conservation and restoration, considering that high levels of toxic elements might be found in ancient documents

Reference 93 - 0.43% Coverage

¶154: It is of great importance that preliminary elemental analyses are performed on ancient documents before handling them, because they might constitute some danger for restorers, conservators and collectors. This work highlights, for the first time, the danger of some ancient books. They might contain a very high concentration of mercury, which is toxic for the organism. This is also a particularly important problem of public health never mentioned in literature before.

Reference 94 - 0.03% Coverage

¶155: . Characterisation of materials from

Reference 95 - 0.89% Coverage

¶159: Based on both a historic and documentary and a physicochemical approach, the study is attempting to codify well-adapted antique, medieval and traditional textile dyeing recipes; to reconstruct them through a detailed sequence of simple and reproducible operations; and to optimize the methodology at all stages, i.e. extraction of the colouring principles, as well as mordanting and dyeing; the latter being evaluated through standard light and wash fastness assessments, and on the basis of systematically obtained colorimetric data. As colouring agents are considered saffron, turmeric, weld, Persian berries, henna, safflower, dyer's bugloss, madder, scale insects, sappan and Brazil wood. A variety of mordants, namely FeCl3, SnCl2, K2Cr2O7, ZnCl2, CuSO4, and KAl(SO4)2·12H2O, is anticipated to meet both early and rather recent options, while being easily available. Based on a large collection of ancient proposals and optimized by means of methodical assessments,

Reference 96 - 0.09% Coverage

¶162: Experimental tests used for treatment of red weathering crusts in disintegrated granite – Egypt

Reference 97 - 1.19% Coverage

¶163: In humid polluted areas “red weathering” is one of the major deterioration forms that characterize most granitic rocks. Several intervention steps are required to remove and treat all surfaces affected by this form. It is one of the most aggressive forms of deterioration which are essentially composed of some complex species of clay minerals “Kaolinite, Illite, Montmorillonite and Tosudite”, in addition to some species of salts as “Gypsum” pigmented by “Hematite” as a colorant. After several investigatin techniques, these crusts need several intervention and conservation steps to remove and eliminate the aggressive effects resulted from the red crusts through three essential steps: “cleaning, gap filling and strengthening and stabilizing”. After evaluating all materials and methods that were performed by “DBN, SEM, EDX, and AAS”, the present study suggests that the most suitable cleaning methods are composed of three essential steps “dry and vacuum cleaning (DVC), ultra-sonic cleaning (USC), poultice cleaning (PC)”. Furthermore, the elected gap filling material composed of “Araldite AY-103” mixed with “Granite powder as petro-filler.” Finally, different evaluation methods proved that “Wacker H” is the most suitable strengthening and stabilizing material for consolidation purpose.

Reference 98 - 0.66% Coverage

¶165: Mechanical properties of the masonry material have been obtained by experimental tests on small specimen and the mechanical behaviour of the structure has been evaluated via numerical models. The static analysis of this ancient pagoda constitute a prerequisite base for the evaluation of its structural behavior leading to a suitable maintenance program. The architectural characteristics and damage conditions of the pagoda are key parameters in the preparation of a complex analytical model. The pagoda leans more than six and half degrees, and exhibits some bad structural conditions. Static analysis is carried out via finite-element method in order to establish a reliable numerical model and assess the static risk.

¶166:
Reference 99 - 0.04% Coverage

¶166: using PIXE multivariate statistical analysis

Reference 100 - 0.32% Coverage

¶167: were analyzed using proton induced X-ray emission (PIXE) technique. To classify the fragments according to their location and origin, principal component analysis (PCA) and hierarchical cluster analysis (HCA) were applied to the chemical compositions of the body of the shards. We were able to classify the samples into three distinct groups using PIXE.

Reference 101 - 0.11% Coverage

¶168: by mirror micrometry

¶169: In a parallel study, it has been shown by comparison of successive TV-holography campaigns that

Reference 102 - 1.32% Coverage

¶169: In order to regularly measure small surface displacements in situ over a long duration of several years, a new method that we call Mirror Micrometry (MM) has been designed and implemented. This method monitors the reflection of a light beam by a mirror that is mounted to the surface of interest for the duration of the experiment. The mirror is designed to rotate about a pivot as small displacements in the detaching surface occur, thus deflecting the reflected light beam. Measurements over more than three years in the Convent Church and in the Holy Cross Chapel reveal various types of surface displacement perpendicular to the wall surface. These are correlated with relative humidity (RH) changes in the room climate. Reversible short-term variations of approximately ±5–10 µm occur with periods of one to several weeks and relate primarily to weather changes. Reversible long-term variations of ±5–10 µm correspond to averaged seasonal humidity changes. Irregular and irreversible movements in increments of 20–30 µm record very localised progressive detachment steps. A semi-quantitative correlation of approximately 1 µm surface displacement per 1% RH change is calculated. Based on the fact that nearby measuring points can simultaneously move in opposite directions, a geometric model is drawn to explain deformation by hygric swelling and shrinking of different shapes of detached layers.

¶170: Noninvasive physicochemical characterization

Reference 103 - 0.25% Coverage

¶171: The present work was one of the first attempts to analyze the conservation status of two ferrotypes, ancient photographic plates realized on a support made of iron. The photographic material was constituted of collodion as binder for the photosensitive silver halides grains.

Reference 104 - 0.77% Coverage

¶171: The analytical techniques used for the morphological and physicochemical characterization were noninvasive. The surface morphology was studied by means of optical microscopy (OM) and environmental scanning electron microscopy (ESEM) coupled with an energy dispersive X-rays (EDX) system for the elemental analysis. These techniques, together with microreflectance Fourier transform infrared spectroscopy (µ-FTIR) and contact angle, allowed to obtain information on both the chemical – elemental – composition of the materials constituting the ferrotypes, and the conservation status of these photographic plates. The study showed that the physicochemical diagnostics allowed to characterize the two ferrotypes that, despite their similar age and provenance, showed different conservation status, surface properties, and elemental composition.

<Internals\\JCH 2010 Abstracts> - § 96 references coded [54.37% Coverage]

Reference 1 - 0.25% Coverage

¶4: Taking the usual traditional process as a reference, in the present paper a new effective methodology for carrying out computer assisted delineation of layouts from cultural heritage sites, using 3D digital models, is described.

Reference 2 - 0.08% Coverage

¶5: Fine tuning of pore size distribution of poultices to substrate properties

¶6:
Reference 3 - 1.44% Coverage

¶6: Especially the desalination of immovable objects, such as masonry structures, is still a trial-error practice. In the field, different desalination materials and methods are used, sometimes with unsatisfactory results. Better understanding of the desalination process is needed in order to support the conservator with clear guidelines for choosing a suitable desalination material and method. The research presented in this paper constitutes the first step towards the development of a modular system of poultices, which can be adapted, i.e. fine-tuned to different types of substrates. Starting point is to make use of advection, i.e. the transport of salt ions with water flow. This transport mechanism is faster than diffusion and the application on immovable objects is relatively easy. In order to optimize salt extraction, a poultice working by advection should have smaller pores than the substrate. Starting from this principle the pore sizes of different desalination materials (sand, cellulose, kaolin and bentonite) mixed in different proportions, have been measured. Interesting results were obtained, showing that the desalination materials commonly used in the field are often not the most suitable ones. On the basis of the results, recipes for poultices, adapted to a specific substrate, can be formulated.

Reference 4 - 0.07% Coverage

¶7: Assessing stains on historical documents using hyperspectral imaging

Reference 5 - 0.14% Coverage

¶8: Hyperspectral imaging can be an important tool for the assessment and documentation of the state of preservation of an object.

Reference 6 - 1.56% Coverage

¶8: In this paper, the use of hyperspectral imaging is described for enhancing the assessment of the visual properties of stains. The use of imaging software (ENVI) is also described for quantitatively assessing the extent of staining in two different documents. Single 10 nm bandpass images can be useful assessing darker stains with well defined boundaries. In one document (a treaty), the faint discolouration on one page made the extent of staining difficult to assess visually. A false colour density slice (450 nm) provided a topographical image which was useful for enhancing the contrast between stained and unstained paper. In this type of image, the degree of discolouration could be correlated to optical density and the amount of staining on a page could then be related to the number of pixels for a given absorbance range. In a second document (a prayer book), the staining was more extensive and some of the stains were dark in appearance. This document also contained a lot of text that was written using a dark irongall ink, which limited the use of a density slice at a single bandpass. In this document, pixel unmixing was successfully used to quantitatively determine the extent of staining. The measurement tool provided with the Nuance™ Imaging System made it possible to quantitatively describe the size of the stain in terms of the number of pixels as well as its appearance in terms of average optical density.

Reference 7 - 0.68% Coverage

¶9: Identification of red colorants in van Gogh paintings and ancient Andean textiles by microspectrofluorimetry

¶10: Red lake pigments and dyes used in works of art were characterized by microspectrofluorimetry, a new tool in the field of cultural heritage. Emission and excitation spectra were obtained with high spatial resolution (8–30 μm) in cross-sections from paintings by Vincent van Gogh and Lucien Pissarro and from millenary Andean textiles. The fluorophores were identified by comparing their spectra with those from historic reconstructions assembled in a database. In the paints, purpurin and eosin lakes were detected.

Reference 8 - 0.20% Coverage

¶10: The results obtained with this new technique were confirmed and are in agreement with those obtained with conventional methods, requiring microsampling, such as HPLC-DAD-MS and SEM-EDX.

Reference 9 - 0.15% Coverage

¶11: Non-invasive characterisation of binding media on painted glass magic lantern plates using mid-infrared fibre-optic reflectance spectroscopy

Reference 10 - 0.68% Coverage

¶12: were studied using mid-infrared (mid-IR) fibre-optic reflectance spectroscopy (FORS), a non-invasive technique, to test its potential for the identification of the types of binding media used in the paints. Gum, oil and resin media were identified on the plates and the amounts of these media varied from place to place; the discovery of these media correlate well with the literature on magic lantern plate preparation and painting. The spectra collected are reported uncorrected and also with the fingerprint region corrected with the Kramers–Kronig correction, which corrects distorted peaks caused by specular reflections.

¶13:

Reference 11 - 0.17% Coverage

¶15: Microscopic and spectroscopic techniques for the study of paper supports and textile used in the binding of hispano-arabic manuscripts from Al-Andalus:

Reference 12 - 0.40% Coverage

¶16: Paper physical study was performed by microscopic and spectroscopic techniques. A routine and objective method, Fourier Transform Infrared (FTIR) spectroscopy, was employed and proved to be a useful technique for the characterization of cellulosic fibres, main component of paper from the boards and the envelope flap pasteboards, and the fabric lining from the cover

Reference 13 - 0.07% Coverage

¶17: Physical principles and efficiency of salt extraction by poulticing

Reference 14 - 0.70% Coverage

¶18: The crystallization of soluble salts plays a significant role in the deterioration of porous cultural property. A common response to salt damage problems is to undertake treatments aimed at reducing the salt content of the affected object, most typically through the application of poultices. The process of poulticing is in theory relatively simple: the wet poultice material is applied to the surface of the object to be treated, and is kept in place for some period of time before being removed. However, in practice, the efficiency of the salt extraction, or even the location of salt accumulation post treatment is more difficult to predict.

Reference 15 - 0.51% Coverage

¶18: This paper examines the physical principles of salt ion and moisture transport by which poultices function, and shows how depending on the application methodology, these treatments can be divided into diffusion and advection-based methods. The maximum salt extraction efficiency, the depth to which this can be achieved, and the time scale required is estimated for each type of poulticing system, to gain a better understanding of their working properties and performance

Reference 16 - 0.09% Coverage

¶18: Finally, the pros, cons and limitations of desalination treatments are discussed.

Reference 17 - 1.26% Coverage

¶20: Some inspections have been performed to have a detailed survey of the pinnacles, using the Laser Scanner 3D technique and with the collaboration of geologist-mountain climbers; some rock specimens have also been taken to be analyzed and tested. The specific weight, the tensile (for bending) strength and the compressive strength, as well as the Young Modulus, considering various directions with respect to cracking planes, were analyzed during laboratory tests on the specimens sampled on site. Different structural modeling to analyze the seismic vulnerability of the pinnacles have been performed and compared: starting from simplified mechanical models of rigid blocks, passing through elastic analyses and finally to finite element (FEM) analyses. Numerical dynamic and static analyses, particularly, the modal dynamic analyses for the elastic continuum and the non-linear static analyses, considering both cracking and plasticity behavior of the rock have been performed. The analyses concerned the pinnacles both under the actual in-situ conditions and according to some strengthening interventions to evaluate the effectiveness and safety of the design.

Reference 18 - 1.84% Coverage

¶22: However, there are a number of unresolved challenges associated with re-using community tags, aggregating them within the museum's authoritative metadata stores and incorporating them within museum “metasearch” services. Although social tagging sites provide simple, user-relevant tags, there are issues associated with the quality of the metadata, the scalability compared with conventional indexing systems and a lack of interoperability across social tagging and annotation systems. In this paper, we propose an integrated system that overcomes many of the limitations of

social tagging systems and maximizes their potential value-add within the context of museum collections. The Harvesting and Aggregating Networked Annotations (HarvANA) system firstly enables communities to attach tags/annotations to digitized 3D museum artefacts through web-based annotation services. The annotations/tags are represented using a standardized but extensible Resource Description Framework (RDF) model and an ontology-directed folksonomy. This approach facilitates interoperability between tags/annotations. Secondly, the system uses the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) API to automatically harvest the annotations/tags from distributed community servers. The harvested annotations are aggregated with the authoritative museum metadata in a centralized metadata store. The HarvANA system provides a streamlined, interoperable, scalable approach that enables cultural organizations to leverage community enthusiasm for tagging and annotation, augment their institutional metadata with community tags and enhance their discovery and browse services over 3D models.

Reference 19 - 0.15% Coverage

¶23: A methodological approach in the evaluation of the efficacy of treatments for the dimensional stabilisation of waterlogged archaeological wood

Reference 20 - 0.27% Coverage

¶24: The aim of the work is to set up a methodological approach to verify the effectiveness of the treatments of decayed waterlogged archaeological wood and to point out the proper thermo-hygrometric conditions for its preservation after treatment.

Reference 21 - 1.58% Coverage

¶24: The utilised products were: Polyethylene Glycols (PEG) of various molecular weights, a Polypropylene Glycol (PPG 425), Trehalose (α-D-glucopyranosyl-α-D-glucopyranoside), and their mixtures, and also a Hydroxypropylcellulose (Klucel). The main objective to be pursued by the treatments was considered the stabilisation of the original size and shape of samples. The various steps of this approach were: the execution of a preliminary diagnostic survey on untreated samples; the characterisation of treatment solutions ‘as such’ to establish the property to be monitored during the treatment; the evaluation of the main physical characteristics of wood after the treatment were determined. Among the latter, the coefficient of dimensional stability during the exposure to a series of selected thermo-hygrometric conditions and the retention of consolidants after the treatment. These two measurements allowed the definition of the ‘efficacy of a treatment’, ϕT, a new parameter firstly utilised in this work. It measures the stabilisation capability of the percent unit of retained product, and its value permits to put in evidence the consolidants that stabilise wood with the lowest amount of product. Conversely, it was not possible to measure the Anti-Shrink Efficiency (ASE), one of the most utilised parameters for the evaluation of treatments, because of the serious distortions and fractures observed in all the heavily degraded untreated samples.

Reference 22 - 0.18% Coverage

¶25: Nanolime suspensions applied on natural lithotypes: The influence of concentration and residual water content on carbonatation process and on treatment effectiveness

Reference 23 - 1.29% Coverage

¶26: Ca(OH)2 particles with submicrometric dimensions (nanolimes) are recently introduced in cultural heritage conservation, in order to improve lime treatments. Lime nanoparticles are typically produced by a chemical precipitation process in supersaturated aqueous solutions of the reactants (calcium chloride [CaCl2] and sodium hydroxide [NaOH]); water is then partially substituted with 2-propanol in order to improve stability and to reduce a random orientation of the particles. Aim of the present work is to analyse the influence of the nanolime suspensions concentration on the carbonatation process, in relation to the residual water content too. The obtained lime nanoparticles are characterised by X-rays diffraction (XRD) and profile analysis. Afterwards, the influence of the suspension concentration on stones protective treatments is evaluated: alcoholic nanolime suspensions, characterised by different concentration values, are applied on several natural lithotypes. Standard tests are performed to estimate the superficial consolidation and the protective treatment effectiveness: “Scotch tape test” (STT) and capillarity test. Porosimetric investigations are performed too.

Reference 24 - 0.66% Coverage

¶28: Petrographic and physico-mechanical features of the local weak sandstones and mechanically more resistant calcareous sandstones “macco” were determined. Field mapping, drill-holes and geophysical prospecting helped reconstruct the stratigraphy of the volume where the tomb was excavated. The stability of the tomb basement is given by a thick macco layer. A few dm macco layer was identified above the ceiling. A model was then prepared with the Plaxis 2D V8.6 software. The safety coefficients calculated along two cross-sections of the tomb indicated that the margins for the tomb stability are reasonable

Reference 25 - 0.18% Coverage

¶30: Starting from transient simulation of natural lighting inside the Hall in its present state, using the commercial software Radiance, a design proposal was suggested

Reference 26 - 0.19% Coverage

¶30: detecting the optimal conditions for tapestry conservation and maintenance and taking into account their periodical exhibition, designing a proper wall show-case solution.

Reference 27 - 0.11% Coverage

¶36: Effect of the addition of hydroxyl-terminated polydimethylsiloxane to TEOS-based stone consolidants

Reference 28 - 1.20% Coverage

¶37: Hybrid stone consolidants prepared from tetraethoxysilane (TEOS) and α,ω-hydroxyl-terminated polydimethylsiloxane (PDMS-OH) have been considered as one of the most promising approaches to improve the effectiveness of traditional alkoxysilane-based formulations. They have emerged as response to the negative reports commonly found in the literature: the resulting silica gel phase (SiO2) tends to develop fractures and fissures inside the stone as the gel shrinks during the drying stage. In this work, we employed SEM, solid-state 29Si NMR spectroscopy and compressive tests to characterize SiO2-PDMS hybrid gels. We report the morphological characteristics exhibited by gels prepared in vitro and in situ. It was found an appreciable reduction of gel fracture for hybrids prepared from 5% w/w of PDMS. As TEOS polycondenses, PDMS-OH is chemically incorporated into the gel matrix via Si-O-Si bonds. The inclusion of these elastic chains provides the necessary flexibility to resist the stress imposed by capillary pressure. Additionally, an important hydrophobic character is imparted to the stone.

Reference 29 - 0.13% Coverage

¶42: Metrological definition and evaluation of some mechanical properties of post-medieval Neapolitan yellow tuff masonry

Reference 30 - 0.57% Coverage

¶43: Compression tests performed in displacement control have been carried out on the masonry models in order to determine the maximum resistance of the material and the corresponding strain, the ultimate strain and corresponding residual strength. In this paper, the procedure used for making the specimens and for experimentally evaluating the mechanical properties of post-medieval Neapolitan yellow tuff masonry are illustrated and the obtained results, even in terms of plastic capacity of these kinds of masonry, are reported.

Reference 31 - 1.98% Coverage

¶46: Halite – A new calibration material for microdrilling resistance measurements

¶47: This paper aims at proposing a new calibration material for microdrilling resistance measurements. Microdrilling resistance is a microdestructive method mainly used in built heritage in order to determine the strength profile in depth. This method is suitable to detect changes in the material cohesion, either due to a different state of preservation or to the action of a consolidant. Calibration materials are often used in microdrilling measurements in order to characterise the drill bit initial value and to correct the variations existing within the initial values of a set of drill bits. Calibration materials are also useful to detect the wear effect on a drill bit due to an abrasive stone. Moreover, such materials can be used for comparing results obtained with different microdrilling machines. In this work, halite was chosen to be tested as a calibration material due to its properties, as low hardness and isotropy. Halite single crystals and halite salt stone from different provenances were tested in order to evaluate the suitability of this material to the requests of a calibration material for microdrilling resistance applications, as for instance being homogeneous, non-abrasive, sensitive and available worldwide. Experimental results show that halite from different provenances is very homogeneous, especially in the crystalline form. This form of halite is slightly more expensive than stone halite; however its costs are comparable to ARS and significantly lower than Macor (other calibration materials commonly used for microdrilling resistance measurements). Due to the

advantages of halite for calibration purposes, this material should be further tested by other authors in order to validate our conclusions.

Reference 32 - 0.18% Coverage

¶48: Study on some sorption properties of treated bentonites for their potential use as a moisture regulating system for the preservation of historical wooden elements

Reference 33 - 1.79% Coverage

¶49: As has been happening for artefact preservation in museums, the idea is to develop systems based on the ability of some highly hygroscopic materials to moderate variations in relative humidity. These materials could adsorb and release moisture to reduce the extreme values of humidity in the micro-climate, for example between wooden beams and masonry. In order to experimentally verify this possibility using current, low cost and easy handling building materials, 5 bentonite samples were laboratory processed to improve their adsorbing properties by means of treatment with sodium carbonate at 3 concentrations: 2, 3 and 4% by weight. The effectiveness of ion exchange between sodium carbonate and bentonite was controlled by measuring the swelling volume of the bentonites. All the samples (n = 15) were tested for their hygroscopic properties. Adsorption isotherms were measured at 25 °C, using desiccators with silica gel, saturated salt solutions and bi-distilled water. A comparison between isotherms of one of the lower hygroscopic treated sample of bentonite and of a sample of wood and of a sample of brick and some numerical analyses with the Delphin code were made in order to evaluate the potential use of this bentonite as a moisture regulating system for the preservation of historical wooden elements. Results show that it seems to be possible to use bentonites as a moisture buffering material in order to reduce moisture content in wooden beams at least during their adsorption phase. It remains to investigate their desorption phase and their behaviour if they be in a saturation condition. Further studies are currently under way.

Reference 34 - 0.08% Coverage

¶50: Integrated reflectography and thermography for wooden paintings diagnostics

Reference 35 - 0.32% Coverage

¶51: The present work deals with two of these methods, reflectography and thermography, both techniques examining objects in the infrared spectrum but in different wavelength bands. Their integrated data potentially provide a powerful tool for mapping hidden features and alterations of artworks.

Reference 36 - 0.61% Coverage

¶51: A graphical user interface was also designed to aid operators in the field of conservation dealing with the results of the two IR methods. Many options such as image adjustment, comparison, overlaying and transparency variation, in addition to thermographic elaborations, have been made available to users. Imaging data integration provides a multi-layered and multi-spectral

representation of the painting that yields a comprehensive diagnosis confirms the anomalies individuation and reduces the ambiguities of information coming from a single diagnostic method

Reference 37 - 0.16% Coverage

¶53: over a 3-year period to verify the performance of the novel heating system in comparison to the warm-air system that was active earlier in the church.

Reference 38 - 0.12% Coverage

¶54: Indirect estimation of injected mortar volume in historical walls using the electrical resistivity tomography

Reference 39 - 0.53% Coverage

¶55: The electrical resistivity tomography (ERT) represents one of the widely used geophysical techniques for the exploration of the subsurface. In the last few years, this method has been demonstrated to be an efficient reconnaissance tool not only for monitoring degradation status of walls and foundations of historical buildings, but also for imaging the spatial distribution of injected mortar, commonly employed for consolidation purposes. A 3D resistivity tomography survey was carried out

Reference 40 - 0.87% Coverage

¶55: The obtained 3D resistivity distribution models before and after grouting provided suggestive images of the internal structure of the studied walls. Moreover, the spatial distribution of the zones being filled with mortar was determined quantitatively by scaling the post- to the preinjection resistivity values. Using a well known correlation between resistivity and porosity, established in the geophysical community, a further step towards a more quantitative assessment was attempted to indirectly determine the unit volumes of the injected mortar The obtained results were satisfactory and in some cases almost similar to the yard data. Furthermore, two flat-jack tests confirmed the local increment of the mechanical resistance of the studied left front (2) and right lateral (3) wall portions.

¶56:
Reference 41 - 0.66% Coverage

¶57: Different samples were collected either from the deteriorated areas or from the sound stone substrate. The samples were characterized by IR, XRD, XRF, SEM, IC and ICP techniques. Gypsum, kaolinite, calcium oxalate and phosphate together with an high content of heavy metals and soil particulates are mainly located on sheltered or partially exposed areas, while an extensive network of parallel fissures is mainly developed on surfaces directly exposed to rainwater. Furthermore, an extensive colonization by lichen is affecting a wide surface of the carved-stone, which is strongly adherent to the surface.

Reference 42 - 0.38% Coverage

¶59: has been studied with the combined use of surface and micro-analytical techniques (SEM, EDX, PIXE, XRD). The joint use of different analytical techniques allowed us to obtain information about the morphology, the structure and the chemical composition of the analysed coin, that revealed a lead core coated with a bi-layer of copper and silver.

¶60:

Reference 43 - 0.96% Coverage

¶62: In order to obtain all these data, an effective on-site testing program, which can involve the application of different test methodologies as a combination of destructive tests (DT), minor destructive tests (MDT) and non-destructive tests (NDT), needs to be performed. Furthermore, the effectiveness of applied methodologies for the assessment of historical masonry structures strongly depends on the type of investigated structure, as well as on the appropriate numerical model for the analysis. However, the unclear aspects of any testing programme remain the same – how efficient is a particular testing technique, and how can it be assessed? Following the results of recently carried out EU and national research projects, a comprehensive set of data regarding the effectiveness of different testing methods, depending on the type of problem, have been collected and analyzed

Reference 44 - 1.10% Coverage

¶62: have been investigated by means of different techniques, and numerically analyzed. For this purpose, two different models were used: a push-over model based, on the structural element method, and FEM analysis. It was concluded that the effectiveness of any particular diagnostic technique for the investigation of masonry structures, and for the planning of their restoration, depends on numerous factors. An attempt to determine which of the techniques could be appropriate, depending on the problem, was made. No single test is self-sufficient for the solving of a particular problem, so a combination of different NDT, MDT and DT should be performed. Summarizing all the results, it can be said that, in the process of assessing the state of a structure, even a simple investigation technique is better than none. The effort will always be repaid - if not already in the planning stage of the restoration and retrofitting actions, then certainly in the execution stage of the revitalization works, on site.

Reference 45 - 0.40% Coverage

¶64: The integrated use of basic geological (mapping, petrology, stratigraphy…) and geotechnical (rock mass quality analytical methods and indexes) techniques used in engineering geology is proposed. Those techniques permit the geological characterization of the rock mass, the hazard identification and the analysis and the geological risk assessment of the research area

Reference 46 - 0.06% Coverage

¶65: Infrared thermography and Georadar techniques applied

Reference 47 - 0.11% Coverage

¶66: Two noninvasive geophysical techniques, infrared thermography and georadar, were used in this study to

Reference 48 - 0.14% Coverage

¶66: Both the infrared thermography and georadar surveys confirmed the presence and location of the niches as indicated in the planimetry

Reference 49 - 0.67% Coverage

¶68: The study, performed by a multidisciplinary team made up of scientists and conservators, presents the results of the scientific characterization carried out on a group of 10 paintings made by Fattori between 1854 and 1893 and shows the way he used complex mixtures of a large variety of traditional and synthetic pigments, ranging from lead white, found pure and also extended with calcium carbonate, natural barite and gypsum to zinc white, from red ochre to cinnabar and vermilion, from yellow ochre and Naples yellow to chrome yellow, cadmium yellow and zinc yellow, combined with many other ones reported in details.

Reference 50 - 0.57% Coverage

¶70: The main damage of architectural glazed ceramics in the Palace Museum was investigated and the photo resistance, thermal resistance of protective materials as well as the protected performance such as hydrophobicity, freeze-thaw resistance, bending and compressive strength of the polymer-applied ceramics was tested. The results showed the main damage of glazed ceramics was the shedding of glaze layer and the change of environmental water and temperature especially subzero was the main reason for the glaze shedding.

Reference 51 - 0.83% Coverage

¶70: The photo-resistant and thermal-resistant of protective materials fluorine resin and the compound materials composed mainly of the fluorine resin were better than Paraloid B72 and the compound materials composed mainly of Paraloid B72. The wrapping method was selected for the protection of glazed ceramics and the hydrophobicity, freeze-thaw resistance, bending and compressive strength of the polymer-applied ceramics were improved, especially protected by fluorine resin and the compound materials composed mainly of the fluorine resin. The optimum polymer could penetrate into the damaged seriously glazed ceramics and play a hydrophobic role in the protection. The report will be useful for the preservation of damaged seriously architectural glazed ceramics

Reference 52 - 0.13% Coverage

¶71: Effects of wax-based anti-graffiti on copper patina composition and dissolution during four years of outdoor urban exposure

Reference 53 - 0.79% Coverage

¶72: Long-term (four years) effects of wax-based anti-graffiti coatings on bare copper sheet and pre-patinated copper exposed to urban atmospheric conditions are presented and discussed in terms of

changes in patina dissolution rates, barrier properties and composition. The investigation is based on a multi-analytical approach combining chemical analysis, analytical and electrochemical tools (stereomicroscopy, FTIR, XRD, SEM/EDS, AAS, EIS, colorimetric measurements). Results are believed to provide important information related to the long-term applicability of such coatings to preserve the Cultural Heritage.

¶73: Effectiveness of antigraffiti treatments in connection with penetration depth determined by different techniques

Reference 54 - 1.07% Coverage

¶74: The effectiveness of two of these treatments, a commercial product (fluoroalkyl siloxane, protectosil, marketed by Degussa) and a hybrid organic-inorganic material (Ormosil), was evaluated in five construction materials (limestone, granite, cement mortar, lime mortar and brick), in terms of their penetration into the substrate. A number of techniques were used to determine the penetration depth (SEM/EDX, micro-Raman and LIBS), because a comparative analysis showed that none was universally valid for all types of treatments. The results show that the presence of the coating on the surface of less porous materials only ensures effective cleaning when the surface is fairly smooth. In granite, for instance, the CF3 terminals in the fluorinated treatment hinder spray paint bonding more effectively than Ormosil, but not efficiently enough to ensure complete removal of the paint from granite surfaces.

¶75: Consolidating properties of Regalrez 1126 and Paraloid B72 applied to wood

Reference 55 - 1.39% Coverage

¶76: This study is aimed at an assessment of the properties of two polymeric products applied to Norway spruce (Picea abies) and White poplar (Populus alba) wood species. It contributes to ongoing research experiments on the consolidating properties of two synthetic resins and their potential synergic action on wood, resulting from their different interaction with the substrate: Paraloid B72 and Regalrez 1126. Experiments were carried out on a series of samples of the two wood varieties. The consolidants were applied alone and one after the other, with one coat of Regalrez and then one of Paraloid. Porosity and variations in pore size distribution were ascertained by mercury intrusion porosimetry (MIP). Colorimetric and IR spectroscopic measurements were also taken before and after aging by solar radiation and freeze/thaw cycles, to verify the possible slowing of photodegradation of the treated wood and the consolidating resistance. Results confirm that both products penetrate the wood with a different behaviour. After double treatment with Regalrez + Paraloid, a significant advantage was observed in terms of mechanical resistance and pore size distribution, although no advantages as regards resistance to photo-oxidizing processes or colour changes were observed.

Reference 56 - 0.10% Coverage

¶83: A spectral imaging methodology for determining on-line the optimum cleaning level of stonework

Reference 57 - 1.00% Coverage

¶84: This study aims to introduce a new spectral imaging methodology that can be used to monitor on-line, non-destructively and in situ the cleaning level of pollution encrustation on stonework. The suggested technique is based on the optical properties of monochromatic light penetration in matter. The calculated differences of images, obtained at two different spectral bands, could reliably map the depth of cleaning. This novel approach was tested in the laboratory during laser cleaning trials on polluted stonework enabling high accuracy measurements (such as the detection of thin crust layers remaining on the under-cleaned marble surfaces). However, it may also apply for the monitoring of any other cleaning technique (micro air-abrasive, etc). A detailed presentation of the results will be demonstrated while the potential of its wide application on everyday conservation practice on stonework will be discussed.

Reference 58 - 0.09% Coverage

¶85: 3D Pottery content-based retrieval based on pose normalisation and segmentation

Reference 59 - 0.99% Coverage

¶86: This paper presents a novel compact shape descriptor designed specifically for content-based retrieval of complete or nearly complete 3D vessel replicas. The descriptor consists of two vectors that carry morphological features of the vessel's main body and appendages. The extraction of the descriptor is based on a pose normalisation preprocessing phase which is designed for axially symmetric objects. In order to evaluate the efficiency of the descriptor, we created a calibrated ground-truth database of 1012 3D digitised and manually modelled vessels and performed multiple query-by-example experiments. We present the performance of our descriptor in relation to the performance of the MPEG-7 3D shape spectrum descriptor. Additionally, a web-based 3D content-based retrieval prototype system has been developed based on open source technologies.

¶87: Microclimate monitoring by multivariate statistical control:

Reference 60 - 1.05% Coverage

¶88: We describe a microclimate monitoring system that was implemented for the preventive conservation of the paintings. It is comprised by a set of temperature and relative humidity sensors positioned at different points of the vault. This system is rather unique because some of these sensors were inserted inside the paintings during the restoration process. A principal components analysis was applied to the data of relative humidity recorded in February 2007. The analysis was repeated in three additional months of 2007. The resulting loading plots highlight the most relevant similarities and dissimilarities among sensors. These plots can be considered as some sort of control maps that could be used to detect abnormal conditions in the future. Actually, moisture problems at certain zones of the frescoes are causing the formation of efflorescence, and the sensors located close to these zones are the ones recording the highest values of relative humidity.

Reference 61 - 0.09% Coverage

¶89: Assessment of thermo-hygrometric quality in museums: Method and in-field application

Reference 62 - 0.73% Coverage

¶90: The widespread opinion that a correct approach to the topic of microclimate control for artefacts preservation is not only and necessarily to provide buildings with sophisticated environmental control systems, but mainly to investigate the actual environmental dynamics and, before any structural intervention, to define the compatibility between the climate control potentials and the preservation requirements, has become more and more firm among the experts. Monitoring also allows to verify the capacity of the "building and Heating, Ventilation and Air Conditioning (HVAC)" system to maintain the desired thermo-hygrometric values within the operating conditions.

Reference 63 - 0.59% Coverage

¶90: led to the need of a long-term monitoring and of a statistical approach to the data management. The approach proposed by the Italian Standard has been recently adopted by a European Standard (EN 15251, 2007). In accordance with the Standards mentioned above, in this paper an operational procedure to assess the thermo-hygrometric quality in museums is firstly synthetically presented and than applied to a case study. In particular, the procedure is developed in order to define the thermo-hygrometric quality level of the exhibition areas

Reference 64 - 0.27% Coverage

¶92: These models are increasingly available due to improvements in technology and to higher integration of survey techniques such as laser scanning and photogrammetry. In this paper we present a case study on the development of a web-based application

Reference 65 - 0.50% Coverage

¶92: A parallel aim achieved was to use, in data processing and in the architecture, open source tools and free software, thus providing full transparency on adopted methodology and data processing methods, and a cost effective solution both for server and client. Furthermore, the aspect of data size has been considered using a segmentation and simplification scheme and server-side data management to keep transmission size to a minimum, thus improving access speed.

Reference 66 - 0.76% Coverage

¶94: During this study a combination of micro and trace analysis techniques were applied, including energy dispersive X-ray fluorescence (EDXRF) and electron probe microanalysis (EPMA). An intensive transport of air pollutants coupled with accumulation of the particles inside the museum was noticed (considerably higher in winter than summer). A high content of carbon and organic matter agglomerated with inorganic particles was determined. Those particles are of special concern because of their adhesive properties and reactivity. It was also noted that the conditions inside the museum favour the reaction of the particles with gaseous pollutants. It was especially the case for nitrate particles.

Reference 67 - 0.80% Coverage

¶96: A preliminary investigation was performed on the historical phases of this monumental building to have a clear knowledge of its vicissitudes, and then in situ structural assessment included 3D laser scanner techniques probing radar, in situ stress measures. This surveying phase was crucial especially for the subsequent Finite Elements modeling (F.E.M.) of the façade. The scope of the numerical refined analyses was to evaluate the state of stress in the structural elements of the façade putting in evidence structural 'weak points' and finally to design a retrofit intervention having a detailed map of the 'intervention areas'. The theoretical damage assessment has been compared with on-site assessment and in situ stress measures

Reference 68 - 0.23% Coverage

¶99: SEM/EDX analyses of the glass particles reveal a variety of chemical compositions (soda ash, wood ash, wood ash-lime, wood ash-lead, mixed alkali), which are discussed with respect to the provenance of the paintings.

Reference 69 - 0.09% Coverage

¶100: A new family of high viscosity polymeric dispersions for cleaning easel paintings

Reference 70 - 0.18% Coverage

¶101: The procedures for making and applying a new family of high viscosity aqueous polymeric dispersions based on poly(vinyl alcohol)-borax (PVA-borax) matrices are presented.

Reference 71 - 1.01% Coverage

¶101: FTIR spectra showed that the oxidized varnish was constituted of highly aged shellac resin. Good cleaning performance was attained when the liquid portion of the dispersion consisted of a mixture of water and acetone. Rheological investigations indicate that the acetone content does not affect the mechanical properties of the polymeric dispersion. Those mechanical properties permit easy removal of the cleaning agent simply by peeling it from the surface by means of a forceps or spatula once it has carried out its cleaning function. Optical microscopic and FTIR investigations show that the cleaning agent is able to remove the oxidized varnish coating from the surface of the Neri di Bicci painting without leaving detectable residues.

¶102: Study of the stability of a series of synthetic colorants applied with styrene-acrylic copolymer, widely used in contemporary paintings, concerning the effects of accelerated ageing

¶103:
Reference 72 - 1.51% Coverage

¶103: The combined use of micro-FTIR and micro-Raman spectroscopy allowed the identification of almost all painting materials. Moreover, the stability of a series of synthetic pigments towards accelerated ageing is investigated in applications using the contemporary binding medium styrene-acrylic copolymer. The pigments in question are: Hansa yellow PY3 and PY74, quinacridone PV19 and PR122, naphthol AS PR112, phthalocyanine green PG7 and blue PB15, dioxazine PV37, van Dyck

brown PBk11, ivory black PBk9, and titanium dioxide PW6. The organic pigments were applied alone or mixed with titanium dioxide, in rutile form or as a mixture of rutile/anatase. The experimental swatches were subjected to ageing tests, and subsequently studied as to colour changes by means of colorimetric measurements, and as to the molecular structure differentiations by infrared spectroscopy in reflectance mode. The ageing tests included exposure to high temperature and humidity (90 °C, 60% RH) and to ultraviolet radiation (350 nm, 30 °C and 50% RH, with a substantial temperature increase at 90 °C for 3 days). The greater colour difference is caused by high temperature and humidity, whereas paint layers containing TiO2, and especially the mixture of the forms rutile/anatase, prove very susceptible to ultraviolet radiation, demonstrating a significant colour difference and extended molecular changes.

Reference 73 - 0.84% Coverage

¶105: This paper describes both theoretical and experimental studies on the application of a portable water mist extinguisher in suppressing flammable liquid and wood crib fires. At first, the interaction between water mist and fire plume is studied by analyzing the instantaneous process of fire extinction. And then, the feasibility in extinguishing diesel oil, gasoline and wood crib fires is studied by a series of experiments. Theoretical analysis and experimental results show that the extinguishing mechanisms and process change with the difference of water mist characteristics (such as water flux density, droplet velocity and diameter), and the portable water mist fire extinguisher with appropriate characteristics was able to extinguish Class A and Class B fires.

Reference 74 - 0.09% Coverage

¶106: AMS radiocarbon dating and scientific examination of high historical value manuscripts

Reference 75 - 1.35% Coverage

¶107: It allowed a better knowledge of the making technique of their bindings together with some of their components. We undertook the identification of the inks, and pigments used for calligraphy, and the dating of the wood and of the binding of the documents. Microsamples of inks were characterised by scanning electron microscopy (SEM) and the results of the x-ray microanalysis of particular interest are the presence of hematite and ochre in red samples, and carbon black and traces of bone black in the black inks. The taxon of wood has been identified on thin strips by the classical techniques used in xylology: the two scrolls were identified as Tamarix sp. (Tamaricaceae). The AMS radiocarbon dating of the manuscripts was also carried out on the wooden sticks which hold the paper sheets. Comparison of the potential calendar age distributions indicates probability distributions in the region between 662–781 cal AD and 862–994 cal AD for CP2547 and CP2490 respectively, which corresponds to the expected values. These results allowed to bring wider knowledge on the inks and the paintings and, in particular, have led to propose a date for the making of the binding of the CP2547, which confirms ideas proposed by book historians.

¶108:
Reference 76 - 0.07% Coverage

¶109: Mercury porosimetry was applied to the study of pore structure

Reference 77 - 1.43% Coverage

¶109: Three categories of pores were found to coexist in the mortars. The finest pores, with diameters below 0.1 μm, are present within the hardened aged Roman cement matrix. The larger 'air' pores, with diameters between 0.2–2 μm, are due to the evaporation of the excess unbound water and restricted hydration. Pores larger than 2 μm are rare and, in general, can be related to microcracking induced by shrinkage drying and mortar weathering. The mortars have rarely been found to develop a dense fine-porous microstructure characteristic of the ideal conditions of moist-curing; massive architectural castings being the only exception identified. The presence of larger 'air' pores was, in turn, almost universally observed. The investigations of the freshly prepared Roman cement mortars have revealed that the restricted hydration could be due to the exposure of the freshly laid surface to dry real-world external environments, a high water-to-cement ratio in the original mortars, or the drawing of water from the stucco mass due to insufficient pre-wetting of the porous masonry. The insufficient reactivity of historic cements, resulting from a high content of over-burned, non-reactive cement components or coarseness of the cement grains, could be another reason for yielding poorly hydrated mortars in the past

Reference 78 - 0.16% Coverage

¶110: Pollution monitoring by dosimetry and passive diffusion sampling for evaluation of environmental conditions for paintings in microclimate frames

Reference 79 - 2.15% Coverage

¶111: Pollutants and their potential degradation of paintings have been measured for the first time in microclimate frames (mc-frames), which are used to protect paintings. The pollutants that were measured include both inorganic pollutants, which originate mainly from external sources, and organic pollutants from mainly internal sources. Those originating from the outdoors enter rooms and subsequently mc-frames at a rate depending on the ventilation rates (air exchange rates) of the mc-frames. The concentration of gaseous pollutants emitted within the mc-frames will depend on net emission rates of the materials used to make the mc-frames, their design, and their ventilation rates. In the EU PROPAINT project measurements of gaseous air pollutants and climatic conditions were performed at various locations both inside and outside different state-of-the-art mc-frames. Diffusive passive pollution gas samplers were used together with different types of dosimeters. Results show that the dosimeters respond to either the photo-oxidizing conditions or the level of volatile organic acids in the environments both in the museums and within the mc-frames. Two dosimeters, the Early Warning Organic (EWO) made from a synthetic polymer and the Resin Mastic coated Piezo electric Quartz Crystals (RM-PQC) respond to photo-oxidation and showed higher values outside than inside the mc-frames. Two other dosimeters, the Glass Slide Dosimeter (GSD) and the Lead coated Piezo electric Quartz Crystals (L-PQC) respond to volatile organic acids and yielded higher values inside than outside the mc-frames. This study emphasizes the need for further work to determine environmental damage functions for paintings, in particular for the effects of organic acids. Such information is essential for the evaluation of the protective effects of mc-frames for paintings. The use of mc-frames is increasing and it is very important to know that this protective measure does not introduce new risks

Reference 80 - 0.35% Coverage

¶113: is studied numerically using the Finite Element Method. The study is focused to the behavior of restored epistyles subjected to bending under uniform load along the free span of the structural element. The restoration method simulated is the one introduced a few years ago by the scientists working for the conservation

Reference 81 - 0.99% Coverage

¶113: is still under development. Attention is focused to the influence of the geometric features of the reinforcing bars as well as to the role of the cementitious material interposed between the marble and the bar. In addition, the contact properties of the marble-titanium, marble-cement and cement-titanium interfaces are also examined. To achieve the goals of the study, six numerical models are constructed considering centrally fractured prismatic marble epistyles of rectangular cross section restored with a single titanium bar, either cylindrical or threaded. The analysis reveals the critical regions, where the maximum stresses and the strain discontinuities appear and makes clear the influence of the geometrical characteristics of the reinforcing bar. Also, the crucial role of the constitutive law governing the mechanical behavior of the intermediate layer of cementitious material is enlightened.

¶114:
Reference 82 - 0.60% Coverage

¶115: The model is constructed on stochastic analytic hierarchy process (S-AHP) and knowledge-based experience curve (EC); the former requires the input data to be random variables for interpreting probabilistically the ranks of the prioritized heritages and the latter reflects quantitatively the contribution of experts' knowledge to weighting significant criteria in carrying out an assessment of restoration urgency. The application of 14 cultural heritages in Korea has been conducted, and the results are analyzed to illustrate the model's efficiency.

Reference 83 - 0.08% Coverage

¶116: Recording and documenting the chromatic information of architectural heritage

Reference 84 - 0.72% Coverage

¶117: The method takes advantage of emerging high dynamic range imaging (HDRI) technology, which can store rich information about colour and illumination through digital photography. By recording the colour information, in addition to the geometry and texture information obtained through other existing technologies, we can achieve more complete documentation for architectural heritage. In this paper, we discuss an overview of the problem and present our algorithms for utilizing computer vision techniques to retrieve chromatic information of historic buildings. We also present and discuss our experiments and results of applying our method to studies of lab objects

Reference 85 - 0.58% Coverage

¶119: On the basis of this classification, aiming to provide a tool for framing VR systems which would hopefully suggest indications related to costs, usability and quality of the sensorial experience, we

analyze a series of live examples of which we point out strengths and weak points. We then summarize the current state and the very next future, identifying the major issues that prevent these technologies from being actually widespread, and outline proposals for a more pervasive and effective use of Immersive VR for cultural purposes

Reference 86 - 0.03% Coverage

¶121: The microclimatic analysis

Reference 87 - 0.12% Coverage

¶122: Analysis of a varnish applied by Nicéphore Niépce to make a print used for photographic purpose transparent

Reference 88 - 0.24% Coverage

¶123: no previous research has undertaken analytical investigations on Nicéphore's prints, using Attenuated Total Reflection Fourier Transform Infrared Spectroscopy (ATR-FTIR) and Gas Chromatography/Mass Spectrometry (GC/MS).

Reference 89 - 0.16% Coverage

¶126: A methodology for the identification of glass panes of different origin in a single stained glass window: Application on two 13th century windows

Reference 90 - 0.03% Coverage

¶127: The chemical composition

Reference 91 - 0.10% Coverage

¶127: were analyzed by means of Scanning Electron Microscopy–Energy Dispersive X-ray system (SEM-EDX)

Reference 92 - 0.68% Coverage

¶127: In order to determine if these windows were fabricated with glass of different origin or not, the compositional difference between the panes were compared with the variation in composition as a result of the following causes: (1) compositional fluctuation between panes cut from the same sheet of glass, (2) compositional fluctuation caused when panes are cut from different sheets that were made with the same batch, (3) compositional fluctuation caused when the glass is made from different batches at the same production center, and (4) compositional fluctuation as a result of glass produced at different fabrication centers.

Reference 93 - 0.06% Coverage

¶128: A survey on the light-fastness properties of organic-based

Reference 94 - 0.05% Coverage

¶129: A series of light-fastness tests were conducted

Reference 95 - 0.23% Coverage

¶129: This work was designed as a feasibility study on the use of a micro-fading tester as a non-contact and non-destructive technique to evaluate the light-stability of materials present in ethnographic collections.

Reference 96 - 0.59% Coverage

¶129: The micro-fading tester has proven to be a very useful tool for determining the light-stability of ethnographic materials without causing any harm to the objects. Objects containing equivalent materials are usually classified under a general category based on their probable sensitivity to light. However, micro-fading test results have permitted the detection of dissimilarities among some of these objects, which could be associated to variations in prior fading histories, the quality of raw materials, and different preparation methods.

<Internals\\JCH 2011 abstracts> - § 87 references coded [58.65% Coverage]

Reference 1 - 0.96% Coverage

¶6: were conducted using a multi-analytical approach, based on in situ fluorescence imaging, multispectral reflectance imaging and non-destructive analysis of a historical cross-section. Fluorescence imaging of wall paintings, mainly focused on the discrimination and identification of organic compounds, has been conducted with a novel approach, which incorporates the use of spectrally-resolved and lifetime-resolved imaging devices, applied together for the first time for the analysis of paintings. Analysis of the UV-induced emissions from the surface of the paintings allowed the documentation of the selective use of a carmine-based red lake, identified using micro-Raman spectroscopy and Scanning Electron Microscopy. Visible reflectance measurements highlighted the distribution and use of different inorganic pigments.

Reference 2 - 0.09% Coverage

¶7: On site consolidation of burnt and partially charred wood in dry conditions

Reference 3 - 1.17% Coverage

¶8: The focus of this present work was to find a treatment able to consolidate partially burnt wood in dry conditions, in which the external charred layer would be lost if not well preserved because of its incoherence. The product had to be applied onsite on an architectural structure intended to be reused again (and not simply exhibited). This circumstance is rarely encountered in the conservation

of wooden Cultural Heritage. The efficacy of treatments was evaluated on the basis of a suitable and original experimental methodology, which took into account both the immediate and long-term behaviour of the various tested products. Although the opportunity to carry out this work came from a real case, both the selected product and the set up evaluation methodology have a general validity and they can be effectively used in other similar situations in which a slight antipowdering effect is required for treatment.

¶9: Protective action against fungal growth of two consolidating products applied to wood

Reference 4 - 1.71% Coverage

¶10: This study assessed the protective action against biological fungal growth of two consolidating products applied to wood. Experiments examined effects produced by white and brown rot fungi on White poplar (Populus alba) and Norway spruce (Picea abies) treated with two consolidants, Paraloid B72 and Regalrez 1126, applied both individually and together, with the aim of evaluating differing levels of penetration into and location in the wood. The main aim was to test whether these products, which are generally applied during restoration, could act against fungal growth on healthy wood or increase biological attack. Changes in both morphological and chemical levels induced by fungal attack were observed, susceptibility to biological colonisation was analysed, and protective efficacy was tested. Several series of wood samples treated with the above products were placed on agar plates inoculated with two fungal species (brown-rot decay fungus, Fomitopsis palustris, and white-rot decay fungus, Trametes versicolor) and growth was observed for 2 months. The results for Norway spruce showed selective development of one of the two rots according to product application: both products applied together caused slowed growth of both fungal species. The White polar samples treated with the consolidants, both alone and together, all showed similar behaviour. SEM analysis was also carried out in order to observe changes in wood microstructure induced by rot colonisation.

Reference 5 - 0.10% Coverage

¶11: Crosslinked fluorinated polyurethanes for the protection of stone surfaces from graffiti

Reference 6 - 1.11% Coverage

¶12: A fluorinated polyurethane, based on perfluoropolyether (PFPE) blocks and containing carboxylate side groups, reacts with polyfunctional aziridines affording a crosslinked material. The reaction takes place in water microdispersion at room temperature and allows the PFPE derivative to be modified directly on the stone surface. The application of this material on the surface of different stones improves not only the substrate's hydrophobicity (as expected for a PFPE derivative) but also the resistance to the soiling, which could be caused by “graffiti” drawings. The treatment generates a protecting layer which resists on the stone surface even after several repeated staining/cleaning cycles, giving rise to a durable “anti-graffiti” effect. The curing process improves the effectiveness of the fluorinated polymer: in the absence of the aziridine curing agent the considered fluorinated polymer does not exhibit a satisfactory anti-graffiti activity.

Reference 7 - 0.13% Coverage

¶13: Interpretation of compositions of the original patination by using a set of simulated varnished bronze coupons

Reference 8 - 0.11% Coverage

¶14: Within the frame of a research project dealing with the identification of ‘organic patinas’

Reference 9 - 0.29% Coverage

¶14: , was subjected to GC-MS analyses. The study of model varnishes clarified various uncertainties in the identification and interpretation of natural materials previously detected in the authentic varnishes of Renaissance and Baroque bronze sculptures.

Reference 10 - 0.47% Coverage

¶14: Relating the GC-MS results to the compositions of the model coatings helped to better understand some of the difficulties in the detection and identification of original oil-resinous varnish components. In particular, the study allowed the low abundance of the mastic resin in the varnishes to be explained and specific markers distinguishing individual resins within a Pinaceae family have been proposed.

Reference 11 - 0.08% Coverage

¶19: Content management system incorporated in a virtual museum hosting

Reference 12 - 0.23% Coverage

¶20: Once this information has been developed and standardized, the results can be included in the platform of a virtual museum (VM) devoted to industrial heritage, using a Content Management System (CMS).

Reference 13 - 0.03% Coverage

¶23: RS-based geomorphic analysis

Reference 14 - 0.46% Coverage

¶24: High-resolution French SPOT-5 HRG data (red, green and NIR-10 m, SWIR-20 m and Pan-2.5 m ground resolution), in conjunction with topographic mapping and field surveys, were utilized for systematic analysis of various morphometric landforms and their possible constraints. Four major types of landforms were discriminated in the study area based on visual interpretation of satellite sensor data

Reference 15 - 0.15% Coverage

¶25: Characterization of madder and garancine in historic French red materials by liquid chromatography-photodiode array detection

Reference 16 - 1.51% Coverage

¶26: A reverse phase liquid chromatography-photodiode array detection method is developed for the characterization of ancient samples of madder. In the past, modifications of the madder chemical composition were carried out by hydrolysing the plant dye precursors in order to increase its red power, the aim of this transformation being to concentrate the red colour of the matter. After extraction of madder dyes in a water-methanol mixture, different anthraquinonic compounds were identified through the chemical constituents present in a garancine sample and in the two madder species growing in the Mediterranean area: Rubia tinctorum and R. peregrina. These two species comprise alizarin, purpurin, lucidin, rubiadin and pseudopurpurin for aglycones and, lucidin primeveroside, ruberythric acid, galiosin and rubiadin primeveroside for heterosidic precursors. These compounds were identified through retention times and UV spectra in comparison with pure standards. Six ancient materials belonging to the collection of the Roure Museum in Avignon (France) and dating from the nineteenth century are characterized as hydrolysed madder (garancine), synthetic alizarin and R. tinctorum roots. A colorimetric study is performed to compare the colour of each sample according to its chemical composition.

Reference 17 - 0.08% Coverage

¶27: Image-based modeling approach in creating 3D morphogenetic reconstruction

Reference 18 - 0.34% Coverage

¶28: Existing objects are generated through the use of different styles of photogrammetric modeling; however, non-existing or modified objects are generated by application of historical photo restitution combined with 3D modeling. Adequate simultaneous usage of all methods provides optimal results.

Reference 19 - 1.63% Coverage

¶33: In order to evaluate in detail the deformations of these towers, in particular the deviations from a regular inclination of their walls, the terrestrial laser scanning (TLS) has been used and an efficient direct analysis method has been developed. The towers have been scanned from six viewpoints, providing 19-point clouds with a complete coverage of the visible surfaces with large overlap areas. For each tower, after the registration of the partial point clouds into a common reference frame, an accurate morphological analysis of the acquired surfaces has been carried out. The results show several zones affected by significant deformations and inclination changes. In the case of the Asinelli tower, for which a finite element model is available, the results have also been interpreted on the basis of the static load and normal modes. The correspondence between the measured deformation and the theoretically expected deformation, caused by a seismic sequence, is clear. This fact suggests a high sensibility of the tower to dynamic loads. Although a direct evaluation of the risk cannot be carried out with the obtained results, they lead to the general indication that the

structural health of these buildings must be frequently checked and that man-made loads (e.g. vibration due to vehicular traffic) should be avoided or at least reduced.

¶34: 3D pottery shape matching using depth map images

Reference 20 - 1.43% Coverage

¶35: The utilisation of 3D computer graphics technologies in the domain of pottery analysis can enhance archaeological research in terms of data management, indexing and shape matching. In this paper, we attempt to reduce the dimensions of the 3D vessel shape matching problem in order to create Web-enabled compact shape descriptors applicable for content-based retrieval systems. This is achieved by exploiting significant morphological features of vessels such as the rotational symmetry and the opposed positioning of appendages. We propose the idea of capturing the surface relief of a normalised, in terms of scale, position and orientation 3D vessel on a pair of depthmap images. We question the ability of performing shape matching of complete or nearly complete 3D vessels by encoding depthmap images using 2D shape descriptors. We have evaluated the performance of two shape descriptors applied on depthmap images in relation to a generic 3D shape descriptor. For the performance evaluation, we have implemented multiple queries-by-example on five ancient Greek vessel shape categories found in our calibrated 3D vessel database.

¶36: Data matrix (DM) codes: A technological process for the management of the archaeological record

Reference 21 - 0.51% Coverage

¶37: presents a new method for labeling archaeological material, based on the use of data matrix (DM) codes. The information that identifies an artefact (site name, level or archaeological unit and consecutive number) is coded on very small labels (3 × 3 mm and 4 × 4 mm). This information is captured by a laser reader, which inputs it directly into a computer database. The system has been successfully applied to the pilot study presented here

Reference 22 - 0.04% Coverage

¶38: Characterization of Maya Blue pigment

Reference 23 - 0.46% Coverage

¶39: This was detected combining an innovative technique, the voltammetry of microparticles (VMP), with atomic force microscopy (AFM), transmission electron microscopy (TEM), scanning electron microscopy/energy dispersive X-ray microanalysis (SEM/EDX), visible spectrophotometry and Fourier transform infrared spectroscopy (FTIR). The pigment was found on the polychrome facade of substructure IIC

Reference 24 - 0.11% Coverage

¶40: Tannins characterisation in new and historic vegetable tanned leathers fibres by spot tests

Reference 25 - 0.26% Coverage

¶41: the adaptation and evaluation of three chemical tests for tannins characterisation in vegetable tanned leathers. Tests were performed on fibres of new leathers tanned with different known vegetable tannins and historic leathers.

Reference 26 - 0.77% Coverage

¶41: Rhodanine test, nitrous acid test and acid butanol test, developed to identify, respectively, gallotannins, ellagitannins and condensed tannins, are described. Ferric test and vanillin test, the two traditional tests used for vegetable tanned leathers characterisation, were also performed and their usefulness discussed. Gallic acid, ellagic acid and catechin, structural constituents of the different classes of tannins were also tested. Results of the developed methodology allowed the identification of tannins' chemical class in new and historic leather samples studied. Data obtained permitted to verify the information on tanning materials used in new leathers.

Reference 27 - 0.60% Coverage

¶41: Vegetable tanning technology was confirmed in historic samples and tannins were characterised. This study shows that these tests are useful and can be a valuable source of information to evaluate new vegetable tanned leathers quality for conservation and restoration purposes as well as historic leathers tanning technology.

¶42: Development of conservation procedures for late Edo period Japanese ceremonial dolls' hair: Evaluation of effective treating reagents by using artificially degraded black-dyed silk fibres

Reference 28 - 2.31% Coverage

¶43: Several procedures for conservation treatment were comparatively studied for degraded "Suga-fibres" made of raw silk fibres dyed black. Two traditional methods, (1) neutralization with magnesium bicarbonate, and (2) antioxidant treatment with phytic acid, originally used for paper preservation, were tried for the conservation of Suga-fibres. The influences of a single treatment, or a combination of neutralization and antioxidant treatments, for the model fibres on their tensile strength were investigated under conditions of high humidity at high temperature before and after the accelerated aging test. The effect of the novel antioxidant cysteine on the fibre degradation was also examined. For the single treatments, the neutralization with magnesium bicarbonate retarded the degradation of higher iron-content iron (20%)/tannate-silk fibre, while the antioxidant with phytic acid treatment most effectively prevented the degradation of lower iron-content iron (2%)/tannate-silk fibre. This may be due to the different acidity in iron/tannate-silk fibres, and thus the degradation of iron (2%)/tannate-silk fibre would be caused by iron-catalyzed oxidation rather than acid-catalyzed hydrolysis because of its lower acidity. Among antioxidant treatments, cysteine more effectively retarded the degradation of the iron (20%)/tannate-silk fibre, while in the case of the iron (2%)/tannate-silk fibre, phytic acid more effectively conserved its strength and breaking strain. The result suggests that the thiol group of cysteine coordinates with an excess of ferrous ions in the iron (20%)/tannate-silk fibre and quenches the production of hydrogen peroxide. This study demonstrated that phytic acid, cysteine and magnesium bicarbonate treatments are useful as effective reagents for the conservation treatment of black-dyed textiles.

¶44: A comparative study by infrared spectroscopy and optical oxygen sensing to identify and quantify oxidation of Baltic amber in different ageing conditions

Reference 29 - 1.33% Coverage

¶45: The aim of this study was to provide evidence about the interaction between Baltic amber and oxygen, essential to understanding the mechanisms by which the material degrades and to propose techniques for preventive conservation based on the control of environmental parameters where amber objects are stored or displayed. To investigate the oxidation of Baltic amber, the methodology consisted of artificial ageing, in order to initiate degradation of model amber samples, and non-destructive analytical techniques, in order to identify and quantify changes in chemical properties and oxygen consumption. Pellet-shaped samples, obtained from pressed amber powder, were exposed to different microclimatic conditions, subjected to accelerated thermal ageing and analysed by infrared spectroscopy together with optical oxygen sensing. The experiments provided comparable results about the oxidation state of the molecular structure and the consumption of atmospheric oxygen in similar conditions, confirming the degrading role of oxygen.

¶46: An investigation into the removal of starch paste adhesives from historical textiles by using the enzyme α-amylase

Reference 30 - 1.46% Coverage

¶47: The α-amylase enzyme has been reported during the last decade to be used for removal of the excess starch adhesive paste, which is usually used to fix textiles on paper, textiles, wood panels, or other rigid support materials. The final aim of this work was the application of α-amylase in order to remove the old starch from historical textiles in an attempt to conserve them under mild conditions. An extensive study was undertaken using various types of textiles in order to identify the optimum condition for the use of the enzyme, in relation to time, concentration, temperature and pH, before any other attempt. The first step was to simulate the textile ageing. The fabrics were coated with starch paste adhesive, and then a process of artificial thermal ageing was made on samples for different periods of time. After that the enzyme was applied to the samples, at different concentrations and at different intervals. This study also presents interesting results concerning the effect of the enzymatic treatment on the mechanical and optical parameters of linen, silk and cotton, dyed with madder or turmeric dye mordanted with CuSO4 or ferric citrate. Finally, the removal of enzymatic residues from textiles after the treatment has been studied.

Reference 31 - 0.24% Coverage

¶49: The skeletons of these crocodiles suffered from salt crystallization, erosion, pitting, change of the color, etc. This study focuses on the mechanism of deterioration processes that affects bone and tusks

Reference 32 - 0.97% Coverage

¶51: a selection of materials was based on the examination of their stability evaluated by objective physico-chemical methods and by visual inspection. The stability of fillings prepared by traditional recipes, and new ones based on modern, commercially available materials, was assessed. To study

the colour stability, techniques of light and thermal induced accelerated ageing were applied. Simultaneous thermal analysis (DTA and TG) was applied in order to study the thermo-oxidative stability of the materials. The commercial contemporary material Litostucco appeared the least suitable of all of investigated samples; however, it is possible to improve its stability by modification with additives, mainly kerotix. The fillings prepared by traditional recipes, with the exception of wax, are suitable for restoration of the oil painting.

Reference 33 - 1.75% Coverage

¶55: Applied materials for construction and decoration of showcases are potential emission sources for a broad variety of volatile organics. These might accumulate under those almost static conditions that are set within showcases due to conservation requirements. In particular, the knowledge of the potential hazardous impact of airborne pollutants on cultural assets caused a fundamental shift in material selection for showcase production during the last decades. However, systematic indoor air analyses within those modern-type showcases are missing so far. Hence, there is no knowledge if there has been achieved any improvement of air quality compared to traditional enclosures. In order to make the first move for evaluating the current situation in museum showcases, air analyses within passive-type enclosures of different construction types and ages have been performed. The focus was on concentrations of volatile and semi-volatile organic compounds (VOCs/SVOCs). Formaldehyde and organic acids have also been considered due to their known corrosive impact. All these target compounds have been determined by active and passive sampling and subsequent chemical analysis. It was found that in contrast to old-type showcases main emission sources have shifted from wood-based products and acid curing silicone rubbers to solvent-borne lacquers and neutral curing sealants. Due to secondary reactions, levels of acetic acid are still elevated. Thus, damage on artefact materials can still be suspected

Reference 34 - 0.40% Coverage

¶58: cleaned in high-frequency cold plasma

¶59: Processing in cold plasma (cleaning and/or decontamination) represents an ecological alternative for applications in various domains of a diverse range of materials. Considering the advantages it presents, high-frequency cold plasma has been employed to remove the corrosion products found on the surface

Reference 35 - 0.38% Coverage

¶59: The effects of plasma treatment have been evaluated through the investigation of the coin surface before and after the treatment, by means of different analytical techniques: scanning electron microscopy–energy dispersive X-ray microanalysis (SEM–EDX), X-ray diffraction (XRD), FTIR spectroscopy and colorimetric measurements.

¶60:

Reference 36 - 0.07% Coverage

¶61: based on classical modal mineralogy and petrography of samples

Reference 37 - 2.16% Coverage

¶61: sorts out ambiguous rock-nomenclatures and lithological definitions, which have been found in the literature of the last three decades. We can now affirm that the churches were carved in hydrothermally altered and partially lateritized basaltic scorias (nearly aphyric and highly vesicular). The hewn rock, often reported in literature as “weathered basic tuffs”, can be thus classified as a basaltic scoria deposit, partially welded by syn-post magmatic hydrothermal alteration. Its pyroclastic origin may have strongly enhanced selective weathering. The hewn rock rests on a massive to slightly fractured basalt, still present as bedrock of the Lalibela churches and belonging to lava sequences of the Northern Ethiopian Plateau (continental flood basalts). Despite the severe hydrothermal alteration and partial lateritization of the samples, modal mineralogy, petrography and major-trace elements chemistry strongly suggest that the studied clinopyroxene-olivine transitional basaltic scorias of the churches derive from the same magma type, which gave rise to the Lalibela high-titanium group 2 (HT2) of the Northern Ethiopian Plateau lava flows. The late-stage and post-magmatic phases (smectites, zeolites and calcite) scattered in the groundmass and filling the large subspherical vesicles of the basaltic scorias really represent a typical hydrothermal facies of continental flood basalts. Most of the secondary hydrothermal minerals are pointed out first, as well as appropriate modal mineralogy and petrography, providing useful insights towards unraveling the causes of deterioration of these world heritage monuments. A special emphasis is devoted to the presence of zeolite minerals, never pointed out before this study in the rock-hewn churches of Lalibela, and their possible roles on cyclic adsorbing and release of water.

¶62: PIXE-PIGE analysis

Reference 38 - 0.05% Coverage

¶63: The methods of PIXE and PIGE were applied

Reference 39 - 0.40% Coverage

¶63: The light elements were found sufficiently discriminative to distinguish between different producers. Two sites of clay sources in Slovenia were identified and sampled. The differences between them are insignificant and indicate that the differences between the manufacturers resulted from different mixtures of the batch mass with limestone

Reference 40 - 0.10% Coverage

¶65: Photography-based façade recovery & 3-d modeling: A CAD application in Cultural Heritage

Reference 41 - 1.74% Coverage

¶66: The five camera intrinsic parameters are directly representing from the Image of the Absolute Conic (IAC) and the recovering procedure is based on some prior knowledge on camera's aspect ratio (r) value domain (one independent quadratic constraint on IAC) and monument's geometric properties (four independent linearly constraints on IAC). So, for each r discrete value, the five camera intrinsic parameters are estimated using these five independent constraints on IAC, and then monument's facade pose is recovered and 3-d projective and metric reconstruction is achieved relative to the selected aspect ratio. Following, by back-projecting the reconstructed 3-d model onto

the single image on screen (CAD design session) and applying a minimization function on the discrepancy vectors between the 3-d model and the single photography image, the final r value is estimated. This new presence-of-skew stratified self-calibration method, despite the fact that it is an iterative one, is experimentally shown to be advantageous over traditional zero-skew calibration methods, when historical, or on-site, completely uncalibrated photography, of rich in geometric constraints monuments, is concerned. The method is of interest for cultural heritage documentation, digital architecture, archaeology, reverse engineering and virtual reality. Also, the proposed approach can be used in any vision problem where camera self-calibration is involved, either for enhancing robustness or removing ambiguities.

Reference 42 - 0.08% Coverage

¶67: Photogrammetric survey of complex geometries with low-cost software:

Reference 43 - 0.52% Coverage

¶68: Image-based modelling for cultural heritage documentation is an issue in which photogrammetry plays a fundamental role. Nowadays several commercial software packages (also at low-cost) allow the creation of accurate models by using digital images. However, a solution which automatically creates an accurate digital model from images is not available on the market yet, thus a relevant part of the work is carried out by interactive measurements.

Reference 44 - 0.95% Coverage

¶68: by using the well-known photogrammetric software PhotoModeler (EOS System Inc., Canada) is illustrated and analysed. In order to speed up the process, an innovative photogrammetric tool that is capable to interact with PhotoModeler's environment is presented. This allows the orientation of the image block in an automatic way without using any target. Then, a point cloud is extracted from the images by using manual measurements of corresponding points to plot vector features or by multi-image matching techniques, in order to automatically provide a reconstruction of the surface of the object. The accuracy of the obtained point cloud is similar to that achievable with range-based sensors. Finally, the point cloud can be interpolated in order to obtain a 3-D surface model. To verify the potential of this method

Reference 45 - 0.37% Coverage

¶68: the results of the automatic method for image orientation were compared with those obtainable with manual measurement, and demonstrated a similar accuracy despite a shorter elaboration time. In addition, the application of the photogrammetric 3-D model for planning future restoration activities is reported and discussed.

Reference 46 - 0.15% Coverage

¶71: Quantitative indexes based on geomorphologic features: A tool for evaluating human impact on natural and cultural heritage in caves

Reference 47 - 0.14% Coverage

¶72: the design of a method for evaluating both the degree of conservation of the geomorphologic heritage and the human impact

Reference 48 - 1.28% Coverage

¶72: A detailed geomorphologic map of the cave floor including natural features and anthropogenic features was drawn up at a scale of 1:250. The map was transferred to a Geographical Information System (GIS), allowing to drawn up a geomorphologic heritage map of the cave by grouping the geomorphologic features in three categories: natural heritage, cultural heritage and geomorphologic impact features derived from tourist use. Four quantitative indexes using several surface parameters derived from the cave heritage map and the surface of the natural cave (SC) were established and measured. The Geomorphologic Heritage Conservation Index (GHC) considers the surface of natural geomorphologic heritage; the Total Anthropogenic Influence index (TA) is calculated from the total surface of anthropogenic features; the Cultural Heritage Index (CH) considers the extent of the Cultural Heritage with a surface expression in the floor cave, while the Index of Geomorphologic Impact linked to Tourist Use (GTU) is obtained from the surface of anthropogenic features derived from cave conditioning for tourist use.

Reference 49 - 0.16% Coverage

¶72: Geomorphologic heritage maps and the derived indexes can serve as useful quantitative tools to enhance cave cultural and natural heritage,

Reference 50 - 1.05% Coverage

¶74: firstly by means of colour measurements on site, with a portable solid reflection spectrophotometer, and secondly by pigment analysis of paint samples, using OM, SEM-EDS and MRS. The results revealed that the predominant colour in the cityscape of the 19th and early 20th century was red, and that the paints contained red ochre of a local origin, in some cases with the addition of red lead. Other minor colours were identified as well: blue paints contained ultramarine blue or Prussian blue, yellow paints contained lead oxide and green paints were based on copper pigments or on a mixture of Prussian blue and yellow lead oxide. Extenders like barium sulfate, gypsum or calcite were often added to the paints. Finally, the turquoise paints were applied in recent times, as titanium white and phtalocyanine green (both industrially synthesised in the 20th century) were identified in their composition

Reference 51 - 2.08% Coverage

¶76: A novel method to access spatial information through the interactive navigation of a synthetic 3D model, reproducing the main features of a corresponding real environment, is proposed in this paper. The result of this work is a system called ISEE. An innovative aspect of the ISEE approach is represented by our definition of spatial relevance of information. The information is ranked with a novel measure of relevance that depends on the position/orientation in the 3D space, and allows for an intuitive interface. The basic idea of ISEE is to allow retrieving information by just looking around in a 3D environment, as moving and looking at the world is the main modality we use to gather

information from it. Users explore in intuitive way a 3D environment and access the related information, kept in its spatial context. Information are accessed through “extended zones”, i.e. portions of the 3D environment not having direct reference to specific elements, rather to the distribution of information and to the current user location. The use of extended zones gives to the proposed ranking algorithm a superior performance than rankings methods based on distance. Indeed the ISEE ranking matches the intuitive expectation of the users, as was verified with a formal usability test. The system has been applied to case studies related both to outdoor and indoor environments, showing its potential also as a smart guide with the use of augmented reality technologies. In order to enable access to a larger audience, sample applications using this method are based on Web technologies and do not require special training to be used. At the end of the paper are presented the results of an evaluation test, which provided useful suggestion to improve the system usability and performances.

Reference 52 - 0.07% Coverage

¶77: through the application of a new reliable diagnostic procedure

¶78:
Reference 53 - 0.69% Coverage

¶78: The identification of the colouring materials was achieved through the application of an optimised reliable procedure, based on dimethylsulfoxide extraction of the dyes from the yarns followed by a hydrolysis treatment in an acidic methanolic solution with hydrochloric acid; the extract is then analysed by high performance liquid chromatography with diode array detector (DAD). This study has lead to the identification of a wide range of colours; expensive dyes were used to dye the analysed silk yarns: coccid dyestuffs, madder, weld, young fustic, tannins and an indigoid dye were identified

Reference 54 - 1.06% Coverage

¶80: This study was carried out using different analytical methods: (1) the Mechanism Method proposed by Heyman, (2) the Virtual Works Method, (3) the Method developed by Livesley using Linear Programming, and (4) Mery's Graphic Method. The last one was used to check the other three methods. To do this we developed software called ANPAF, which contains these four methods. The geometry of the bridge was acquired by data acquisition techniques using a 3D scanner. Given the difficulty of assessing the basis of its actual geometry, a module that allows direct reading from the technical information provided by Terrestrial Laser Scanning (TLS) and orthophotos was developed. This study has allowed us to compare the results from different methods and to see the scope of each with a view towards their utility in collecting data in the field. At the same time, we validated the methods implemented with existing software.

Reference 55 - 1.52% Coverage

¶82: A superficial base-gypsum layer that covered the sculpture had been also detected on the surface of the cavity. Afterwards a recrystallization process took place due to temperature and relative humidity changes. By microscope techniques, several carbonaceous particles have been identified that were immersed inside the recrystallized superficial CaSO4.2H2O (gypsum) layer, not visible by visual inspection. The use of the bust as a cinerary urn has been verified with the detection

of carbonaceous microparticles in which phosphorus and calcium rich fragments have been identified. The obtained Ca:P ratio indicates their bone origin. The comparison of these analyzed data with other fired remains from human bone samples found in a nearby Iberian archaeological site of the same date holds a very high similarity, which confirms its analogous origin. There are also slag and sinterized particles inside the cavitiy produced at high temperatures. These results are coherent with the cremation funerary rites of Iberian culture that included the setting, even partially, of the ashes inside an urn. The detection of strontium ions, side by side the carbonaceous particles inside the cavity, are related with the thermal process induced at the time of depositing the bone ashes, still hot, from the cremation ritual

Reference 56 - 0.13% Coverage

¶86: A microwave interferometer has been employed to remotely detect the oscillations induced by vehicular traffic

Reference 57 - 1.34% Coverage

¶86: A simplified preliminary finite element model of the structure, using average literature mechanical parameters, has been used to determine the best instrument installation position and the structure area to be surveyed. Subsequently, the dome oscillations have been recorded for two consecutive weeks starting one week before the traffic block. A spectral analysis on the acquired data has been then performed and a more complex FEM model has been built to interpret the physical meaning of the acquired data. The material mechanical parameters have been finely tuned to reproduce the lowest spectral component found which was very close to the main mode oscillation frequency predicted by the simplified model. The obtained values of mechanical parameters are reasonable for the monument materials and slightly different from average. Measurement results indicate that the traffic block caused a reduction of the daytime maximum oscillations power of around 50÷60% and a decrease by approximately 33% has been observed in the peak component particle velocity. The residual measured oscillations are attributable to human activities around the square.

¶87:
Reference 58 - 0.14% Coverage

¶90: Review of several optical non-destructive analyses of an easel painting. Complementarity and crosschecking of the results

Reference 59 - 1.81% Coverage

¶91: Five optical analyses of a given work of art are presented, using multispectral imaging, optical coherence tomography, goniophometry, UV-fluorescence emission spectroscopy and diffuse reflectance spectroscopy. All these methods are non-destructive, contactless, and implementable in situ. They all lead to results in quasi-real time. The multispectral camera allows imaging of the whole painting with very high definition and recording of 240 millions of spectra. Optical coherence tomography allows local 2D and 3D imaging with in-face and in depth stratigraphies inside the painting with a micrometric accuracy. It allows the evaluation of the pigment volume concentration inside a layer, the measurement of the thickness of one or two varnish layers, the detection and measurements of gaps inside the paint layer, the depth of varnish micro-cracks. Goniophotometry

allows the measurement of the upper surface state of the painting in different locations, by quantifying the mean slope of the facets making up the surface. UV-fluorescence emission spectroscopy allows the identification of the resin, the binder and the ageing state of varnishes by use of databases of reference varnishes. Diffuse reflectance spectroscopy leads to pigment, pigment mixture and dye identifications again by use of databases. The three last methods are implemented with the same portable multi-function instrument. It allows time saving, locations on request in front of the artwork and easy use by non-scientists. Each instrument is described with its protocol and accuracy

Reference 60 - 0.76% Coverage

¶91: The five kinds of results are successively detailed, analysed and compared between themselves. It is shown that the different results are complementary and their crosschecking brings thorough information. For example, the shape of the network of varnish micro-cracks detected on the surface with the multispectral camera is added to the measurement of their depth with optical coherence tomography. Another example allows connecting two different surface states of the upper varnished surface measured by goniophotometry with the identification of these varnish with UV-fluorescence and with their thicknesses measured with optical coherence tomography.

Reference 61 - 0.10% Coverage

¶92: The use of hydroxyapatite as a new inorganic consolidant for damaged carbonate stones

Reference 62 - 1.17% Coverage

¶93: The feasibility and the effectiveness of using hydroxyapatite (HAP) formed by reacting limestone with a solution of diammonium hydrogen phosphate (DAP) in mild conditions, as a consolidant for carbonate stones were investigated. Firstly, a novel method for predamaging limestone was developed. Then, the effects of DAP solution concentration and reaction duration were evaluated to define the best treatment conditions, and the strengthening effect was evaluated on artificially damaged Indiana Limestone samples. Treated samples exhibit a significant increase in the dynamic elastic modulus and tensile strength, which is attributed to microcrack reduction and pore filling consequent to formation of calcium phosphate phases at grain boundaries, as assessed by SEM/EDS and ESEM/EBSD. Consequent to a slight reduction of coarser pores, as revealed by MIP, the sorptivity of treated samples is only slightly reduced, so that water and water vapor exchanges with the environment are not significantly blocked.

Reference 63 - 0.12% Coverage

¶94: Study of silica nanoparticles – polysiloxane hydrophobic treatments for stone-based monument protection

Reference 64 - 1.56% Coverage

¶95: The growing interest in the conservation of historic buildings encourages the development of water-repellent materials and methodologies to consolidate and/or protect stones. Recently,

particular attention was devoted to composites of inorganic oxides nanoparticles and hybrid siloxane or silicone polymers. Here we present a study on the water repellence of a thin protective coating obtained through sol-gel process starting from Glymo and Dynasylan 40®, and loading the silicate matrix with nano-sized silica particles (Aeroxide LE1® -Degussa-Evonik). The coatings were applied to limestone, sandstone and granite samples. The silica nanoparticles have been characterized by XRD, the siloxane matrix through micro-Raman spectroscopy, while the surface morphology was examined by SEM. The efficacy of the treatments has been evaluated through static contact angle measurements and capillary water absorption. The optical appearance of the coatings was evaluated by colorimetric measurements. Nanoparticles at suitable concentration gave high values for the static contact angle (up to ~ 150°), for all stone species even for four months exposure to atmospheric conditions. The coatings, in the water capillary absorption tests, however, behave as expected only for granite even if the long-term water direct contact reduces the hydrophobicity.

Reference 65 - 0.07% Coverage

¶96: Organic-inorganic material for the consolidation of plaster

Reference 66 - 1.04% Coverage

¶97: Organic-inorganic materials to be used as hydrophobic consolidants for plasters were synthesized starting from an inorganic precursor (Tetraethoxysilane [TEOS]), added to a polysiloxane epoxy formulation and thermally cured with Ytterbium as acid catalyst. The TEOS reduces the viscosity of the resin, contributing to the mechanical properties of the film, without causing cracking. Solvents, that are harmful for workers and environment and show some drawbacks in the practice of restoration, were not used. The film properties and the formation of silica clusters were investigated. The products were applied by brush on plaster's samples and their compatibility and effectiveness were verified. Thanks to the organic content, the products penetrate deeply, are more stable to photo-oxidative degradation, and the hydrophobicity of the resin, provided by the silicone component, is not altered.

Reference 67 - 0.12% Coverage

¶98: Ammonium oxalate treatment: Evaluation by μ-Raman mapping of the penetration depth in different plasters

Reference 68 - 0.77% Coverage

¶99: This study is focused on the evaluation by μRaman mapping of the penetration depth achieved by ammonium oxalate treatment in different plaster specimens, a hot issue in the conservation field. The role of the carbonatic aggregate particles and the influence of the different variables of the treatment on the penetration depth and on the distribution of the newly-formed phase (whewellite) have been ascertained. Based on the results of μRaman mapping, analyses with Field Emission Scanning Electron Microscopy have been carried out in order to observe the whewellite crystals and the carbonatic aggregate particles involved in the reaction with ammonium oxalate.

Reference 69 - 0.12% Coverage

¶100: New cellulosic titanium dioxide nanocomposite as a protective coating for preserving paper-art-works

Reference 70 - 1.02% Coverage

¶101: We investigate the TiO2 role in the inherent protection of paper works of art to protect them against damaging effect of ultraviolet radiation, pollutant gasses, mold and bacteria. In this study a cellulosic nanocomposite of TiO2 were used as protective coating on the surface of paper fibers. This layered nanocomposite can act as a consolidate materials too. Furthermore, to determine how well paper works screen objects from the damaging effects, two accelerated aging mechanisms due to light and heat are discussed. Results show good stability of papers with nanocomposite coating. Also, a good light stability was shown in the colored paper that treated with this nanocomposite. Furthermore, to demonstrate the degree of antifungal properties of coated papers, papers were treated with two common molds and the good preventive effect of coated paper against molds is described

Reference 71 - 0.11% Coverage

¶102: Spectroscopic methods for the analysis of celadonite and glauconite in Roman green wall paintings

Reference 72 - 0.11% Coverage

¶104: Positive findings for plasma polymer (meth)acrylate thin films in heritage protective applications

Reference 73 - 1.05% Coverage

¶105: Plasma technology is an innovative environmental friendly process that can be an option to the conventional methods for materials' processing. Nonequilibrium low pressure plasma found efficiency as a nondestructive method for the treatment of different materials, many of them belonging to the cultural heritage, in some proper operations such as: atomic-level cleaning, decontamination, thin film deposition. In the paper, the low pressure nonequilibrium plasma is applied for the deposition of plasma polymer poly(methyl methacrylate-co-ethyl acrylate) P(MMA-co-EtA) thin films on natural aged paper, with the consolidation and protective aim. To verify the plasma polymer applicability for paper protection and consolidation, the film is aged accelerated by UV radiation and the structural and morphological changes are evaluated by FTIR spectroscopy, color/gloss measurement, contact angle and AFM.

Reference 74 - 0.09% Coverage

¶106: Surface changes upon high-frequency plasma treatment of heritage photographs

Reference 75 - 1.05% Coverage

¶107: Recent research, concerning the application of high-frequency cold plasma in restoration and preservation of the cultural heritage, has included the objects derived from organic materials, which are highly sensitive to microclimate factors. Historical photographs made on paper base and covered with various emulsions belong to this category of heritage objects, and make the purpose of the present study. Plasma treatment was used to enhance the aesthetic aspect of the photographs by a cleaning treatment involving either physical and/or chemical etching, which did not cause major physicochemical changes on the plasma-treated surface. The photographs before and after plasma treatments were analysed by optical and atomic force microscopy, scanning electron microscopy with energy-dispersive X-ray microanalysis, Fourier transform infrared spectroscopy, colour, gloss and contact angle measurements

Reference 76 - 0.10% Coverage

¶108: Heat and moisture promoted deterioration of raw silk estimated by amino acid analysis

Reference 77 - 0.31% Coverage

¶109: Such silks with remnant sericin gum may require special consideration for their optimum preservation. Conservators and curators then need to know which of the silks in their collections are in this category, and what effect the sericin has on the ageing of silk fibres

Reference 78 - 0.63% Coverage

¶109: In the study reported here, the artificial heat and moisture ageing of raw silk was investigated by means of amino acid analysis. Amongst various amino acid molar ratios, Asp/Gly proved a valuable indicator of residual sericin gum on aged silk. Measurement of the tyrosine content was also useful for gauging the conservation state of silk in some circumstances. The results of the amino acid analyses when combined with those for tensile tests suggested that sericin did not inhibit fibroin deterioration under the ageing conditions employed.

¶110:
Reference 79 - 0.52% Coverage

¶111: The textile has various types of deterioration. An examination and analysis of the textile was undertaken in order to develop a plan of conservation treatment. FTIR was used to identify the kinds of dyes and organic stains, and XR-D was used to identify mordants and dust. Light microscope and SEM were used to identify the kind of fibers, their condition and surface morphology. The effects of cleaning materials on the natural dyes were tested

Reference 80 - 1.04% Coverage

¶113: The color of 50 commercial varieties of roofing slate mined in quarries from the 12 mining districts in the Iberian Peninsula was analyzed with a spectrophotometer device, by considering the CIELAB color space. The results of the study were used to develop a protocol for characterizing the color of roofing slate and to define the color range of roofing slate from the Iberian Peninsula. In addition, the similarities and differences in the color and microstructure of the different commercial varieties of Iberian roofing slate were established and the limit of acceptability of replacement of

one type of slate by another was determined. Parameter hab was found to be the most important CIELAB color coordinate as regards the formation of homogeneous color groups, and the specular component excluded (SCE) mode was most sensitive as regards detecting color differences between two samples.

Reference 81 - 0.07% Coverage

¶114: LEDs as a tool to enhance faded colours of museums artefacts

Reference 82 - 1.91% Coverage

¶115: A procedure to enhance the faded colours of museums artefacts is presented. The method is based on adjusting the spectral profile of the light while maintaining a given white colour of the illumination. The procedure is tested using colour LED clusters and a series of damaged samples and their good condition counterparts. The intensity of the three components of four feasible LED clusters is computed in order to produce white illumination metameric to a white LED light source taken as a reference. Colorimetric calculations are performed to model the colour changes undergone by target colour samples using illumination based on colour LED association with respect to the white LED reference. The model is based on CIELAB specification and allows to optimize the choice of three-colour LED associations that modify the hue and the saturation of a few target colour areas of illuminated samples while other areas are left moderately desaturated. Modelling and experimental visual validation were practically obtained by adjusting the intensity of five calibrated colour LEDs, blue, cyan, green, amber and red, accommodated in a light booth. A visual validation was conducted asking 20 observers to rate the colourfulness appearance of aged inkjet prints under every LED cluster with respect to the colourfulness of their original counterparts under the reference white LED source. The visual assessments agreed with the colorimetric predictions. Finally, a demonstration is shown of the feasibility of the method by simulating the rejuvenated appearance of a natural history specimen of which the museum possesses two differently aged items.

Reference 83 - 0.41% Coverage

¶123: This chapter claims that DRM and P2P can be quite complementary. Specifically, a P2P infrastructure is presented which allows broad digital cultural content exchange while on the same time supports copyright protection and management through watermarking technologies for digital images.

¶124: Automatic registration of large range datasets with spin-images

Reference 84 - 0.47% Coverage

¶125: Terrestrial laser scanning technique has represented one of the more advances occurred in the last years in the field of data acquisition. Time-of-Flight (TOF) systems provide a fast and reliable tool to measure millions of 3D points allowing a very effective and dense measurement of the surface geometry. Nowadays, the generation of high quality 3D models is a practice applied to different kind of objects

Reference 85 - 1.58% Coverage

¶125: In most cases, in order to capture the whole object geometry a number of single scans need to be acquired from different positions and then stitched together (i.e. registered each other) to generate the full 3D model. The automatization of the registration of multiple scans acquired from a terrestrial laser scanner (TLS) still represents a very attractive research field. The chance to automatically align several point clouds would reduce processing costs in terms of time and human resources. In addition it would allow even non-specialist users to produce 3D models with good quality. This paper contributes to this research area by presenting a method for the automatic registration of very dense point clouds acquired by TLS systems. The proposed solution is an extension to large datasets of an automatic range data registration procedure we developed a few years ago for the modelling of point clouds acquired with close-range laser scanners. Such procedure, based on the spin-images (SIs) algorithm, has been then improved with the introduction of a multi-resolution method that generates a pyramid of spin-images in order to speed up the matching between adjacent scans. The results we present show that this method can be successfully applied for the automatic registration of high density laser scans of complex and large structures of Cultural Heritage

Reference 86 - 0.10% Coverage

¶126: The FarmBuiLD model (farm building landscape design): First definition of parametric tools

Reference 87 - 0.55% Coverage

¶129: Our investigation of the deterioration characteristics of these grottoes is presented here. The paper describes about 12 types of diseases in detail represented by dust deposit, salt crystallization and black crust. Relevant samples have been collected and analyzed by means of SEM, FT-IR, XRD and EDAX to study the potential hazard to the sandstones and conservation methods, which could be used to help guide remediation efforts directed at reducing the weathering problem

<Internals\\JCH 2012 Abstracts> - § 156 references coded [61.24% Coverage]

Reference 1 - 0.38% Coverage

¶4: A simple transfer function has been used to predict indoor temperature and humidity from outdoor climate. Using downscaled output from the Hadley Model (HadCM3) changes in indoor climate through to 2100 were predicted for an idealised unheated room at a number of European sites. The potential threats to paper and the risk of salt damage were predicted using damage functions. Although paper faces an increased risk in some temperate locations, salt weathering can increase or decrease dependent on location.

Reference 2 - 0.12% Coverage

¶6: The seismic assessment of art objects requires a multidisciplinary approach and the definition of a specific methodology for evaluating the level of safety

Reference 3 - 0.27% Coverage

¶6: starting from historical research, geometrical survey and material characterization, up to the developing of specific methods of analysis. This research could be the base for future studies to be performed concerning the prevention of seismic damage of art objects, including both bare minimum interventions and specific devices, such as isolation systems.

¶7:

Reference 4 - 0.30% Coverage

¶8: In the present study a laboratory investigation was conducted to elucidate the effect of temperature and humidity on the amounts of organic material consumed by larvae of A. smirnovi. In the case of new and old skin, consumption was approximately twice as high at 28 °C compared to 20 °C. Wool was consumed in the greatest amounts: 169 mg of wool was consumed in three months by 30 A. smirnovi larvae.

Reference 5 - 0.03% Coverage

¶9: Generating high quality textures for 3D models

Reference 6 - 0.78% Coverage

¶10: Three-dimensional (3D) digital preservation aims at generating 3D models of objects that have cultural or scientific value. It allows realistic visualization of objects through virtual museums or scientific applications, and the restoration of the preserved object in case of natural wear or accidents. This work contributes to this research area by presenting a method to improve color texture quality of 3D models obtained from color and depth images of a laser scanner. Although this device offers precise depth information, the resulting color information is still poor and limits the generation of realistic textures. Our approach is to capture photographs of the object with a high-resolution digital camera and use them to generate a new color texture for the 3D model. Our work proposes a practical technique, easy to replicate, to generate high quality textures for 3D models from photographs. The method is composed by three main steps: (1) calibration of the image acquisition devices; (2) data acquisition; and (3) texture generation

Reference 7 - 0.23% Coverage

¶10: We present several results of preserved artworks with enhanced quality realistic texture maps. Also, we present a methodology to analyze the quality and accuracy of texture maps. The resulting 3D models can be visualized through a tool we developed to support the virtual exhibit of 3D preserved heritage.

Reference 8 - 0.10% Coverage

¶11: Synthesis of Ca(OH)2 nanoparticles with the addition of Triton X-100. Protective treatments on natural stones: Preliminary results

Reference 9 - 1.55% Coverage

¶12: Calcium hydroxide is typically used in Cultural Heritage conservation for superficial protective treatments thanks to its conversion into calcium carbonate. Calcium carbonate is, in fact, compatible with many carbonate-based architectonic surfaces, because its characteristics are similar to those of the restored materials. In order to improve calcium hydroxide treatments, Ca(OH)2 particles with sub-micrometric dimensions (nanolimes), are synthesised by a chemical precipitation process: a sodium hydroxide solution, used as precipitator, is added, drop by drop, to a calcium chloride one. In this paper, a nanometric calcium hydroxide, to be used in stones treatment, is produced adding in the initial solutions a surfactant agent (Triton X-100); the solutions are then mixed together simultaneously, drastically reducing the time needful for preparation. Different contents of surfactant are employed, and the influence on particles dimension and carbonatation process is analysed too. The obtained Ca(OH)2 nanoparticles are characterized by X-ray diffraction (XRD), transmission electron microscopy (TEM) and electron diffraction (ED). The Ca(OH)2 nanoparticles are regularly shaped, hexagonally plated and with side dimensions less than 200 nm: in particular, increasing the surfactant content, the particle dimension reaches values until 20 nm. Comparing nanolime suspensions obtained without and with the addition of the surfactant agent, the last ones have comparable, if not better, performances in terms of average particle size and morphology, crystallinity and reactivity. Afterwards, the alcoholic nanolime suspension obtained by using Triton X-100 is applied on some natural stones; in fact, the aim of this section is to compare the obtained results with those achieved using a nanolime synthesised without the surfactant agent. To evaluate the treatment effectiveness in a preliminary way, standard tests are performed and compared with the same tests previously obtained by the nanolime synthesised without the surfactant agent: “Scotch Tape Test” and capillarity test.

Reference 10 - 1.56% Coverage

¶14: The need for improved methodologies to describe the post-elastic behaviour of existing structures in the framework of seismic vulnerability assessment has long been recognised. The study presented herein deals with the non-linear seismic response of timber-framed (T-F) masonry structures, such as those found in traditional edifices of cultural heritage. T-F masonry generally consists of masonry walls reinforced with timber elements, including horizontal and vertical elements, as well as X-type diagonal braces. Since the Bronze Age T-F buildings were common in regions where moderate-to-strong earthquakes were frequent. There is ample historical evidence that the embodiment of timber elements in masonry walls is closely related to earthquakes. The paper focuses on the description of the seismic response of T-F structures by means of a detailed analytical model. Although elastic analysis can adequately identify regions with high stresses, it fails to capture the redistribution of stresses and the ensuing failure mechanism. The simulation of T-F masonry is made here using a plasticity model. Non-linear laws for the materials, such as a trilinear stress-strain curve for monotonic loading of timber and a Mohr-Coulomb contact law for wooden members, are used to express their behaviour under moderate and high stress levels. An associated flow rule is assumed and Hill's yield criterion is adopted with isotropic work-hardening. Masonry infills are not included in the model due to their insignificant contribution after the initial elastic stage of the response. The proposed finite element model is intended for a detailed non-linear static analysis of parts of a building. A simplified model using beam and link elements with non-linear axial springs is also developed, which is appropriate for 2D non-linear analysis of common buildings. Both models are validated using experimental results of three T-F masonry walls obtained from the

literature. Finally a non-linear static analysis of the façade of an existing building situated in the island of Lefkas, Greece is performed.

¶15:
Reference 11 - 0.06% Coverage

¶17: Ground level ozone exposure and distribution over the historical Peninsula of Istanbul

Reference 12 - 0.10% Coverage

¶18: In this study, passive samplers were used to measure ozone exposure distribution maps over the historical peninsula of Istanbul, Turkey

Reference 13 - 0.61% Coverage

¶18: It is necessary to evaluate the pollution distribution in high resolution to construct effective risk management strategies. For this purpose, 50 sampling stations were installed within the study area. Three sampling campaigns within different seasons (summer, winter and fall) showing different ozone distribution characteristics were carried out. Seasonal measurements of ozone exposure values were used to obtain a yearly exposure level, which is an important part of risk characterization. Seasonal ozone exposure maps over the historical peninsula were obtained using Geographical Information Systems (GIS) based interpolation models with high resolution. Risk maps including five regions, based on ozone exposure levels were created. Structures and historical regions located within these risk zones were identified.

Reference 14 - 0.11% Coverage

¶19: Definition of the procedure to determine the suitability and durability of an anti-graffiti product for application on cultural heritage porous materials

Reference 15 - 0.40% Coverage

¶20: proposes a criterion to decide on the suitability and durability of an anti-graffiti product prior to its application in a porous surface of a protected building. Performance classifications are defined for a series of properties including colour and gloss, and hydric and durability properties, and minimum acceptable values or reductions in these properties are recommended.

¶21: Trans-illumination and trans-irradiation with digital cameras: Potentials and limits of two imaging techniques used for the diagnostic investigation of paintings

Reference 16 - 1.22% Coverage

¶22: During the past two decades, thanks to the rapid development of solid-state-based sensor technology, digital imaging emerged as one of the most attractive research areas for the noninvasive investigation of paintings and flat artworks. In particular, the commercial availability of high-performance digital cameras opened up new perspectives to transmitted imaging techniques, such as trans-illumination and trans-irradiation, which are based on the acquisition of the visible (Vis) and

near infrared (NIR) radiation, respectively, transmitted through the object. Until recently, these techniques were indeed considered to be unsuitable for applications on artefacts, because of the risks of overheating and overexposure to the light of the object under analysis. Nowadays, with the new-generation digital cameras, transmitted imaging can be reconsidered as a possible tool for noninvasive diagnostics on paintings on canvas. These techniques have been proven to be effective for the examination of hidden details, such as underlying drawing, for a study of the pictorial style or the executive techniques, as well as for assessing the state of conservation of the supports. Both trans-illumination and trans-irradiation can be easily implemented by means of professional photographic digital cameras, and therefore offer a valuable alternative to the more expensive well-established methodologies, such as X-ray radiography. In some cases, they are found to be complementary to the conventional techniques in revealing details of the underlying paint layers. Potentials and limits of transmitted imaging techniques are discussed in this paper

Reference 17 - 0.10% Coverage

¶23: Identification of natural dyes in historical textiles from Romanian collections by LC-DAD and LC-MS (single stage and tandem MS)

Reference 18 - 0.61% Coverage

¶24: are characterized and discussed, together with earlier results on textiles from Romanian collections obtained by the same research group. Dye analyses were performed using two methods: the well-established liquid chromatography-diode array detection (LC–DAD) and a recently developed liquid chromatography-mass spectrometry (LC–MS) analytical protocol. The examination of very small historical samples by both techniques allows a better insight in the advantages and limitations of the two approaches to real analyses to be obtained. LC–MS data interpretation is based entirely on the results accumulated for dye standards. Electrospray ionization (ESI) was used in the negative ion mode and an ion trap served as mass analyzer. Both single stage (MS) and tandem (MS/MS) mass spectrometric approaches were considered.

Reference 19 - 0.39% Coverage

¶24: The range of biological sources is in very good correspondence with earlier results obtained from textiles in the Romanian Collections. LC-MS (single stage and tandem MS) approaches have been demonstrated to be valuable tools for dye identification in small-scaled samples from historical textile objects only if sufficient knowledge on the dyes and their biological sources is first accumulated within experiments performed on standard dyes and standard dyed fibers.

¶25: Noninvasive geotechnical site investigation for stability

Reference 20 - 0.27% Coverage

¶26: To diagnose the present conditions and to resolve problems, site investigations are performed. Boring is conducted in the surrounding ground of Cheomseongdae, and noninvasive investigations such as seismic tests and electrical resistivity surveys are conducted as well. The present study proposes a geotechnical engineering approach focused on noninvasive site surveys,

Reference 21 - 0.04% Coverage

¶27: Generation of virtual models of cultural heritage

Reference 22 - 0.66% Coverage

¶28: Different techniques and tools currently exist to generate three-dimensional models of small elements, buildings and cities. Apart from being easier to interpret than two-dimensional drawings, these models facilitate data necessary for reconstruction projects, preservation or rehabilitation of the architectural or archaeological heritage. Traditional surveying only enables us to obtain discrete information of the characteristic lines that define each surface, edge, slope change etc. whereas work with massive capture techniques allows us to obtain continuous points of the surfaces. Photogrammetry or laser scanning combined with conventional photography provides information of the building in addition to its geometry. We carried out a review of the different techniques showing the advantages and disadvantages of each technique as well as the information that can be obtained

Reference 23 - 0.07% Coverage

¶29: Pigment identification in a Greek icon by optical microscopy and infrared microspectroscopy

Reference 24 - 0.14% Coverage

¶30: Optical microscopy, cross-section and fragment Micro-FTIR spectroscopic techniques along with microchemical tests were used for the identification of pigments in two different samples of an icon

Reference 25 - 0.35% Coverage

¶30: The main components found in the ground layer of both samples were gypsum, beeswax and a proteinaceous material. Cinnabar, Prussian blue and cerussite were identified on the paint layers. The binding medium on the paint layers was weddelite. The materials used in the painting and ground layers were characterized in order to clarify the painting technique. Proteinaceous materials have been identified as binders for the pigments, indicating a tempera painting technique

Reference 26 - 0.04% Coverage

¶32: Early detection of fungal biomass on library materials

Reference 27 - 0.67% Coverage

¶33: Current methods used for the detection of microbial biomass, such as colony counts, microscopic biovolume estimation, and ergosterol analysis are expensive, time consuming, or are inappropriate for use with fungi. Beta-N-acetylhexosaminidase (EC 3.2.1.52) activity provides a rapid and reliable means of fungal detection on a variety of cultural heritage materials. Adapted for use on archival materials, fluorogenic 4-Methylumbelliferyl (MUF) labeled substrate N-acetyl-Beta-D-

glucosamine (NAG) was used to detect fungal beta-N-acetylhexosaminidase activity. The fluorescence generated by minute quantities of fungi was quickly detected at an early stage of growth. The sensitivity of the assay was comparable to other biochemical techniques. The fluorometric assay was well-suited for early detection of fungal biomass on paper and assessment of the effectiveness of common remediation practices.

Reference 28 - 0.06% Coverage

¶34: Protective effect of endolithic fungal hyphae on oolitic limestone buildings

Reference 29 - 0.67% Coverage

¶35: This study presents characterizations of weathering forms of the same oolitic limestone from four quarries and eight monuments exposed on various environmental conditions focusing on the waterproofing effect of endolithic organic matter. Patinas were analyzed by X-ray diffraction (XRD), scanning electron microscopy with energy dispersive X-ray spectrometry (SEM-EDX), capillarity coefficient through weathered and unweathered sides, gypsum content and porous network morphology by epoxy resin molding. Study of weathering forms on old quarries indicates that lichens colonization (Verrucaria nigrescens and Caloplaca aurantia) can fill the superficial porous network with a dense network of lichenised fungal hyphae. Capillary coefficient measurement on natural and calcinated samples showed that endolithic organic matter can waterproof the stone and could act as a sulfate contamination barrier.

Reference 30 - 0.08% Coverage

¶36: Dimensional studies of specific microscopic fibre structures in deteriorated parchment before and during shrinkage

Reference 31 - 1.42% Coverage

¶37: reports the first systematic study of the dimensions of morphological changed microscopic collagen fibres in historical and new reference parchments with the aim to improve the knowledge on deterioration and the diagnosis of their damage in connection with conservation activities. The dimensions of fibres from the parchments were measured before and during shrinkage, with special emphasis on fibres with degradation characteristics designated as “pearls on a string” and “butterflies”. In addition, measurements of the total shrinkage of the length of fibres and pieces of parchment were also carried out. The observations support the assumption that in vivo transformation of the fibre structure by natural ageing is similar to that taking place when heating parchment and fibres in water. Based on statistical cluster analysis, four subpopulations of pearls representing different stages of deterioration are found. Moreover, the dimensional changes in the specific structures observed at room temperature can be related to specific temperatures in the interval of shrinkage suggesting that the hydrothermal stability of the fibres may be predicted on the basis of the ratio between length and width of the so-called pearls (Pl/Pw). The total shrinkage measured is drastic, in average around 56% for fibres and 43 to 48% for pieces of parchment depending on the direction of the skin. The total shrinkage of fibres corresponds to a mean change in the ratio Pl/Pw from around 10 to around 2.3. Finally, relations between the measured

dimensions at the microscopic level with those of collagen at nanoscopic and molecular levels including known and potential chemical splitting points strongly indicate that the formation of the butterfly-like fragments formed by cleavage of two adjacent pearls in the fibre can be ascribed to chemical modification of specific tripeptides in the collagen molecule.

Reference 32 - 0.06% Coverage

¶40: Structural assessment and measurement of the elastic deformation of historical violins

Reference 33 - 1.12% Coverage

¶41: A structural assessment is fundamental to understanding the violin's compatibility with its residual function of musical instrument. The tuning of the instrument to a modern playing pitch during concerts could, in fact, cause stress resulting in plastic deformations of its structure. In order to understand the stress level to which the violin is subjected when tuned, several tests were performed. The forces acting on the bridge were measured, the geometry of the un-strung and of the tuned violin were acquired with a tri-dimensional scanner, the violin deformation was assessed by means of the computed surface deviation mesh and by measuring the deformation in selected lines, several sections of the violin were cut from the digital model and stress exerted on the sections was computed. The stress exerted on the neck, scroll and body were found to be very limited. More significant, albeit at a low level, was the stress exerted under the bridge between the sound holes. Mechanical stress exerted after tuning was found to be safe for the violin, if applied for a limited amount of time. This does not mean that the violin can be played freely, because the real strength of the material used in the violin is not known and mechanical stress during a concert must be added to time (viscous behaviour), moisture content variation (mechano-sorptive behaviour) and hygro-thermal stress, thus worsening the condition. The method presented here could be applied to compute the level of stress of any violin.

Reference 34 - 0.08% Coverage

¶42: Consolidation of carbonate stones: Influence of treatment procedures on the strengthening action of consolidants

Reference 35 - 1.25% Coverage

¶43: demonstrates the importance of treatment application procedures on the consolidation effectiveness obtained by comparison of the results obtained using three different consolidants on four carbonate stone types, and proposes a general methodology for assessing the potential effectiveness of consolidants in laboratory conditions. It stresses the relevance of taking into account the treatment methodology, given the influence application protocols can have on the overall behaviour of the consolidated material. Several mechanical properties were assessed to demonstrate this influence on the performance of the consolidant. The results demonstrate that the strengthening action achieved with a specific product can only be defined in a strict relation to the treatment protocol used to produce it. The results also contribute towards the definition of standard testing protocols on stone consolidation. The application of a consolidant by direct contact capillary absorption is a reliable procedure and the results are easier to interpret than others obtained by

brushing or by full immersion, thus making this procedure a good candidate for an eventual standard laboratory assessment method of the consolidation action of any specific stone/consolidant combination. This study also showed that the best test method to assess the strengthening action of stone consolidants in soft stones is DRMS (Drilling Resistance Measuring System). Moreover, the collection of longitudinal ultrasound velocity profiles determined in stones specimens treated by contact capillary absorption was shown to be a useful non-destructive method to assess the depth of the strengthening action achieved.

Reference 36 - 0.03% Coverage

¶46: The origin of syngenite in black crusts

Reference 37 - 0.03% Coverage

¶46: the role of agriculture fertiliser

¶47:
Reference 38 - 0.90% Coverage

¶47: Of special importance is the association of salts (namely gypsum and syngenite). Syngenite is a common secondary deposit on granite monuments and on medieval stained glass (i.e., on K-containing materials). However, its appearance over calcareous substrates is not apparent, particularly in cases where cement mortar was not used for bounding. The origins of the potassium and sulphate ions required for syngenite formation are related to meteoritic water, which penetrates the soil above the arch of King's Gate. Water dissolves some soil components and becomes enriched with various ions before coming into contact with the limestone blocks. Enriched water contains two times more K+ and SO42− ions than pristine meteoritic water does. The source of the required ions is potassium-sulphate that is present in agricultural fertilisers that are used above the monument. The proposed mechanism for syngenite formation was additionally supported with laboratory experiment. The results of X-ray diffractometry and SEM-EDS analyses of limestone treated with potassium-sulphate solution and sulphuric acid suggest the possibility that the syngenite was formed over calcite:$CaCO3 + K2SO4 + H2SO4 \rightarrow K2Ca(SO4)2\ H2O + CO2\uparrow$

Reference 39 - 0.22% Coverage

¶48: the complex mechanisms of gypsum and syngenite formation under natural conditions (variable concentration of potassium and sulphate ions, intermediates phases, temperature changes, humidity, the amount of disposable water etc.) do not exclude the possibility of syngenite formation over gypsum.

Reference 40 - 0.05% Coverage

¶49: 3DSSE – A 3D Scene Search Engine: Exploring 3D scenes using keywords

Reference 41 - 0.68% Coverage

¶50: It responds to queries by exploiting the metadata of each 3D model and returns textual and visual information along with a group of links that correspond to relative points of interest within the 3D scene. The search engine allows the virtual visitor to automatically be transferred to a specific point of interest. We have built a Web accessible prototype system that is able to handle queries related to historical data, topological relationships and architectural properties of buildings. A number of 3D reconstructions covering urban areas of cultural importance located in Northern Greece have been annotated and used in the search engine as case studies. The prototype system is based on open source technologies and on a hybrid metadata schema that is derived from the MIDAS Heritage and MACE schemas.

¶51: Effect of novel consolidants on mechanical and absorption properties of deteriorated wood by insect attack

Reference 42 - 1.17% Coverage

¶52: The influence of chemical treatments based on novel organic products on the consolidation of deteriorated wood by insect attack was evaluated on two hardwoods and one softwood: fir (Abies alba), beech (Fagus sylvatica) and deciduous oak (Quercus sp.). Degraded and intact specimens of the three wood species were impregnated with two different chemical treatments aimed to verify the potential synergic action of the novel products on wood. Then, the specimens were subjected to bending, compression parallel to the grain, impact, hardness and water absorption tests. Untreated specimens of the same botanical species, both degraded and non-degraded, were examined for comparison purposes. The experimental results showed a different effectiveness of the proposed chemical treatments to improve the mechanical and absorption properties of degraded wood. The most effective treatment was the one assuming the concurrent use of the studied novel consolidants. The species more susceptible of the enhancement in mechanical properties were fir and beech. The observed differentiations were most likely caused by the different structure of the botanical species considered, leading to a consequent different product penetration in the wood structure. The dimensional stability in terms of water repellent and antiswelling efficiency, after a three-month immersion in deionized water, was found to improve in all the treated wood specimens. Overall, experimental results showed that the impact of the chemical treatments was higher on degraded samples than on intact ones.

Reference 43 - 0.09% Coverage

¶53: Smart surfaces for architectural heritage: Preliminary results about the application of TiO2-based coatings on travertine

Reference 44 - 0.94% Coverage

¶54: In this paper, a TiO2-based coating has been investigated in order to evaluate its possible use as a self-cleaning treatment. This coating was obtained by a sol-gel and a hydrothermal (134 °C) processes and then it was applied on travertine (a limestone often used in historical and monumental buildings) in two ways, obtaining a single-layer and a three-layer treatment, respectively. In order to verify its potential use in the field of Cultural Heritage, the maintenance of appearance properties of the treated travertine surfaces was monitored by colour and gloss analyses. Besides, de-pollution and soiling removal tests were carried out under ultraviolet-light

exposure to evaluate photo-induced effects and self-cleaning efficiency. Results seem to allow the use of TiO2-based treatments on historical and architectural surfaces made up by travertine, where de-pollution and self-cleaning photo-induced effects are well evident, maintaining their original visual appearance. Anyway, before applying TiO2-based coatings as conservative treatments, further tests are needed especially on their durability, that is mandatory for Cultural Heritage applications. On-site test in an urban environment and accelerated test by weatherometer are currently under way.

Reference 45 - 0.23% Coverage

¶56: We developed a complete 3D digital preservation pipeline composed of four main stages: data acquisition, 3D reconstruction, texture generation and 3D model visualization. By evaluating our results in this first sculpture, we discuss the improvements we conceived before applying our pipeline in the remaining ones

Reference 46 - 0.06% Coverage

¶57: Laser scanning and digital imaging for the investigation of an ancient building

Reference 47 - 0.02% Coverage

¶58: describes a scientific approach

Reference 48 - 0.49% Coverage

¶58: Laser scanning and the inspection of digital images are used to detect traces of restoration works and other interesting features related to both architectural marks and natural or anthropic events. One of the main elements of the method is the analysis of residual maps, obtained by computing the differences between the point coordinates of the façade and reference fit planes. The obtained results, based on both radiometric and geometrical analysis, are used to provide a reasonable hypothesis as to the original configuration of the studied building, while taking into account the available historical information about the constructive phases of the building

Reference 49 - 0.12% Coverage

¶59: Process for the 3D virtual reconstruction of a microcultural heritage artifact obtained by synchrotron radiation CT technology using open source and free software

Reference 50 - 0.78% Coverage

¶60: Computer tomography (CT) technology has greatly contributed to the feasibility and convenience of detecting and visualizing the internal material constitution and geometrical fabrication of museum artifacts. This paper presents a case study of 3D virtual reconstruction for the CT-acquisition-based study of a cultural heritage artifact. It documents the complete procedure, including the preprocessing, segmentation and visualization of the data by providing coarse interactive exploration and integrated high-quality renderings. A parallel aim achieved was to use

open source tools and free software for segmentation and visualization, thus providing full transparency of the adopted methodology and 3D visualization methods, and a cost effective solution for ordinary CPU-based PC users. Furthermore, the challenges of the large data volumes involved have been addressed using preprocessing, a segmentation scheme and linked front-to-back management to keep interaction and high-quality rendering available, thus achieving corresponding demands.

Reference 51 - 0.02% Coverage

¶61: using ultraviolet imaging

¶62:
Reference 52 - 0.32% Coverage

¶62: A total of 69 areas of text, ranging in size from just a few words to full pages, were photographically recorded under both white and ultraviolet (UV) light illumination. UV illumination observed in the visible range proved to be efficient in detecting the writings. Most of the texts could thus be successfully transcribed by the paleographers. The technique proved to be extremely useful for the exposure of damaged medieval writings.

Reference 53 - 0.02% Coverage

¶63: Spectroscopic analyses

Reference 54 - 0.63% Coverage

¶64: The investigation has been performed through different spectroscopic techniques: X-ray fluorescence (XRF) using an handheld energy-dispersive XRF analyzer, scanning electron microscopy equipped with an Energy Dispersive Spectrometry microanalysis detector (SEM-EDS) and Fourier transform infrared absorbance spectroscopy (FT-IR). The main goal is to identify the plaster and pigments material. In particular, the XRF investigation of surfaces is the first step for a preliminary elemental characterization. Then, through SEM-EDS measurements, a quantitative analysis of the chemical composition of the plaster and the pigmenting agents along with eventual components related to deterioration processes has been obtained. Finally, FT-IR absorbance spectra have proven to be a useful tool to investigate the molecular nature of the used materials.

Reference 55 - 0.02% Coverage

¶66: Wood Science for Conservation

Reference 56 - 0.06% Coverage

¶67: Wood science and conservation: Activities and achievements of COST Action IE0601

Reference 57 - 0.47% Coverage

¶68: COST Action IE0601 (2007–2011) aimed at promoting the science needed for the conservation of wooden cultural heritage. It involved 26 COST countries and three institutions from non-COST countries, allowed the organisation of five international conferences, 12 focused meetings and five training schools. This special issue of Journal of Cultural Heritage gathers significant contributions to the field. It is structured in seven parts: basic wood science for conservation; examining wooden cultural heritage objects; timber structures; painted wood; waterlogged wood; musical instruments; treatment and retreatment of wooden objects

Reference 58 - 0.03% Coverage

¶69: Basic wood science for conservation

Reference 59 - 0.03% Coverage

¶70: Historical wood – structure and properties

Reference 60 - 0.31% Coverage

¶71: To understand what has happened to a historic wooden object, it is important to understand the wood structure and the chemistry of the original wood as well as the structure and chemistry of the historic wood. With this information, it is possible to understand the degradation that has occurred over time. With this knowledge, it is also possible to describe a possible method of conservation and preservation.

Reference 61 - 0.45% Coverage

¶73: The properties of wood that are important in the conservation of historical wooden objects are described. These include the densities and mechanical properties of some typical species. This is followed by a résumé of the moisture relations in wood, and their consequences for dimensional changes and/or the development of restraining stresses. A third important property of wood is its susceptibility to various kinds of biological degradation, including effects of insects, fungi and bacteria. This is followed by a summary of the difficulties and wood properties associated with various applications.

Reference 62 - 0.10% Coverage

¶74: A review of microbial decay types found in wooden objects of cultural heritage recovered from buried and waterlogged environments

Reference 63 - 0.53% Coverage

¶75: The brief overview presented here describes micromorphological features associated with the different microbial decay patterns observed in such wooden objects, recognizing the important role electron microscopy has played in elucidating the characteristic ultrastructural features of degraded cell walls, which have formed the basis for clearly differentiating fungal soft rot, bacterial erosion and bacterial tunneling from each other. The detailed information available on the fine texture of

degraded wood tissues at the level of cell wall is proving helpful in developing appropriate methods for conserving treasured wooden cultural heritage objects.

¶76: Effects of aging on the vibrational properties of wood

Reference 64 - 0.80% Coverage

¶77: Vibrational properties of aged wood (121～296 years old) were compared with those of recently cut “new” wood (8 years old). The aged wood showed higher sound velocity (VL) and lower mechanical loss tangent (tanδL) than the new wood. The ratio of Young's modulus and shear modulus (EL/GL) remained unchanged or increased slightly during the aging period. These results coincide with musicians’ empirical observations that the acoustic quality of wooden soundboards is improved by aging. In addition, the reduced tanδL of the aged wood indicates the qualitative difference between the naturally aged and heat-treated wood. The experimental results were explained by using a cell wall model when we assumed the following: increase in the volume fraction of cellulosic microfibrils; reduction in the shear modulus of amorphous matrix substances, and; reduction in the loss tangent of the matrix. These assumptions appear reasonable when we consider the crystallization of cellulose, depolymerization of hemicelluloses, and cross-linking in the lignin complex during aging.

¶78:
Reference 65 - 0.04% Coverage

¶80: Non-destructive testing of wood and wood-based materials

Reference 66 - 0.22% Coverage

¶81: Based on a measuring systematics (physically active principle and important influencing factors), a summary of methods to assess cultural heritage objects is given. To adopt methods based on physical effects, profound knowledge of wood physics is essential, particularly knowledge of interdependencies.

Reference 67 - 0.05% Coverage

¶82: Wood investigations by means of radiation transmission techniques

Reference 68 - 0.84% Coverage

¶83: The basics and experimental details of transmission radiation techniques in the application to conservation of wooden cultural objects are described. Standard and synchrotron X-rays, as well as neutrons, can provide very useful options for the non-invasive analysis of the wood structure, its conservation state and the influence of wood treatment in the conservation and decontamination process. The working and application range specific to each kind of radiation is discussed. Although X-ray methods (standard tube systems and synchrotron light source facilities) can cover a wide range in object size and wood density, neutrons can be used preferentially to study and quantify substances with high hydrogen content (moisture, resin, glues, wax) inside the wooden structure. Several examples chosen from studies performed within COST Action IE0601 illustrate the results that can be obtained using these techniques and their combination. The need for further studies

using the performances available at large-scale facilities is discussed as a way to establish routine approaches for wood conservation and museums objects.

Reference 69 - 0.09% Coverage

¶84: Non-invasive microstructural analysis of bowed stringed instruments with synchrotron radiation X-ray microtomography

Reference 70 - 0.62% Coverage

¶85: The importance and the value of typical bowed stringed instruments, on the other hand, require a non-destructive approach with strict environmental control, fast acquisition times and high spatial resolution. Feasibility studies have been carried out at the SYRMEP beamline of the Elettra synchrotron laboratory in Trieste with the aim of demonstrating the advantages and evaluating the effectiveness of synchrotron radiation X-ray microtomography as a suitable technique. The particular geometry of the X-ray beam and the use of a novel detector allow structural evaluation of the main details of the instruments with unprecedented richness of details. This, in turn, will allow the characterization of their internal structure, defects, wood thickness and density as well as the dendrochronological investigation of historical violins

Reference 71 - 0.17% Coverage

¶86: Chemical analysis of wood degradation by Py(HMDS)-GC/MS

¶87: A combination of analytical pyrolysis with gas chromatography and mass spectrometry (Py-GC/MS) was used to study the chemical composition and level of decay of wood objects

Reference 72 - 0.29% Coverage

¶87: It has been gradually saturated with rock salt (sodium chloride) over tens and hundreds of years. The presence of numerous metallic connections has significantly contributed to the destruction of the wood artifacts. Iron under conditions of high salinity is subjected to processes of electrochemical corrosion and produces compounds that penetrate wood, accelerating its degradation

Reference 73 - 0.18% Coverage

¶87: The results have been interpreted with the support of principal component analysis (PCA). The chemometric evaluation of the Py-GC/MS data contributed to an understanding of the chemical differences and similarities between the samples.

¶88:
Reference 74 - 0.83% Coverage

¶92: The mechanical behaviour was appraised for different geometries, metal fastening devices and moisture content of timber. After the mechanical tests, some of the connections were repaired and tested again, which allowed comparing the performance of the original and the repaired

connections. The compressive internal force in the rafter influences the connection's behaviour, being crucial in maintaining the integrity of some of these carpentry joints. This aspect required a complex test apparatus and the design of specific equipment to simultaneously apply the compression force and the rotations in the rafter specimen. The experimental results show that some configurations exhibit enough rotation stiffness and load bearing capacity to be accounted for when appraising the roof structures they belong to, enhancing the common assumption of hinged joints. The connection's behaviour is different when opening or closing the skew angle. Each connection typology exhibits specific load bearing mechanisms which dictate different performances and failure modes, which should be considered when devising a repair.

¶93:

Reference 75 - 0.43% Coverage

¶94: The system of biological control of timber structures used nowadays in the museum aims to prevent biodeterioration as a main factor decreasing the service life of wooden structures. The proposed monitoring system enables determination of the zones damaged by fungi and insects, assessment of the activity of a wide range of biological agents at initial stages, environmental control of biodeterioration. Introduction of the proposed monitoring system in the Kizhi museums proved its effectiveness. In combination with timely repair and elimination of the revealed defects,

Reference 76 - 0.22% Coverage

¶96: Fungi from the phyla Basidiomycota, Ascomycota and Protozoa (Myxomycota) were identified. Common fungal genera were Antrodia, Gloeophyllum, Athelia, Hyphoderma, Hyphodontia, Pharenochaete, Postia and Botryobasidium. Mainly corticoid and poroid species were recorded in the wooden structures.

Reference 77 - 0.07% Coverage

¶98: Drying shrinkage and mechanical properties of poplar wood (Populus alba L.) across the grain

Reference 78 - 0.66% Coverage

¶99: reports on laboratory tests that focused on determining the drying shrinkage and the mechanical properties of this wood species. Mechanical tests to measure the strength and stiffness across the grain along three anatomical directions (radial, tangential and intermediate) and for three different equilibrium moisture contents (7%, 11% and 15%) were carried out. Furthermore, creep tests (only the viscoelastic behaviour was investigated) were performed at 65% relative humidity and a temperature of 20 °C for three load levels and along the three anatomical directions previously mentioned. A drying shrinkage test was also carried out. The calculated shrinkage values highlighted the dimensional stability of poplar wood. The mechanical properties showed a dependence both on moisture content and anatomical directions. In particular, the latter had more of an effect on the parameters.

Reference 79 - 1.13% Coverage

¶101: This study established experimentally a relationship between the strain magnitude leading to the first fracture of the gesso and the number of cycles at that strain, that is, the vulnerability of the gesso layer to fatigue damage. Specimens of single, wood panels coated with gesso were subjected to cycles of mechanical stretching and compression to imitate dimensional changes induced in the system by repetitive fluctuations of relative humidity (RH). The development of cracks in the gesso layer was monitored using a laser speckle decorrelation technique. Numerical modelling was used to calculate the amplitude of sinusoidal RH cycles which are allowable so as not to exceed the critical mismatch between the climate-induced responses of the unrestrained wood panel and the gesso layer respectively, which would lead to the first fracture of the virgin gesso after a defined period of cycle occurrence–100 years in this study. The allowable amplitudes were derived as a function of cycle duration, panel thickness and the configuration of moisture exchange by a panel with the environment. The worst-case duration of the RH cycles, for which the allowable amplitude is at its minimum, were calculated for varying thicknesses of the panels. The analysis of the results revealed that the 10 mm panel with two faces permeable to the water vapour flux and subjected to fluctuation cycles lasting 10 days represents the 'absolute' worst case in the study performed, allowing only the fluctuation amplitude of ±14%.

Reference 80 - 0.07% Coverage

¶102: The Deformometric Kit: A method and an apparatus for monitoring the deformation of wooden panels

Reference 81 - 1.44% Coverage

¶103: This paper describes the "Deformometric Kit" (DK), which is both a methodological approach and an equipment conceived, designed and made at DEISTAF (University of Florence). The DK's main purpose is to carry out measurements and monitoring of the deformation dynamics of wooden objects. The monitoring can take place in virtually any environment, for any desired duration (minutes, hours, weeks, years, and so on). The measurement can be carried out mainly, but not exclusively, in connection with fluctuations of ambient temperature and relative humidity. The DK provides a reliable and accurate record (a first step towards understanding) of the behaviour of original panel paintings placed in their usual exhibition location, enabling curatorial staff and researchers to (a) obtain information about the behaviour of individual supports, in order to evaluate the impact of climate on their conservation state, help to make decisions for future restoration interventions; and (b) provide reference data for calibrating and validating numeric models. It can also provide data on the deformation of a panel while it is handled and transported, enabling an evaluation of stresses to which it is subjected during this operation. The device consists of two displacement transducers, which are fixed (in a low-impact, reversible way) to the back face of the panel, perpendicular to the grain, at different distances from the panel's surface. The two transducers not only measure the in-plane shrinkage/swelling of the panel, but since they are located at different distances, their measurements can also be combined with simple geometrical calculations to indicate the amount of distortion (cupping) which the panel undergoes. This paper explains the geometrical principles on which the DK is based, as well as its construction. Some examples of the data which have been obtained during actual monitoring by the DK are also included.

Reference 82 - 0.06% Coverage

¶104: Digital speckle pattern interferometry for the condition surveys of painted wood

Reference 83 - 0.10% Coverage

¶105: Digital Speckle Pattern Interferometry (DSPI) and Speckle Decorrelation (DIC) were used in condition surveys of a wooden altarpiece

Reference 84 - 0.62% Coverage

¶105: Two surveys were conducted, one before and one after the heating season in the church to trace the possible development of damage in the paint layer caused by relative humidity variations induced by the heating system. The measurements demonstrated that the speckle techniques can contribute to detecting irregular areas on the paint surface and in the paint structure. They proved particularly effective in tracing paint detachments at an incipient stage which cannot be easily detected by an unaided eye or manual inspection. The results of the speckle techniques may thus guide a traditional conservation survey, or the use of further microscopic or analytical survey techniques. The speckle techniques could be routinely used by conservators who are not scientists if simple, portable instruments were available on the market.

Reference 85 - 0.49% Coverage

¶107: however, no scientific method is up to now available for optimizing their design parameters. This article deals with theoretical and experimental work on the replica of an actual wooden support restored in a Florentine laboratory. A model is developed to describe its deformational behaviour after an auxiliary support has been applied by means of springs. The main outcome of such a research, still on-going, is a numerical model verified experimentally, enabling a restorer to choose the most appropriate mechanical parameters for springs in order to obtain the desired control of deformations and stresses produced by the expected environmental conditions.

¶108:
Reference 86 - 0.20% Coverage

¶110: A short historic review on the understanding of waterlogged archaeological wood and the different decay processes is given and exemplified. Knowledge on decay processes is essential for development of conservation methods and in situ preservation of wooden cultural heritage.

Reference 87 - 0.05% Coverage

¶113: Factors that influence the speed of bacterial wood degradation

Reference 88 - 0.62% Coverage

¶114: In order to learn more about the factors that influence the process of decay, approx. 2000 wood samples taken from Amsterdam piles heads were analysed on type and degree of decay and for 59 extracted piles originated from eight different locations the decay gradient of the pile length was determined. Although large differences in soil constitution (between cities) affect the process of

wood decay, on microscale (within Amsterdam), no influence was found that explains the variety in degree of decay at the pile head. Wood quality (growth rate, origin, process of harvesting) is regarded as more important in causing the variety in degree of degradation in pile heads at a similar location. The gradient of bacterial decay over the pile length is mostly decreasing towards the tip and a correlation with soil parameters is suggested

Reference 89 - 0.07% Coverage

¶115: Evaluation of bacterial wood degradation by Fourier Transform Infrared (FTIR) measurements

Reference 90 - 1.00% Coverage

¶116: Most evaluations of wood degraded by bacteria are based on physical characterization (De Jong, 1977; McConnachie et al., 2008) [1], [2] or microscopic observations (Grinda, 1997; Klaassen, 2005; Paajanen et al. 1988) [3], [4], [5]. The chemical composition, especially lignin content, is also a good indicator for degree of degradation (Gelbrich et al., 2008; Gelbrich, 2009) [6], [7]. These methods are known as destructive analyses and are very time and material consuming. The present study correlated changes in chemistry with the degree of microscopically detectable degradation in order to find new ways in evaluating the degree of bacterial wood degradation. The characterization of waterlogged softwood samples by means of infrared spectroscopy reflects results of chemical analyses but a direct quantitative analysis of wood compounds by Fourier Transform Infrared (FTIR) spectroscopy is problematic. Due to the linear regression between lignin content which was determined chemically and the absorbance values of lignin in FTIR spectra a calibration curve could be drawn up. Reversed on this database it was shown that FTIR measurements are practical in evaluating the degree of bacterial degradation in softwood with the advantage of smallest amounts of sample material required, the enhanced rapidity and simplicity of this method.

Reference 91 - 0.05% Coverage

¶120: The “reference voice” method and its application to the grand piano

¶121:
Reference 92 - 0.18% Coverage

¶121: a tool developed for monitoring the obtained results could be useful both for control and documentation purposes.

¶122: Measurement and modelling of mass and dimensional variations of historic violins subjected to thermo-hygrometric variations

Reference 93 - 0.04% Coverage

¶123: presents a study regarding the hygro-thermal conditions

Reference 94 - 0.94% Coverage

¶123: is subjected during its conservation and occasional use in concerts with special attention on its mass and dimensional variations. Several environmental measurement campaigns were planned and carried out using relative humidity and temperature probes. The violin mass variation was measured continuously inside the display case where it is conserved, and before and after concerts by means of a special exhibition frame integrating a precision balance. These measurements enabled reproducing the thermal and hygrometric variations to which the violin is normally subjected using a purposely-developed portable climatic chamber, and also enabled measuring the consequent hygroscopic and thermal deformations in selected points by means of a purposely-developed measuring frame. An empirical model for computing the mass variations according to the variation of environmental conditions was implemented and verified and the typical mass variation consequent to the use of the violin during concerts was also determined. The violin's thermal and hygroscopic deformations were measured in selected points for given temperature and relative humidity steps. The paper includes a discussion about the possible impact of hygro-thermal variations on violin conservation.

Reference 95 - 0.07% Coverage

¶124: Using mechanical modelling and experimentation for the conservation of musical instruments

Reference 96 - 0.45% Coverage

¶125: Many of them are subject to investigations aiming at improving their conservation conditions. The approach to study these cultural heritage objects is pluridisciplinary, combining material analysis, research of historical context, and mechanical aspects. This paper focuses on the application of dynamical mechanics to a case study, the restoration to playable state of a historical harpsichord. The mechanical model supported the decision for the “best” restoration and conservation conditions.

¶126: Computational approach towards structural investigations for the restoration of historical keyboard instruments

Reference 97 - 0.05% Coverage

¶128: The Vasa experience with polyethylene glycol: A conservator's perspective

Reference 98 - 0.33% Coverage

¶129: to have been conserved with polyethylene glycol (PEG). Now a standard material for waterlogged wood conservation, PEG has since been used on a number of other shipwrecks, thanks largely to the Vasa experience. As the second generation of conservators at the Vasa Museum in Stockholm, we are often asked our opinions about PEG, and whether we would still use the same materials and techniques should another ship like Vasa be raised today.

Reference 99 - 0.13% Coverage

¶129: examine how PEG has fared over the last fifty years. Finally, we take the lessons learned and apply them to the future, both for Vasa material and for newly found wrecks.

Reference 100 - 1.67% Coverage

¶131: While numerous polymers have been previously tested, most do not stabilise the wood sufficiently, penetrate far enough, or remain stable without producing toxic fumes. A few of the more common examples are: Alum salt, KAl(SO4)2·12H2O, which was used for treatment earlier but does not penetrate well and leaves the wood very acidic. Poly(oxy ethylene) (POE or Polyethylene glycol [PEG]) is widely used as a consolidant today but this material degrades over time and thus cannot support the finds for a very long time. Melamine-formaldehyde (Kauramin) has also been used and while it is fairly stable, it may also fill the wood and turn it into a 'block' of plastic. Since new consolidants would be advantageous, it is discussed what the requirements of such consolidants are and how material sciences may help procure them. It is proposed that an important requirement for a future stabilising agent is to leave an airy structure in order to allow retreatment in the future. This might be accomplished by foaming a polymer, or by combining nanoparticles with a polymer 'spider web' network to keep them in place. Such particles may help stabilise pH inside the wood by neutralising any acid generated inside treated artefacts. Special attention is given to the field of biomimetics–the discipline of constructing materials inspired by existing natural designs. It may be possible to construct a frame using bio-inspired materials (possibly an 'artificial lignin' mixed with other compounds optimise strength and flexibility) or through biomineralisation (an inorganic 'skeleton'). Tests on biomimetic cellulose and chitosan have begun and the initial evaluation of these materials is given. Chitosan is made from modified chitin (primarily from shrimp and crabs) and may be dissolved in acidic solutions. Crystalline cellulose is interesting in conservation as the individual particles are resistant to acid and not as hygroscopic as the amorphous part of cellulose. The materials and the procedures used in testing are described. It is shown that crystalline cellulose particles usually flocculate when used to treat archaeological wood but that they may be treated with surfactants in order to improve penetration of archaeological finds

Reference 101 - 0.06% Coverage

¶132: Methods to measure the penetration of consolidant solutions into 'dry' wood

Reference 102 - 0.54% Coverage

¶133: Parameters that influence the penetration of a consolidant solution into wood were examined. These include the wood permeability to liquids, impregnation methods, and physicochemical properties of the consolidant solution (relative molecular weight, concentration, and viscosity). Wood permeability to liquids is determined by the preserved object and the appropriate impregnation method has to be selected with respect to the deterioration state of the specific wood object. For these reasons, modifications of physicochemical properties of the consolidant solutions are the only parameters that influence the consolidation results. Suitable methods for studying the penetration of consolidant into wood are also discussed.

Reference 103 - 0.08% Coverage

¶134: Decontamination and "deconsolidation" of historical wood preservatives and wood consolidants in cultural heritage

Reference 104 - 0.22% Coverage

¶135: In the past, wood artifacts were treated with a variety of wood preservatives formulated on the basis of inorganic and organic biocides. Most of these biocides have a high human toxic potential and pollute the environment. Some of them even cause damage to the objects they were meant to preserve

Reference 105 - 0.71% Coverage

¶135: Wood artifacts previously damaged by organisms and subsequently preserved and consolidated with mixtures of vegetable oils and natural resins now show characteristics of renewed deterioration. An important condition for the re-treatment of such objects is the exact detection of the substances originally utilized for their conservation. Non-destructive and in situ-measurements have priority among the listed analytical methods. The various decontamination procedures currently used are classified in regard to their mode of operation. Preferred methods include mechanical cleaning, thermo desorption, washing with water and detoxicants, and leaching as well as extraction with liquid or supercritical carbon dioxide. The masking with various sealers to prevent biocide evaporation into the indoor-air is limited to application to structural wood members. Leaching of degraded natural consolidants in wood artifacts is currently undertaken in a testing plant.

Reference 106 - 0.06% Coverage

¶136: The presence of sulfuric acid in alum-conserved wood – Origin and consequences

Reference 107 - 0.78% Coverage

¶137: The wood is highly acidic (pH 1-2.5), it is brittle with little remaining structural integrity. It is thought that, in addition to decay processes possibly initiated by absorbed metal ions, the presence of sulfuric acid, generated during treatment, plays a central role in the active deterioration process observed. To understand the alum treatment better, it was applied to recent wood, freshly excavated archaeological wood and pure cellulose paper. It was found that the samples became more acidic after treatment. The same material types were also treated with solutions of sulfuric acid, pH 0-3, to compare the effects of acid of known concentrations. The present contribution discusses the immediate effects of high acidity on these samples, due to the recent treatment by alum salts and by sulfuric acid. The newly treated samples were compared with alum-treated wood from the Oseberg find 100 years ago. It also includes preliminary investigations on the behaviour of alum salt during heating, in the solid state as well as in solution

Reference 108 - 0.13% Coverage

¶138: Evaluation of decontamination methods of pesticide contaminated wooden objects in museum collections: Efficiency of the treatments and influence on the wooden structure

Reference 109 - 2.35% Coverage

¶139: In the second half of the 20th century, many valuable wooden museum objects were massively treated with toxic chloride pesticides (such as DDT, pentachlorophenol [PCP] or lindane) to protect them against insect and mold infestation. In the following years, synthetic pyrethroids replaced the classic pesticides or the objects were even treated with mixtures of chemicals. Today, some of these toxic pesticides such as DDT have effloresced on the objects surfaces forming a white layer of crystals or they are emitted into the indoor air of storage rooms or exhibitions. In order to prevent the conservators as well as the visitors from health risks, it is inevitable to decontaminate these objects. Two COST projects were started in order to evaluate suitable decontamination methods and to investigate their influence on the wooden microstructure, the second project basing on the results of the first one. In the first project (SER COST project C07.0110 “Evaluation on the effectiveness of decontamination methods for wooden art objects treated with wood preservatives”), dummies of oak wood were soaked with a mixture of the pesticides pentachlorophenol, lindane und DDT and the distribution of the pesticides in the wood structure was determined by GC/MS, neutron radiography and µ-XRF. Then two decontamination methods were adopted to the wooden dummies: a vacuum washing system (bhd-decon®, developed by the German company bhd Bautenschutz u. Hygienedienstleistungen GmbH, Dresden) and a vacuum temperature method (developed by the Berne University of Applied Sciences (Architecture, Wood and Civil Engineering) in collaboration with the Berne University of Applied Sciences (Berne University of the Arts). The efficiency of both methods was evaluated by GC/MS and µ-XRF, creating depth profiles of the distribution of the remaining pesticides. The vacuum temperature method turned out to be too rough in means of temperature and pressure and was limited to a relatively small sample chamber. Therefore, the vacuum washing method was applied to historical objects and the efficiency was evaluated by µ-XRF mappings. During the investigations by passive sample measurements on the surface of museum objects, it became apparent that the pesticide concentration in the historical objects is much higher than assumed and, furthermore, that they contain a mixture of classic pesticides with synthetic pyrethroids as a result of repeated treatment. For this reason and for the investigation of a possible change of the wooden microstructure during decontamination, a second project (SER No. C09.0031 “Studies on the distribution of wood preservatives and on structural changes of the wooden structure during decontamination treatment of museum objects polluted by chlorinated and pyrethroid preservatives”) was started. In this project, the wooden dummies were soaked in a mixture of pesticides of a higher concentration and the penetration depth was investigated depending on the use of different solvents by GC/MS and µ-XRF. The microstructure of the wood was investigated by micro X-ray tomography and 3D microscopy before and after decontamination treatment.

Reference 110 - 0.11% Coverage

¶143: Efficiency of neutron tomography in visualizing the internal structure of metal artefacts from Mapungubwe museum collection with the aim of conservation

Reference 111 - 0.07% Coverage

¶145: Estimating physical stability as well as revealing signs of fabrication in metal artefacts

Reference 112 - 0.08% Coverage

¶145: via two complementary nondestructive methods, neutron- and X-ray tomography were the main goals of this study.

¶146:

Reference 113 - 0.65% Coverage

¶146: In this study, neutron- and X-ray tomography were chosen as two complementary noninvasive visualization techniques to study internal structure and corrosion of five representative examples of archaeological metal artefacts from the Mapungubwe museum collection. Tomography was performed at the Neutron Radiography (SANRAD) facility of the South African Nuclear Energy Corporation where thermal neutrons as well as complementary X-rays are conveniently available under one roof. Comparative studies revealed neutron tomography to be generally superior to X-ray tomography due to the enhanced penetration properties of neutrons through the metal objects. In this paper the rich capability of neutron tomography as a nondestructive visualization aid for scientific conservation purposes is introduced and supported by results achieved for the five selected real artefacts.

Reference 114 - 0.05% Coverage

¶147: Mapping the impact of climate change on biomass accumulation on stone

Reference 115 - 0.60% Coverage

¶148: Several climate parameters affect the growth of organisms and, hence, their capacity to accumulate biomass. In the present research, we analyse the influence of two parameters, temperature and precipitation, on biomass accumulation on stone substrate, and propose a function to estimate it in temperate areas. The expression is subsequently used for the first time to evaluate the impact that climate change would have in biomass accumulation in Europe. The models on climate change predict an increase in temperature and precipitation in northern areas of Europe for the far future (2070–2099), which would lead to a higher accumulation of biomass. Otherwise, a significant reduction in precipitation is expected in southern areas of Europe, associated with a lower biomass accumulation in such areas.

Reference 116 - 0.08% Coverage

¶150: presents the first extensive investigation of the composition of both the organic and inorganic media

Reference 117 - 0.46% Coverage

¶150: Inorganic materials were determined using SEM-EDX and PLM, revealing information on the artist's palette. Of particular note was the powdered colourless glass found in the priming layer of the Madonna delle Grazie, which was most likely used as dryer. Organic materials were analysed in individual paint layers using GC-MS, and revealed a mature use of drying oils as paint binders, skilfully mixed with other organic materials and inorganic driers, to obtain the desired aesthetical and technical qualities of the paint. The study revealed that Lotto used the tempera grassa technique through most of his creative life.

Reference 118 - 0.04% Coverage

¶151: Analysis of efflorescence on surface of beeswax seals

Reference 119 - 0.70% Coverage

¶152: Thirteen samples of an efflorescence collected from the surface of beeswax seals or from beeswax used for their restoration were analysed in detail. The samples were of different origin, age and storage history. The composition and the incidence of the efflorescence was correlated with a chemical composition of historical and recent beeswax samples. The composition of the crystalline layer was found to be very similar in all the samples. Linear monounsaturated alkenes containing 31 and 33 carbon atoms, more precisely (Z)-hentriacont-10-ene and (Z)-tritriacont-10-ene, were identified as main components. The analyses of beeswax have revealed that all compounds identified in “wax bloom” naturally occur in recent beeswax. However, the historical beeswaxes contained only traces of unsaturated hydrocarbons, if anything. The efflorescence was observed primarily on the surfaces of those samples which contained larger proportion of alkenes

Reference 120 - 0.66% Coverage

¶154: It uses a new adaptation of the methodology of knowledge management (KM) defined by Nonaka and Takeuchi. We have obtained the knowledge value of each innovation according to the level of technological knowledge registered at the time, while distinguishing between the historical evolution of inventions relating to milling and those relating to pressing. In the first analysis, the results show a recession in the quantitative level of knowledge in the olive oil sector with respect to the technological potential of the time. However, when contrasted with the events relating to industrial heritage at the time, it is possible to account for this technological evolution and prove the validity of the methodology used. The results show that general evolution of the knowledge generated has decreased, particularly in the pressing process, although this is not the case in the milling process.

Reference 121 - 0.21% Coverage

¶156: experimentally and numerically investigates on this issue, pointing out which constructive parameters mainly influence the cracking behaviour of the frescoed or stuccoed lower surface, and thus providing guide lines for designing compatible conservation and retrofitting interventions.

Reference 122 - 0.12% Coverage

¶158: This study is aimed at investigating a portion of the city of Rome by means of remotely sensed Multispectral Infrared And Visible Imaging Spectrometer (MIVIS) data

Reference 123 - 0.05% Coverage

¶159: Microstructural characterization and conservation treatment

¶160:

Reference 124 - 0.16% Coverage

¶164: Through the implementation of a variety of photographic and analytical methods (IR and UV imaging, X-Ray, xylological analyses, staining tests, SEM-EDX, XRD, μ-Raman), the icon making technique is investigated

Reference 125 - 0.05% Coverage

¶166: . The purpose of this study was to assess the development of biofouling

Reference 126 - 0.52% Coverage

¶166: Samples obtained from the biofilms, lichens, and fungal colonies that had developed on the marble surfaces and cement mortar of these crypts were analyzed by conventional microbiological techniques and by scanning electron microscopy. The lichens were identified as Caloplaca austrocitrina, Lecanora albescens, Xanthoparmelia farinosa and Xanthoria candelaria, the fungi as Aspergillus sp., Penicillium sp., Fusarium sp., Candida sp. and Rhodotorula sp., and the bacteria as Bacillus sp. and Pseudomonas sp. The mechanisms by which these microorganisms cause the aesthetic and biochemical deterioration of the crypts are discussed.

¶167: Diagnostic investigations and statistical validation of EDXRF mapping

Reference 127 - 0.18% Coverage

¶168: It has become a common practice to include diagnostics and archaeometric studies during a masterpiece restoration. The advantages and limits of this approach are now topic of discussion in the community of researchers that is growing up quickly

Reference 128 - 0.83% Coverage

¶168: it was carried out by first fulfilling a series of non-invasive analyses using a transportable EDXRF to map the composition of the alloy and evaluate the diagnostic capabilities for deterioration processes of the bronze surface. As a consequence of the first non-invasive diagnostic campaign, a second campaign of micro invasive tests was planned and carried out. The samples were analysed with SEM-EDS and XRF techniques. In this article some of the results of the EDXRF tests will be shown together with the procedures set up to maximize the diagnostic information obtained and minimize the need of microsampling from the artefact. The results and the statistical analysis of data show that a straightforward planning of the measurements can give several, sometimes unexpected, results in the definition of the state of conservation of the monument and also from an archaeometric point of view. With a high amount of data, the use of statistical analysis is necessary, for example in our case, the analysis of the variance confirmed the hypothesis of the use of different alloys for the elements of the panels

Reference 129 - 0.54% Coverage

¶177: describes some results of the in situ testing performed by the Benecon Group of the Second University of Naples (Italy), focused on the acquisition of all the data needed for evaluating the static

safety of the whole Church. Sonic and ultrasonic pulse velocity testing, surface penetrating radar test, infrared thermography analysis, fiberscope inspection, laboratory tests on masonry cores and mortar specimens, temperature and moisture measures were performed as complementary methods. The paper describes the equipment and testing arrangement and the main results and outcomes that allowed to assessing the structure safety and drawing recommendations for the restoration of the Church and for the conservation management plan.

Reference 130 - 0.02% Coverage

¶178: Typologies and diagnosis

Reference 131 - 0.03% Coverage

¶179: deals with the diagnostic analysis performed

Reference 132 - 0.02% Coverage

¶180: Dendrochronological analysis

Reference 133 - 0.22% Coverage

¶181: The larch and oak timber was dated dendrochronologically, whereas the cedar could only be dated by radiocarbon analysis. The high correlation values between the Basilica's larch chronology and Alpine reference chronologies for the species indicate that the larch timber originates from the Eastern Alps

Reference 134 - 0.09% Coverage

¶183: The survey was backed by the results of a number of non-destructive tests and of the appropriate numerical analyses.

¶184:
Reference 135 - 0.05% Coverage

¶186: Evaluation of biotic and abiotic decay and proposals of interventions

¶187:
Reference 136 - 0.06% Coverage

¶187: the biotic and abiotic decay of the wooden doors and windows was evaluated in situ

Reference 137 - 0.17% Coverage

¶187: Recommendations were made regarding conservation, maintenance and restoration methods on the basis of the findings obtained from the data. One important result of this research was the definition of the state of preservation

Reference 138 - 0.07% Coverage

¶191: X-ray radiography and tomography for monitoring the penetration depth of consolidants in Opuka –

Reference 139 - 1.18% Coverage

¶192: Stone consolidation is one of the major restoration treatments used for historical monuments preservation. A natural stone is a complicated heterogeneous porous system making the process of consolidation dependent on many variables. In practical restoration aims, for a given stone type, the selection of a suitable consolidant and consolidation conditions therefore remains a complex issue. The impregnation depth is a key factor for the assessment of the treatment efficiency. The combination of state-of-the-art hybrid pixel semiconductor detectors with newly available micro-focus X-ray sources makes possible to apply X-ray radiography, an ideal non-destructive tool, for penetration depth monitoring. In this study, high-resolution X-ray radiography is used for monitoring the penetration depth of organosilicon consolidants in the Opuka stone. The penetration depth has been evaluated in relation to the time of consolidation, stone porosity and consolidation mixtures properties. The exact influence of the X-ray contrast agent on the consolidation depth has been investigated as well. The information obtained provides supplementary knowledge on the suitability of investigated products for the treatment of this type of stone. In our study, the capabilities of X-ray radiography have been demonstrated on X-ray radiography simple projections, high-resolution computed tomography (CT) as well as on the dynamic processes monitoring. The results thus can serve also as an instrumental and methodological example applicable for consolidation monitoring of other stone types

Reference 140 - 0.55% Coverage

¶194: Polychrome wood is examined in detail. The cumulative physical damage of the design layer on wood due to repeated RH variations is quantified in terms of their magnitude and number of times they occur. The climatological risk index for accumulated, ‘fatigue’ damage is established, using a procedure to reduce irregular real-world climate histories into simple RH cycles of known damage impact. Using output from the Hadley Model (HadCM3) and simple transfer functions predicting indoor temperature and RH from outdoor climate, changes in the indoor climate through to 2100 were forecast for unheated buildings. European maps highlighting the areas in which painted wood may be significantly affected by climate change are presented.

Reference 141 - 0.11% Coverage

¶195: An integrated and automated segmentation approach to deteriorated regions recognition on 3D reality-based models of cultural heritage artifacts

Reference 142 - 1.37% Coverage

¶196: In the field of Cultural Heritage, image analysis represents an indispensable practice for restorers to collect information about the state of preservation of monuments and artifacts and plan restoration interventions. In addition, during the last two decades, the wide spread of remote sensing technologies and the possibility to build 3D reality-based models of artifacts allow the

extension of image analysis to 3D environments. In this context, the purpose of this contribution is to show the results of investigations held in order to provide a methodology for the automatic detection of deteriorated areas within architectures and artifacts using colour images as a field of examination. Using both 2D and 3D segmentation approaches, our methodology aims at speeding and efficiently performing the automatic detection of deteriorated zones within Cultural Heritage and therefore segment 3D digital models acquired using different survey technologies. Within our investigations, we selected case studies concerning recurrent deteriorations, such as, for example, detachments, cracks and chromatic alterations; we run them both to manual and to automatic recognition and selection tests, in order to compare the results obtained using these approaches and evaluate the reliability of the automatic one. Results comparison included computational and user time, quantification of the deteriorated area error between manual and automatically detected zones. Additional parameters characterizing the specific type of deteriorations were also computed for each case study. Comparison between the automatic and the manual procedure showed that the automatic detection is faster and reliable in all our selected case studies, with evident improvements in the efficient evaluation of the entity and extension of deteriorated areas on 3D geometry.

¶197:

Reference 143 - 0.04% Coverage

¶201: Defects induced by gamma irradiation in historical pigments

Reference 144 - 0.93% Coverage

¶202: presents our results concerning a complex investigation by reflectance spectroscopy (RS) and Electron Paramagnetic Resonance (EPR) of the defects induced by gamma irradiation in 22 different historical pigments. Gamma irradiation is used to destroy microflora and insects which are involved in biodeterioration processes of art works such as paintings. At the same time, it can induce defects i.e. color centers which are likely to modify the original painting colors by altering the embedded pigments. Accordingly, RS was used to quantify, by means of CIELAB color space, the contribution of irradiation defects to the pigments color changes, while EPR spectroscopy, in view of paramagnetic properties of color centers, was used to confirm their presence after irradiation. Our investigations showed that, excepting marble dust whose color alteration was still observable after 3 months, color changes induced by irradiation in all other pigments disappeared after about 30–40 days. In addition, RS as well as EPR measurements suggest that color changes are related to irradiation color centers, this finding being confirmed by the coincidence, within experimental uncertainties, of the half-life time color changes as obtained by these methods.

Reference 145 - 0.04% Coverage

¶203: Virtual restoration of faces appearing in byzantine icons

Reference 146 - 0.16% Coverage

¶204: Virtual restoration of cultural heritage (CH) artefacts is an important task that aims to digitally recreate the original appearance of damaged items. In this paper, a method that can be used for virtual restoration

Reference 147 - 0.52% Coverage

¶204: Given a damaged face, the complete three-dimensional (3D) geometry of the face is reconstructed using data from the non-damaged facial parts and the texture of the damaged areas is restored. A key aspect of the proposed method is the use of a customized 3D deformable face model suitable for representing the geometry of Byzantine faces, the so-called Byzantine Style Specific Model (BSSM). A BSSM is generated by enforcing rule-based constraints on a deformable model trained using 3D scans of human faces. The use of a BSSM ensures that the Byzantine style is preserved during the process of shape restoration.

¶205: Accelerated hydrothermal degradation of fibres of Phormium tenax (New Zealand flax)

Reference 148 - 1.23% Coverage

¶206: Solid-phase microextraction (SPME)–gas chromatography (GC)–mass spectrometry (MS) has been applied to the analysis of acetic acid and furfural that are emitted from the fibres of Phormium tenax (Xanthorrhoeaceae) [New Zealand flax] during degradation. Accelerated hydrothermal ageing of fibres of the Ruawai cultivar of P. tenax for 55 days at 70 °C resulted in the production of acetic acid at a level greater or equal to 1.65 mg g–1 fibre. This corresponds to only 8.5% of the acetyl groups present in the fibres. These groups are an important source of acetic acid, which is capable of damaging the fibres. The rate of production of acetic acid suggests that a heritage object made from the fibres of P. tenax, that was stored in damp ambient conditions, would undergo significant deterioration after a relatively short period. Other volatile products released during ageing included furfural, a series of short to medium chain aliphatic aldehydes that were derived from the oxidation of long chain unsaturated fatty acids on the fibres and a small group of products that were derived from carotenoids. The levels of furfural were determined to be approximately 0.75% of the potential production but at these levels, furfural could contribute to unpleasant odours from unventilated items. Fibres from six cultivars of P. tenax were found to release acetic acid and furfural all at the same rate. The levels of acetic acid that can be generated from these fibres are sufficiently high that low moisture levels and continuous change of air is required to minimize degradation of cultural objects that are made from these fibres and displayed in museum halls.

Reference 149 - 0.80% Coverage

¶209: The role of the fracture plane's inclination in the restoration of marble epistyles

¶210: The influence of the inclination of the fracture plane (with respect to the axis of the bar used for restoration) on the stress and strain fields developed in the restored structural member is explored numerically by employing the Finite Element Method. Attention is focused to marble epistyles fractured into two pieces joined together with the aid of a single threaded titanium bar and suitable cement paste interposed between marble and titanium according to the technique introduced by the scientists working for the restoration of the Acropolis of Athens monuments. The numerical model is calibrated and validated according to experimental results obtained by submitting an accurate copy of a fractured epistyle of the Parthenon Temple (under an 1:3 scale) to bending. The analysis indicated that the inclination between the fracture plane and the axis of the reinforcing bar drastically influences the intensity of the stress field developed even for relatively small inclination angles.

Reference 150 - 0.05% Coverage

¶215: Identification of the materials used in an Eastern Jin Chinese ink stick

Reference 151 - 0.57% Coverage

¶216: For the first time, Pyrolysis Gas Chromatography and Mass Spectrometry (Py-GC/MS) was used to identify the materials in an ancient Chinese ink stick. Four types of constituents could be detected in the archaeological ink stick of the Eastern Jin period (317–420 AD): (1) borneol (Chinese name bing piàn); (2) compounds related to essential oil or tar of conifer wood: cedrene, aromadendrane, cedrane, cuparene, cedrol, retene, methyl dehydroabietate and 9-methyl retene; (3) marker compounds from animal glue; (4) polycyclic aromatic hydrocarbons (PAHs) from soot. The information obtained through this study provides conclusive evidence for use of additives of borneol and cedar oil, binding media of animal glue and pine wood soot in the ancient ink stick.

¶217:

Reference 152 - 0.79% Coverage

¶218: The vulnerability of 60 cultural heritage objects has been evaluated through a conservation calculation based on an existing methodology using a State of Conservation Index (SCIx), which served as an input in a Spatial Multicriteria Evaluation (SMCE). Factors that are considered important for the occurrence of landslides (slope, landcover, lithology and drainage density) and snow avalanches (slope, insolation, slope curvature and landcover) have been used to generate a susceptibility map. A qualitative risk assessment was carried out by combining susceptible areas and cultural heritage objects. As there were very limited historical data available on the occurrence of landslides and snow avalanches, a combination of local and expert knowledge has been used to extract information on both cultural heritage and natural hazards. Existing management plans were also analysed to evaluate how natural hazards could be incorporated. Finally, some recommendations are given related to the analysis of the impact of natural hazards on cultural heritage in Georgia.

Reference 153 - 0.04% Coverage

¶220: presents the results of the microclimate monitoring

Reference 154 - 0.54% Coverage

¶220: Measurements were carried out on different monument positions, corresponding to the four faces and below the vault. The measurements refer to air and surface temperature, air relative humidity, wind speed and direction. The environmental conditions are described in order to underline the differences among the four faces of the monument and to explain the nature of the decay observed on the monument. The damage risk, caused by the occurrence of phenomena like freezing-thawing cycles, thermal stress and water condensation, is estimated by relating microclimatic conditions to the stone damage processes. The results are compared to the decay map and the correlation between damage and microclimate are finally discussed.

Reference 155 - 0.03% Coverage

¶221: Raman mapping analysis of pigments from

Reference 156 - 0.52% Coverage

¶222: is studied by Raman spectroscopy in order to analyse the technique and the pigments employed by the artist: ultramarine blue, carbon black, cadmium-sulphure based compounds for the hue of yellow, orange and red; also zinc white, barium yellow, massicot yellow and viridian were observed. The importance of using different excitation laser lines in the analysis of mixtures of pigments is highlighted. The Raman mapping analysis of cross section samples shows the way the artist composed the ground layer: a lead white stratum over a calcite one. It also allows distinguishing between a mixture of components and strata superposition, both presenting the same appearance under an optical microscope

<Internals\\JCH 2013 abstracts> - § 133 references coded [56.14% Coverage]

Reference 1 - 0.87% Coverage

¶3: Compatibility of photo-induced hydrophilicity of TiO2 coatings on stone surfaces

¶4: Titanium dioxide (TiO2) can be used to realize transparent self-cleaning coatings on stone surfaces as an active and preventive protection system, limiting cleaning and maintenance actions, reducing their costs in Architectural Heritage. This self-cleaning ability is due to photo-induced hydrophilicity on treated surfaces. The aim of this investigation is to analyze this effect, since it could bring to a greater water absorption, a potential source of damage for stone surfaces. Titania sol, obtained by sol-gel and hydrothermal processes, was deposited on travertine by spray coating, in two different ways. Water absorption by capillarity, static contact angle and a specific surface water absorption analysis were assessed before and after the TiO2 treatments. The effects of deposited amount of titania on the characteristics of treated surfaces were evaluated. It was shown that there were no evident changes in the substrate reactivity without ultraviolet (UV) light exposure, while it seems that hydrophilicity due to UV light does not lead to higher water absorption, thus encouraging the use of TiO2 coatings in the field of Architectural Heritage. However, before widely applying this conservative treatment, some further researches are recommended in order to better assess its durability and sustainability.

Reference 2 - 0.04% Coverage

¶5: Non-invasive methods for characterisation of printed cultural heritage

Reference 3 - 0.19% Coverage

¶6: studied using standard and other non-invasive testing methods, e.g. microscopic and spectroscopic techniques, sonic velocity, Young's modulus of elasticity, surface topography and image analysis. The chemical, physical and colorimetric properties of papers and typographic tonal density were analysed

Reference 4 - 0.21% Coverage

¶6: The results of the research have shown that the applied methods are useful and satisfactory for the characterisation of the paper properties and typography, and can be of use at the analysis of printing ink and illustration reproduction.

¶7: Preservation of aged paper using borax in alcohols and the supercritical carbon dioxide system

Reference 5 - 0.80% Coverage

¶8: Selecting an appropriate paper deacidification agent is very important for the deacidification of paper. The use of three deacidification agents (i.e., iso-butylamine, calcium propionate, and borax) is studied for the deacidification of paper using the immersion treatment by investigating the paper surface pH, alkaline residue, paper whiteness, strength, and other performance indicators. Results show the deacidification by borax solution not only results in the promotion of a proper pH range, high level of alkali reserves, and ignorable influence to paper appearance, but also to the enhancement of the mechanical intensities of paper even after artificial aging. Supercritical carbon dioxide (CO2SCF), as a solvent system, is used in the deacidification of acidic papers using the borax solution of water and alcohol. CO2SCF improved the deacidification process by significantly improving the pH value and the base residual value. The borax in supercritical fluids can be better combined with cellulose hydroxyl to improve the mechanical properties of paper substantially. The treatment of borax in CO2SCF could be an alternative for acidic papers. Aside from improving the pH and depositing a sufficient alkaline residual, CO2SCF also strengthens the mechanical properties of treated papers.

Reference 6 - 0.07% Coverage

¶9: Non-invasive multi-technique investigation of artworks: A new tool for on-the-spot data documentation and analysis

Reference 7 - 0.86% Coverage

¶10: The main advantage of a multi-technique non-invasive artwork investigations relies on the use of different spectroscopic techniques that give rise to complementary information. Despite the artworks complexity, this approach allows great insight into the artwork composition and alteration phases. However, difficulties arise from the great amount of heterogeneous interconnected data that has to be stored for a prompt analysis and preserved. A suitable tool to handle and analyse all the information on the fly is therefore crucial to optimize work, specially in in situ investigations. In this paper we present MOVIDA, a new tool for the data management and analysis of non-invasive investigations in the Cultural Heritage field that not only allows the digital preservation of all the information and knowledge, but can also be used as an analytical tool while the investigation is being developed. The software can be installed on any computer to record, elaborate and analyse the data on-the-spot. All the data generated can be managed within the same application and the information can be easily consulted, compared and related to the corresponding areas of the artwork. The software is self-comprehensive and user-friendly and can be used by all the professionals involved in the investigation and preservation of Cultural Heritage whatever their background and computer skills are

Reference 8 - 0.08% Coverage

¶11: Protein identification and localization using mass spectrometry and staining tests in cross-sections of polychrome samples

Reference 9 - 0.97% Coverage

¶12: The identification and localization of the proteinaceous binders are essential issues in studies of painting materials and techniques, for further proposing valid restoration and conservation treatments of the painted or polychrome works of art. The challenge for analytical chemists and conservation scientists is the availability of methods able to simultaneously identify and map the presence of the binders in the multilayered structure of a sample and the possibility to use a very low amount of sample from the studied art object (considering also the criteria of minimum sampling). These methods should be fast, reproducible in different artefacts and in case of mixture of protein-based binders with other non-proteinaceous constituents (oils, resins, waxes, gums etc.) and also economical (both in terms of materials and time consume). In this context, the present paper proposes an innovative protocol of investigation using two complementary techniques – Matrix-Assisted Laser Desorption/Ionisation – Time of Flight Mass Spectrometry (MALDI-TOF MS) and staining tests (one visible and one fluorescent stain) assisted by Optical Microscopy (OM) on cross-section of samples – for the simultaneous identification and mapping of protein – and oil-based binders in paint materials. The novelty is based on the use of MALDI-TOF MS on cross-sections of paints together with a fluorescent stain for protein identification and mapping (mainly used in the area of proteomics) complementing the use of a traditional visible stain for oil-based material identification.

Reference 10 - 0.27% Coverage

¶14: their long-term durability and deterioration due to prolonged exposure to environmental factors were studied, based on the basis of field investigation and laboratory analysis. The results indicated that the deterioration of building materials should be attributed to their basic properties, including density, particle size distribution, soluble salts, mineral, mechanical strength, etc., and interaction with environmental factors.

Reference 11 - 0.08% Coverage

¶15: Efficiency of antibiotics and gamma irradiation in eliminating Streptomyces strains isolated from paintings of ancient Egyptian tombs

Reference 12 - 0.03% Coverage

¶16: Forty-six Streptomyces strains were isolated

Reference 13 - 0.48% Coverage

¶16: Eight of these strains were selected to determine their sensitivity against 13 antibiotics. In general, high levels of resistance could be observed. Gentamycin, spiramycin and doxycycline were

the most effective antibiotics against the majority of strains under study. Due to the observed antibiotic resistances, gamma irradiation was studied as a possible alternative to inhibit microbial growth. Isolated bacteria were exposed to different doses of gamma irradiation (5, 10, 15, 20 and 25 kGy). The growth of all Streptomyces isolates except S. canarius was completely inhibited at 25 kGy. The applied doses of gamma irradiation did not cause any observable alterations or colour changes to pigments and binding media (arabic gum, animal glue and egg-yolk) used in the paintings.

Reference 14 - 0.03% Coverage

¶19: CFD application to optimise the ventilation strategy

Reference 15 - 0.41% Coverage

¶20: The HVAC designers and engineers will have then to cooperate closely with the curator, in order to define a compromise between conflicting environmental performance requirements. In particular at the stage of air-conditioning system design or retrofit, it is extremely important to carry out a series of preliminary analysis to evaluate and monitor the existing environmental conditions and to anticipatory simulate and predict the post-intervention conditions. To this aim, advanced fluid-dynamic investigation tools (Computational Fluid Dynamic [CFD] techniques) enable to deal with the specificity of such topics and provide a useful decision-making support.

Reference 16 - 0.04% Coverage

¶21: Spectroscopic and chromatographic studies of sculptural polychromy

Reference 17 - 0.65% Coverage

¶22: has been investigated in terms of chemical composition of employed materials and pigments, state of conservation and painting technique. Raman analysis, Fourier-transform infrared analysis, analysis through energy-dispersive X-ray spectrometry coupled to scanning electron microscopy and pyrolysis coupled to gas chromatography and mass spectrometry were applied. Six analyzed samples showed silicates and kaolin as main components of the ground layers. Also lead white has been found in these layers. Minium, red-earth and mercury sulfide are the red pigments detected in the polychromy. A mixed use of malachite and atacamite has been detected in three green samples. Optical characteristics of atacamite and malachite found in the samples indicate a synthetic origin. The presence of a synthetic organic pigment such as phthalocyanine chlorinated pigment was also revealed. Ultramarine blue pigment, obtained by purification of lapis lazuli, has been detected in the blue sample. As for the binders used, fatty materials and siccative oil were found.

Reference 18 - 0.04% Coverage

¶23: Identification of a fungal community on gilded wood carved heritage

Reference 19 - 0.55% Coverage

¶24: The protocols used to identify the fungal community present in this wooden material included the classical culturing methods and a molecular biology protocol based on the ability of denaturing high performance liquid chromatography (DHPLC) to separate fungal DNA from several species. This last method complemented the results obtained with the traditional culturing method approach and the overall study revealed three fungal species: Serpula lacrymans (Wulfen) P. Karsten, Paecilomyces lilacinus (Thom) Samson and Penicillium chrysogenum Thom. This is, to the author's knowledge, the first documented case of S. lacrymans in Portuguese built cultural heritage. Despite the antifungal solution applied and the dryer environment recommended, the water activity (Aw) levels recorded on location are still dangerously high and may allow fungal regrowth. Periodic inspections were advised.

Reference 20 - 0.80% Coverage

¶28: Influence of the porous network on the rate of dissolution of carbonate and evaporitic rocks

¶29: The susceptibility to weathering of eleven carbonate and evaporitic Spanish building rocks was studied by means of dissolution experiments. Mineralogy, petrology, geochemistry and porosity of the rocks were also characterized in order to determine the potential relationships between these properties of the rocks and their dissolution rates. Rock slabs were submerged in a 0.1 M HCl acid solution for 72 h and the amounts of Ca, Mg and S released were measured, as well as the weight loss of the samples during the acid attack. Alabasters, which presented very low porosity, were dissolved to a lesser extent than limestones and dolostones in the time of the experiment. A significant positive correlation was found for connected with the weight loss of the rocks during dissolution and with the kinetic rate of Ca dissolution. Overall, the results highlight the influence of the porous network in the degradability of building stones by controlling their rate of dissolution. There is a positive correlation for all the rocks between weight loss along acidic attack and connected porosity, but no relationship between mineralogical and petrographical composition and susceptibility to dissolution.

Reference 21 - 0.07% Coverage

¶30: Chemical cleaning of soiled deposits and encrustations on archaeological glass: A diagnostic and practical study

Reference 22 - 0.09% Coverage

¶31: The aim of this study is practically to establish a chemical strategy for cleaning soiled deposits and encrustations on archaeological glasses

Reference 23 - 0.92% Coverage

¶31: The chemical composition of the glass samples was determined by X-ray fluorescence spectrometer (XRF) analysis technique, whereas X-ray powder diffractometer (XRD) and Energy dispersive X-ray (EDX) methods were used to determine the mineralogical and elemental composition of the soiled deposits and encrustations on the glass surfaces. Furthermore, Scanning Electron Microscopy (SEM) examination and optical assessment were performed before and after cleaning glass. The glass samples were subjected to different cleaning protocols such as Calgon

(Sodium hexametaphosphate), ethylenediaminetetraacetic acid (EDTA) at different pH values, citric and tartaric acids and piranha solution (a solution of sulphuric acid and hydrogen peroxide). Sepiolite poultices soaked by chemical agents were the most suitable methods used for applying chemical solutions on the glass surface. It can be concluded that EDTA is generally accepted as the most effective chelating agents recommended for cleaning encrustations on durable glass. It was more effective and safe at neutral pH with low concentrations around 5 to 7%. The calcareous crusts can safely be removed by using a piranha solution. Citric and tartaric acids appeared a moderate efficiency on cleaning weathered and stable glass. Calgon has a tendency to damage corroded and iridescent surfaces, and should be avoided when cleaning weathered glass.

¶32: A procedure to assess the suitability of plaster to protect vernacular earthen architecture

Reference 24 - 1.15% Coverage

¶33: As part of a working definition of a new code of practice, this paper develops a methodology to determine the suitability of plasters manufactured on-site to protect the earthen walls of vernacular architecture buildings. Given the diversity of raw earth construction types, ranging from massive earth to stone masonry with earth mortars, and the variability of the materials used, two on-site tests (a shrinkage test followed by a shear test) were proposed. Those tests, as well as additional tests, were performed with lime/sand, earth/sand and earth with plaster admixtures. Lime/sand plasters do not typically pose shrinkage issues, which is why more earth based specimens were tested than lime based specimens. An analysis of the on-site testing complemented with laboratory tests reveals an antagonistic control of the bond between earth plaster and earthen wall based on clay content: an increase in the plaster clay content leads to increased bending strength, which strengthens the plaster and increased shrinkage, which weakens the plaster-wall interface. The heterogeneity of the wall leads to a wide range of results; therefore, this study was conducted to validate the formulation of plasters by means of shrinkage and shear tests at five different points on the wall. The shrinkage test allows finding the earth plaster formulations. Among all the validated formulations, the mason chooses the best one thanks to two criteria: the best workability (which is variable according to masons) with the highest clay content as possible. Then, when the formulation is chosen, the shear test must be done to verify if the bond between the plaster and the wall is high enough. This series of tests allows masons to validate formulations that will ensure good mechanical resistance of the plasters that protect buildings of vernacular earthen architecture.

Reference 25 - 0.05% Coverage

¶34: Preventive thermographic diagnosis of historical buildings for consolidation

Reference 26 - 0.30% Coverage

¶35: InfraRed (IR) thermography is a non-destructive powerful tool for fast and accurate building diagnostics. In the investigation of historical structures, where a restoration or conservation treatment can cause irreversible damage to the structure, it is considered to be of most importance. A campaign of thermographic surveys were conducted on a large part of the historical cultural heritage of L’Aquila and its surroundings. In this paper we present the results of the study

Reference 27 - 0.19% Coverage

¶35: with the aim to evaluate the correspondence between the damage induced by the earthquake and the previous thermographic results, in order to validate the effectiveness of thermography and its role in preventive diagnosis.

¶36: The combined use of IRT and LDV for the investigation of historical thin vaults

Reference 28 - 0.57% Coverage

¶37: Correct interventions on cultural heritage should have as their starting point an accurate diagnosis of its health, in order to design a compatible care. NDTs seem to offer a promising way in this sense. This paper deals with the combined use of IRT and LDV for the investigation of historical thin vaults made by timber arches, reeds, and plaster and it demonstrates that they can effectively support a deeper knowledge of these vaults as it concerns the presence of detached areas among the different mortar layers of the plaster and of detached areas among the mat of reeds and the nailed connection with the wooden bearing elements. This is a very important goal because these ND methodologies can be employed only on the lower surface of these vaults and sufficiently far from it, and they do not have any mechanical interaction with the historical, eventually frescoed or stuccoed, plaster, thus saving money and time.

Reference 29 - 0.16% Coverage

¶39: presents the most comprehensive study conducted so far for evaluating the corrosion levels related to air quality and the seasonal pollutant (NO2, SO2, and O3) exposure levels over 50 monitoring stations distributed on the historical peninsula of Istanbul.

Reference 30 - 0.26% Coverage

¶39: principally SO2, NO2, and O3, as well as meteorological factors, e.g. humidity and temperature. In the present study, seasonal exposure of NO2, SO2, and O3 pollutants were monitored using passive samplers, and corrosion attack values were calculated using dose-response functions. The geostatistical analyst tool of ArcGIS® 9.1 was then used for generating GIS-based surface pollution and corrosion distribution maps

Reference 31 - 0.20% Coverage

¶41: has been to assess and predict the effects of different pollutants on materials and objects of cultural heritage in a multipollutant scenario and to identify indicators and thresholds levels of pollutants. In particular, the present paper reports one of the studies carried out in the CULT-STRAT project at city level

Reference 32 - 0.41% Coverage

¶41: Different maps are shown for the past, present and possible future scenarios: inventory of stock of cultural heritage for each selected material, concentration of selected pollutants (SO2, NO2, O3 and PM10), corrosion (cast bronze) and recession (Portland limestone), exceedance of tolerable degradation thresholds for each material and corrosion-cultural heritage overlapped maps. The

model and the methodology developed could be useful if apply it to towns, regions or countries in order to quantify the percentage of Cultural Heritage at risk or to quantify the percentage of the area where corrosion/recession exceeds the established tolerable levels.

¶42:
Reference 33 - 0.21% Coverage

¶43: For this reason this paper focuses on identifying and analyzing the aspects that may contribute to a more efficient use of Web3D technologies to access cultural content, in order to set up a set of development standards aiming to encourage web-based learning and guaranteeing systems accessible and usable by the widest possible audience.

¶44:
Reference 34 - 0.11% Coverage

¶46: Significance of studying the petrography and mineralogy of the geological environment of old rupestrian churches to prevent their deterioration. A case study from the South Carpathians

Reference 35 - 1.30% Coverage

¶47: Over the centuries, the church's walls and mural paintings have been negatively affected by a series of physicochemical processes. These processes were studied through field investigations and laboratory analyses carried out between October 2007 and November 2010. The investigations revealed that tectonic fissuring and the structural anisotropy of the rock facilitate the infiltration of meteoric water through the walls into the interior of the church, from north to south, maintaining a high-level of humidity in the northern wall and in the interior of the church. The most harmful effects observed were: (i) the partial hydrolysis of the feldspars through reaction with water from the pores, producing a friable mass of phyllosilicates which led to a superficial disaggregation of the rock and to a diminished cohesion between the rock and the mortar of the fresco, (ii) the reprecipitation of the gypsum as efflorescences on the northern wall and ceiling, covering the mural painting in localized areas, as a result of the transportation of the gypsum by water from the upper strata, (iii) the alteration of the cinnabar pigment, as a result of water penetration by diffusion through the fresco from the wet rock to the pictorial layer (the secondary effect observed being the formation of sulfuric acid, which further reacted with the carbonate from the fresco to form gypsum), (iv) the development of biotic crusts, predominately algal, on the interior wet walls, which, facilitated by the permanent high humidity and the semi-obscurity of the interior of the church, have covered large surfaces of the fresco. Compared to the interior, the exterior vertical walls have been exposed to prolonged daily and seasonal variations of temperature and humidity. These variations have caused repeated variations in the volume of the sandstone, leading to contraction fissuring and peeling of the vertical walls. Any future procedures that might be used to conserve the church should strive to reduce the humidity of the sandstone in the interior walls.

¶48: Porosity and surface hardness as indicators

Reference 36 - 0.09% Coverage

¶49: Due to their gypsum composition, such elements are easily weathered, primarily because of low mechanical strength and slight solubility in water

Reference 37 - 0.40% Coverage

¶49: The analysis of its porosity and shore C surface hardness has allowed determination of the mathematical correlation between them. Consequently, future evaluations can merely measure the hardness (a non-destructive test) to estimate the plasterwork's porosity (which reveals its mechanical strength and its degree of weathering). These elements must be maintained in order to prevent the spread of pathologies. In addition to requiring an in-depth knowledge of its materials, application techniques, and properties, to do so also demands simple techniques for regular assessments and criteria to prioritize interventions if they become necessary.

Reference 38 - 0.03% Coverage

¶50: Characterization of 17th Century Mughal tile glazes

Reference 39 - 0.44% Coverage

¶51: Coloured tile samples from Jahangir tomb were analyzed to know the glaze composition and to identify the colouring phases used at that time. The study was performed using light microscopy (OM), scanning electron microscopy equipped with energy dispersive X-ray analyzer (SEM-EDS), Raman spectroscopy (RS) and electron microprobe analysis (EMPA). These complementary analytical techniques allowed characterizing the samples as alkali glazes made from plant ashes. The results indicated the use of lead-tin yellow type II for yellow glazes, cobalt and copper for blue glazes, mixtures of yellow and blue glazes for the green glazes, manganese for purple glazes, and a transparent glaze layer for white glazes.

¶52:
Reference 40 - 0.06% Coverage

¶53: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin

¶54:
Reference 41 - 0.08% Coverage

¶60: The issues on which this paper focuses are the analyses carried out by GIS data management, intended to improve our knowledge

Reference 42 - 0.04% Coverage

¶60: together with the organization of a geo-referenced spatial database

Reference 43 - 0.29% Coverage

¶60: . A second step deals with the meaning of these different kinds of spatial distributions. The generation of different kinds of data clusters, based on the repeated elements on the decorations has been researched. Spatial analyses based on average distances, weighted overlay analysis and involving the digital terrain model of the general area have been performed in order to compare ceiling distributions based on decoration similarities and the historical road network.

Reference 44 - 0.02% Coverage

¶69: Diagnostics and restoration

Reference 45 - 0.87% Coverage

¶77: The complete characterization of the surface damage layer forming on the Burğ al Klāb was performed by a range of analytical techniques, including optical and scanning electron microscopy, X-ray diffraction, ion chromatography and induced coupled plasma-optical emission spectroscopy. The results showed that the main damage factor is the deposition of atmospheric sulphur compounds, and sea salts and particles from combustion processes. The deposition of SO2 and marine aerosols effects in formation of new minerals, such as gypsum (CaSO4·2H2O), halite (NaCl) and thenardite (Na2SO4) and other hydrated forms of sodium sulphates. The octagonal shape of tower and different exposition of walls to traffic roads was reflected in the results from the analyses. A decrease in lightness L* was measured passing from more protected walls to those more exposed to traffic. Sulphate, nitrate and organic carbon were also found in higher concentrations in the samples collected from the walls directly exposed to traffic. The high amount of Ca2+ is ascribed to the calcium carbonate-rich substrate, to soil dust re-suspension and subsequent deposition onto the building surface, as well as to the long-range air mass intrusions from the Sahara. The traffic in the proximity of Tower is not only responsible for particle emissions but also for the re-suspension of dry deposited road traffic emissions and soil dust.

¶78:

Reference 46 - 0.05% Coverage

¶88: Multiple approaches to identify bacteria in archaeological waterlogged wood

Reference 47 - 0.09% Coverage

¶89: The focus of this study was the identification of bacterial colonies in waterlogged wood samples from the rostrum of a excellent workmanship

Reference 48 - 0.47% Coverage

¶89: Samples were analyzed by light and Scanning Electron Microscopy (SEM), in vitro culture and molecular technique (DNA base techniques). The results, focused on bacterial consortia, allowed us to reveal the presence of Pseudomonas sp., Sphingomonas sp., Xanthomonas sp. besides Marinobacter sp. and Desulforudis audaxviator. A prompt and accurate characterization of bacterial colonization represents one of the preliminary step in preservation/restoration projects, especially for waterlogged wood since the metabolic activity of specific bacteria induce and accelerate the deterioration processes. Although it is reported in a case study, this multiple approach is useful for reveal and identify bacterial colonizing both organic and inorganic artifacts.

Reference 49 - 0.35% Coverage

¶91: Simulation of failure modes is done using the method of failure blocks. Currently, there are simulation methodologies of failure modes based on the failure rigid blocks method only for Roman Catholic churches type. Due to differences of shape in plan, elevation and construction systems

between Orthodox and Catholic churches, there were initiated researches in the development of this methodology for Orthodox churches. The theoretical results were compared with real failure modes recorded at an Orthodox church from Banat region, damaged by earthquakes of 1991.

Reference 50 - 0.60% Coverage

¶93: For this purpose, their basic physical properties, elemental and mineralogical compositions, firing temperatures and microstructural properties were determined by using XRF, XRD, SEM-EDS and TGA analysis. Analysis results indicated that the bricks are of low density, high porosity and were produced from raw materials containing low amounts of calcium poor clays fired at low temperatures (< 900 °C). They are mainly consisted of small pores with r < 5 μm that make the bricks more susceptible to salt crystallization and freeze-thaw cycles. Although the bricks were fired at low temperatures and susceptible to salt crystallization and freeze thaw cycles, the structural systems of the domes remained without losing their integrity due to the moderate climatic conditions of İzmir. Repair bricks that will be used in the conservation works of the domes should be compatible with the original ones and produced from calcium poor clays by firing at low temperatures.

Reference 51 - 0.01% Coverage

¶94: An experimental study

¶95:
Reference 52 - 0.18% Coverage

¶95: In general, it is traditionally assumed that they are made of lime, but an experimental study which has been founded on a visual, chemical and petrographic-mineralogial analysis, has pointed out their true materiality; the employment of gypsum as the main binder in their composition

Reference 53 - 0.54% Coverage

¶97: were investigated for the purpose of their conservation. With this intent, the basic physical properties, mineralogical and chemical compositions and microstructural properties of sound and weathered samples were determined by using XRD, SEM–EDS, FT-IR and TGA analysis. Results of the study indicated that the weathering mechanisms of unburied and post-excavated andesite differ from each other. The main weathering problems observed on the unburied stones are mainly increasing microcracks from inner parts to the surfaces, deposition of iron oxides and microbiological colonization due to climatic conditions of the site. In the newly excavated areas, calcium carbonate deposition, accumulation of clay minerals and microbiological colonization are the main weathering problems due to weathering of silica minerals through the action of carbon dioxide and water during burial.

Reference 54 - 1.26% Coverage

¶99: Since the effectiveness of stone consolidants significantly depends on the weathering level of the stone samples on which they are tested, in this study the suitability of heating stone to high temperature, as an artificial weathering method to induce controllable microstructural, physical and mechanical alterations, was investigated. Three lithotypes with different characteristics were used:

Giallo Terra di Siena (GS, a highly porous calcareous sandstone), Globigerina limestone (GL, a highly porous limestone) and Pietra Serena (PS, a porous quartzitic sandstone with low porosity). The lithotypes were characterized in terms of mineralogical composition, pore size distribution and water absorption, as well as dynamic modulus, static modulus, compressive and tensile strength. They were then heated for 1 hour, in different conditions: (i) dry samples were heated to 100, 200, 300 and 400 °C; (ii) water-saturated samples were heated to 200 °C; (iii) water-saturated samples were heated to 200 °C and, after cooling to room temperature, re-heated to 400 °C. After heating, all the lithotypes experienced an increase in open porosity and water absorption, as a consequence of the anisotropic thermal deformation of calcite crystals. Correspondingly, GS and GL exhibited an increasing reduction in mechanical properties for increasing heating temperature. PS, on the contrary, exhibited an increase in compressive and tensile strength, which was attributed to chemical-physical transformations undergone by secondary mineralogical fractions (clay minerals, etc.) at high temperature. All things considered, heating proved to be a fairly effective and reproducible method to cause artificial weathering in stone samples for the testing of consolidants. However, depending on the microstructural characteristics of the lithotypes, the effectiveness of heating may vary significantly, which requires a case-by-case adjustment of the most suitable heating procedure and the development of complementary methods for artificial weathering.

Reference 55 - 0.06% Coverage

¶100: The use of small diameter cores for assessing the compressive strength of clay brick masonries

Reference 56 - 0.94% Coverage

¶101: In order to define the seismic vulnerability of ancient brick masonries and to design restoration and retrofitting interventions, the estimation of masonry mechanical properties (e.g. Young's modulus, compressive strength, shear strength, etc.) is of primary importance. The use of actual masonry specimens (i.e. small portions of wall) to be tested either in situ or in laboratory can be performed only in few particular cases, hence many moderately destructive or non-destructive techniques have been proposed so far for indirect evaluation of masonry mechanical properties, primarily compressive strength. In this study, the suitability of using 100 mm diameter cores for evaluating the compressive strength of brick masonries was investigated. For a study case represented by a masonry arch-bridge, the compressive strength value resulting from testing cylindrical cores was compared to values obtained from testing bricks and mortars, separately, and from testing small masonry portions, used as reference. A FEM model of the cores was also developed to evaluate the stress/strain regime inside the cores and analyze the influence of the possible presence of the vertical mortar joint in the centre of the core. The results obtained by testing cylindrical cores, bricks and mortars and small masonry portions exhibit very good agreement, which suggests that using small diameter cores could be a promising method, which has the advantage of using cores more easily available than large diameter (150 mm) cores.

Reference 57 - 0.07% Coverage

¶102: Consolidation of calcareous and siliceous sandstones by hydroxyapatite: Comparison with a TEOS-based consolidant

Reference 58 - 1.31% Coverage

¶103: A new consolidating treatment for limestone, based on the reaction between diammonium hydrogen phosphate (DAP) and calcite in the stone to form hydroxyapatite (HAP), has recently been proposed. Thanks to the formation of HAP at grain boundaries, so that grains are more effectively bonded, HAP-treated limestone undergoes a significant improvement in mechanical properties. Considering that the HAP treatment has the advantage of not substantially altering the transport properties of treated stones, unlike many other consolidating products currently used, in this paper, the effectiveness of HAP as a consolidant for sandstones with varying carbonate content and porosity was investigated and compared with that of a TEOS-based consolidant. Two lithotypes were used: Giallo Siena (a highly porous calcareous sandstone) and Pietra Serena (a quartzitic sandstone with low porosity). After preliminary artificial weathering according to previously developed methodologies, each lithotype was treated: (i) with a 1 M aqueous solution of DAP; (ii) with a solution of TEOS oligomers in isopropyl alcohol, each applied by brushing until apparent refusal. The effects of the two consolidating treatments were assessed by comparing microstructural, physical and mechanical properties of treated and untreated stones. HAP-treated specimens experienced an increase in dynamic elastic modulus and tensile strength substantially similar to that achieved by TEOS-treated ones. However, differently from samples consolidated with TEOS, HAP-treated stones experienced very low variations in porosity and pore size distribution, leading to substantially no variation in the rate of water sorption and only a small decrease in water vapor permeability. Considering the good performance on both lithotypes, comparable to that achieved by a TEOS-based treatment, HAP is confirmed as a promising consolidating treatment, which has the advantage of being effective after just two days, not substantially altering the transport properties of treated stones and not being hazardous for human health, thanks to its aqueous solvent.

¶104:
Reference 59 - 0.52% Coverage

¶105: After a careful sampling of the building, a mineralogical-petrographical analysis was performed applying the following analytical techniques: X-Ray Diffraction and Polarized Optical Microscopy. Through visual inspection it was determined that the general conservation state of the building was quite good; however grain disgregation was detected in areas affected by raising damp and therefore some sculptural decoration was ruined. Abundant saline efflorescence also existed. Furthermore, a great variety of mortars that has been used during previous restoration works was also detected. The composition of these mortars is based on lime and crushed stone, Portland cement and arid-containing plaster that could be the source of the high level of efflorescence. This study has allowed proposing some actions to protect the monument.

¶106:
Reference 60 - 0.98% Coverage

¶107: Firstly, an environmental study was performed. Secondly, a physical and chemical characterization of building materials and a visual inspection of alterations were carried out and, finally, a deterioration diagnosis was determined. After chemical characterization, two lithotypes have been identified in the construction of the building: one from Puerto de Santa María and one from Jerez de la Frontera, known as Martelilla. The stone of Puerto de Santa Maria is a calcarenite bio-esparithic with a great variability in the silica:calcium carbonate ratio. It is a very soft and crumbly rock. Martelilla stone is a yellow limestone containing grains of quartz and interstitial granular cement highly recrystallized. Visual analysis revealed that the alteration indicators more common are: the grain disgregation caused by cycles of salt crystallization and dissolution of rising

damp, mainly from the ground, and biological alteration such as biofilms formed by algae and mosses and higher plants. Prior to the intervention phase, several conservation treatments have been applied to samples from the quarry of Puerto de Santa Maria, which is the most abundant in the building. The results after accelerated weathering show that the organosilicic products have performed better than acrylic or acrylsiliconic. Results of this study would allow a better selection of treatments according to the stone material and the factors affecting the building.

¶108: A preliminary study for the characterization of Kültepe's adobe soils with the purpose of providing data for conservation and archaeology

Reference 61 - 0.73% Coverage

¶109: So, it is very important to develop active conservation methods for Kültepe's unsheltered adobe ruins that are under thread of erosion. In this study, a laboratory characterization was made for future experimental preservation studies, in which the physical, mineralogical and chemical properties of the in situ soil remains from a collapsed structure in Kültepe were measured. Initially, color classification, grain specific gravity and specific surface area were identified. Grain size distribution, consistency limits, volumetric and linear shrinkage ratios of the material were determined by mechanical analyses, and the soil was classified based on its granulometry and plasticity characteristics. Clay minerals were identified by X-ray diffraction (XRD) and scanning electron microscope (SEM-EDS) analyses, and sand grains were studied under binocular microscope and polarization microscope for mineralogical analyses. As for the chemicals analyses, soil pH was measured, soluble salt content was examined by simple spot tests and conductivity measurements, and organic matter, calcium carbonate contents were approximately determined according to weight loss on ignition.

Reference 62 - 0.02% Coverage

¶121: Laser-induced fluorescence study

Reference 63 - 0.35% Coverage

¶122: Laser-induced fluorescence (LIF) is a powerful remote and non-invasive analysis technique that has been successfully applied to the real-time diagnosis of historical artworks. Hyperspectral images collection on fresco's and their false colours processing allowed to reveal features invisible to the naked eye and to obtain specific information on pigments composition and consolidants utilization, the latter also related to former restorations. This report presents the results obtained by ENEA LIF scanning system during a field campaign conducted in June 2010

Reference 64 - 0.11% Coverage

¶122: The data collected by LidArt allowed the detection of Paraloid B72 and Movilith/Primal AC33, guiding the restorers in their conservation actions.

¶123: Diagnostics and protection

Reference 65 - 0.07% Coverage

¶124: Non-destructive techniques (ground penetrating radar, infra-red thermography, fibre-optics microscopy) were employed

Reference 66 - 0.55% Coverage

¶124: The main aim of this on-site investigation was to evaluate the preservation state of the mosaics and the previous interventions, as well as to detect mosaics in layers below the external plastered surfaces. Results indicated that is indeed possible with the aid of NDT to locate the grid of rendered mosaics. Additionally the main environmental decay factors (moisture, salt, pollutants), areas where the mosaic materials (tesserae and bedding mortars) presented decay problems and sub-layers that pose risk of detachment or decay intensification, were identified. In this way, NDT can contribute to the development of a strategic planning for mosaics conservation, protection and revealing. In addition, consolidation materials already used in conservation interventions were assessed, with the aid of ageing tests and innovative restoration materials and techniques are proposed for mosaics

Reference 67 - 0.05% Coverage

¶127: Optimization of compatible restoration mortars for the earthquake protection

Reference 68 - 0.80% Coverage

¶128: In the present work, optimization of restoration mortars was performed on the basis of reverse engineering approach. The examination and selection of raw materials and the production of a number of mixtures with different ratios of binder/additives/aggregates and gradations were carried out. The selection of these materials was based on the examination of the historic mortars of the monument. In order to evaluate mortar mixes during setting and hardening, thermal analysis (DTA-TG), mercury porosimetry analysis and mechanical tests (compressive, flexural) were performed. The results indicate that mortars with hydraulic lime as binding material being admixed with crushed brick, present better behaviour than those with aerial lime, or lime-cement, or lime-pozzolanic additives. The results are in accordance with the acceptability limits defined by the investigation of the historic ones. The results obtained from two-phase production permitted the selection of proper mortar mixtures and their pilot application on a historic masonry of Hagia Sophia, which is going to be evaluated on time as far as compatibility and mortars good performance on the masonry are concerned. Moreover, concrete specimens were produced and examined for the earthquake protection of Haghia Sophia monument

Reference 69 - 0.02% Coverage

¶129: Non-invasive multitechnique methodology

Reference 70 - 0.21% Coverage

¶130: This paper presents the results of a multidisciplinary study on two 14th century canvases attributed to Lorenzo Veneziano. In particular, two non-invasive spectroscopic techniques have been

employed, imaging spectroscopy (IS) and X-ray Fluorescence (XRF). In order to perform the analysis in situ, the employed instruments were transportable

Reference 71 - 0.45% Coverage

¶130: discusses the potentialities and limitations of the integration of a mobile XRF spectrometer with a transportable IS device, developed to study large-sized surfaces. By means of the elemental composition given by XRF and the colourimetric data and reflectance spectra collected by IS, it has been possible to identify different materials (gypsum, azurite…) and to achieve a better understanding of the employed painting technique. The data confirm that the two canvases have been produced with painting materials and technique which are in good agreement with those of Lorenzo Veneziano. The obtained results illustrate the suitability of the integration of XRF with IS to solve similar analytical issues when sampling is not possible.

Reference 72 - 0.04% Coverage

¶131: Enhancement of hidden patterns in paintings using statistical analysis

Reference 73 - 0.60% Coverage

¶132: the application of different Blind Source Separation algorithms for enhancing hidden patterns in paintings and retrieving the information there contained. A series of images was taken at different wavelengths of a painting of an unknown artist, which evidenced the presence of hidden text. The analysis of the single images did not allow retrieving the information contained in the hidden text. The application of Blind Source Separation algorithms on the other hand allowed the enhancement of the hidden pattern; in particular, the orthogonalization algorithm proved to be fast and highly efficient. Good results were also obtained applying the same algorithm on a subset of spectral images (two out of four available), demonstrating the possibility of further reducing the computational load of the algorithm while retaining a good readability of the retrieved text.

¶133: Long-term hygromechanical monitoring of Wooden Objects of Art (WOA): A tool for preventive conservation

Reference 74 - 2.42% Coverage

¶134: Case studies monitoring wooden objects have been conducted for many years. In some studies the monitoring was limited, for longer or shorter periods, to air Temperature and Relative Humidity logging, which can show if extreme values and rates of variation occur. In other cases mechanical monitoring was combined with microclimatic logging, which provides quantitative information directly related to the microclimate; these data are useful to validate mathematical models that eventually may predict the long-term behaviour of the objects. Although the quality of the information obtainable by combined mechanical-hygrothermal monitoring is more directly usable, due to the actual response to the microclimate, using simply logged microclimatic data it is possible to formulate a statistical analysis aimed at defining microclimate variance. Museums all over the world are engaged in lively discussions regarding the long-term conservation of works of art created using hygroscopic materials, which are sensitive to microclimate fluctuations. The climate fluctuations can have both temporary and permanent effects on the hygroscopic objects and they

are a potential cause of damage. The current preventive approach is based on a compromise between the technical limitations of the museums' air conditioning plants and the presumed needs of the objects, as determined by conservators and conservation scientists. The primary goal is to keep the climate as stable as possible around standard values, with strict fluctuation ranges usually defined as 20 °C ± 2 and 50% RH ± 5. There is considerable pressure in favor of widening the allowable ranges, based on the need of a lighter carbon footprint as well as to facilitate the loan of artifacts between institutions. Although we have long-term evidence of the generally positive effects of a microclimate within the standard range of allowable fluctuations, we lack experimental data regarding the effects under broader ranges. Wooden works of art are useful in representing the complexity of possible reactions. Because of the mechanical response caused by thermo-hygrometric conditions, the monitoring of Wooden Objects of Art (WOAs) in their exhibition and storage environment is important in order to protect them from potential physical/mechanical degradation. Due to the specificity of each artwork, both from its structural point of view and from its previous microclimatic history (for the most part totally unknown), the analysis of an artifact's response to short- and long-term variations can supply useful information about its "individual" sensitivity to the exhibition microclimate, suggesting the adoption of more or less rigid parameters. Case studies monitoring wooden objects have been conducted for many years. In some studies, the monitoring was limited, for longer or shorter periods, to air T/RH logging, which can verify if extreme values and types of variation occur. In other cases, mechanical monitoring was combined with microclimatic logging, which provides quantitative information directly related to the microclimate; these data are useful to validate mathematical models that eventually may predict the long-term behavior of the objects. Although the quality of the information obtainable by combined mechanical-hygrothermal monitoring is of higher magnitude, using simply logged microclimatic data makes possible to formulate a statistical analysis aimed at defining microclimate variance, obtaining a very efficient schematization of the greater or lesser stability of the climate according to the presumed lower or higher sensitivity of the artifact under consideration. The aim of this paper is to demonstrate how delicate the widening of allowable ranges is and how misleading a generalized approach can be, while the eventual choices of standards relaxation must be based on careful analysis of the long-term response of the objects

Reference 75 - 0.37% Coverage

¶138: The shape-from-silhouette algorithm has been applied to the reconstruction of the three-dimensional profile of metallic handworks from their X-ray absorption images. The acquisition technique is similar to tomography: several radiographies are taken all around the object, each of them is used to obtain the silhouette of the object at a given projection angle. Some reference points are placed on a structure that co-rotates with the object and are acquired on the X-ray images for calibration. The reconstruction algorithm gives finally the external three-dimensional appearance of the handwork.

Reference 76 - 0.05% Coverage

¶149: Semantic enhanced WebGIS approach to visualize Chinese historical natural hazards

Reference 77 - 0.47% Coverage

¶150: presents a solution for promoting comprehensive in-depth understanding of historical natural hazard records by developing a semantic enhanced WebGIS platform. It includes: (1) a geodatabase to systematically store and manage Chinese historical information on natural hazards collated from ancient literature; (2) an ontology to mitigate semantic heterogeneity problems among different datasets; (3) WebGIS tools to visualize and analyze natural hazards in a multidisciplinary way. The platform is compliant to other historical and culture data at spatial and temporal levels. A survey on users' expectation and satisfactions are conducted. Conclusions and discussions are also raised to suggest further improvements for the semantic enhanced WebGIS platform.

Reference 78 - 0.08% Coverage

¶151: Multispectral data cube acquisition of aligned images for document analysis by means of a filter-wheel camera provided with focus control

Reference 79 - 1.07% Coverage

¶152: Multispectral imaging techniques are widely used to analyse and restore digital images of ancient documents degraded over time. In particular, acquisitions in infrared and ultraviolet bands can reveal information invisible by naked eye, which is not captured by conventional RGB imaging. Multispectral acquisitions are usually performed with filter-wheel cameras that mount a series of interference filters in front of the sensor to select the spectral band in which the document has to be acquired. Due to the use of different filters, the focus of the lens changes and it is necessary to adjust it manually for each filter, because such imaging systems are devoid of automatic focusing. Thus the acquired images may not be perfectly in-focus and have misalignments. In this work we present an automatic solution to acquire a multispectral data cube of aligned images that can be used in document analysis to extract and/or separate information through enhancement techniques. A custom-made motorized autofocus system controlled by software has been installed on a filter-wheel camera, which allows us to acquire in-focus images automatically at each filter changing, and a registration method based on Fourier-Mellin transform aligns these images. A preliminary calibration is performed to set the focusing of each filter with the working distance. As a result, the camera can capture images independently from the contrast of the scene, also in presence of documents with homogeneous texture. The proposed solution reduces considerably the acquisition time and offers a tool to acquire automatically the data cube to be used in further image analysis techniques. The results of experimentations are hereby presented and discussed.

Reference 80 - 0.11% Coverage

¶157: Quantification of wall surface heterogeneity and its influence on species diversity at medieval castles – implications for the environmentally friendly preservation of cultural heritage

Reference 81 - 1.05% Coverage

¶158: Historic buildings are important for cultural history and provide a variety of habitats for animals and plants. Especially structural heterogeneity of wall surfaces is perceived to support biological diversity. Nevertheless, in traditional approaches goals of biodiversity preservation and monument restoration are perceived to interfere and to be mutually exclusive. As a consequence, priority is

often given to constructional restoration accepting the loss of local populations and biodiversity. At walls of medieval castles, including an experimental restoration project where conventional and less intensive restoration techniques were applied, we relate species composition and richness to wall properties. Especially wall surface structure is quantified using a novel approach. The study focuses on lichens, mosses and vascular plants. Boosted regression tree analyses and non-metric multidimensional scaling techniques are applied to detect the influence of abiotic site conditions on biodiversity. We find species richness to be promoted by wall surface heterogeneity. However, species composition is more affected by restoration approaches than species richness. Lichen composition varies considerably while vascular plants and mosses are less affected by wall properties. We suggest strategies that are combining both societal targets, the preservation of historic monuments and of species diversity. Careful restoration is capable of supporting both, the maintenance of cultural heritage and of rare and unique anthropogenic habitats. Wall surface heterogeneity needs to be witnessed for both aspects as it affects both species composition as well as the effectiveness of cleaning methods.

Reference 82 - 0.03% Coverage

¶159: Desalination characteristics for ceramics

Reference 83 - 0.36% Coverage

¶160: are generally saturated with soluble salts, mainly NaCl, within the porous structure of ceramics. The salinity contents typically exhibit ionic and osmotic pressures to the ceramic microstructures, thus causing significant damages to the integrity of ceramic artefacts. While the utilisation of aqueous soaking methods is commonly accepted for effective desalination processes of ceramics, the relationships between the structural characteristics of ceramics and the desalination efficiency have not been demonstrated. In this study, we examined the desalination processes of

Reference 84 - 0.46% Coverage

¶160: to identify major controlling factors for the desalination processes. Our results indicated that the physical properties of ceramics including the water absorption and the pore size distribution greatly influence on the desalination process time and efficiency. It is also found that the surface condition of ceramic samples such as microstructural cracks on the glaze layer is a crucial component of the desalination characteristics. Nevertheless, the small residue of salts such as NaCl crystals were found in the microstructures of some ceramics after prolonged desalination periods. Therefore, it is important to control the humidity and temperature in the conservation environment for desalinated ceramic artefacts even after desalination.

Reference 85 - 0.07% Coverage

¶161: What do plastics emit? HS-SPME-GC/MS analyses of new standard plastics and plastic objects in museum collections

Reference 86 - 1.34% Coverage

¶162: In recent years, plastics are designated as a source of indoor pollution and particular attention has thus been devoted to the identification of emitting low molecular weight compounds. Headspace-solid phase microextraction-gas chromatography coupled with mass spectrometry (HS-SPME-GC/MS) has been already successfully applied for screening emissions from synthetic materials. This analytical tool being also non-invasive, it has been already successfully applied in the field of cultural heritage science for the identification of volatile organic compounds (VOCs) emitted from various museum objects made of natural materials. In this research, we aimed at assessing the use of HS-SPME-GC/MS as an in situ non-invasive analytical tool for a better knowledge of the volatile organic compounds emitted by plastics in collections. The possibility of characterizing plastics based on their emission signatures was also evaluated. Twelve new standard plastic samples, belonging to seven main polymer families widely present in museum collections as well as three naturally aged museum objects, were investigated. In this paper, we provide a survey of the VOCs emitted, and the use of HS-SPME-GC/MS for identifying volatile marker compounds, degradation products, additives, and monomer residues of the plastic synthesis is evaluated. More than 200 different VOCs were identified from the new standard samples. Two categories of VOCs were distinguished: “non-specific” and “specific” ones. We showed that based on the “specific” VOCs, it was possible to identify the nature of the polymeric matrix itself or at least to unambiguously distinguish a plastic by family. Emissions from the museum objects were then characterised, and main volatile degradation compounds considered as degradation markers of the natural deterioration of polymeric matrices, were identified. This identification procedure could be further exploited for the characterization of VOCs emitted by objects made of multiple synthetic polymers. Complementary to other techniques, this analytical tool is an interesting way to assess the risk for the objects stored in the vicinity of emitting plastics

Reference 87 - 0.06% Coverage

¶163: Design and calibration of a drill-guided system by laser for structural strengthening of historic bridge

Reference 88 - 0.43% Coverage

¶164: Restoring the spans of a historic bridge requires installing tensors to ensure the structural and mechanical stability of the rows of stones that form the resistant body of the bridge. Once the positions where the structure-crossing tensors should be installed have been determined, the entry and exit points of each drill hole must be marked on both sides of the bridge. However, the exit point of each drill hole is not visible from the entry point, making it impossible to drill precisely. Here, we present a method based on a calibrated system that combines precision topography with laser technology. Using this method, drill holes longer than 12 m can be achieved with centimetric precision

Reference 89 - 0.05% Coverage

¶165: Electrochemical analysis of the degradation of lead alloy organ-pipes due to acetic acid

Reference 90 - 1.04% Coverage

¶166: In fact, when the organ-pipes are small enough to avoid collapsing due to room temperature creep, lead can be used instead of other alloys with superior mechanical properties, because it is relatively cheap, it is easy to form into different shapes, the tonality of the obtained sounds are acceptable and the corrosion resistance is quite good. However, organic substances such as organic acids released from the wood made support of the organ-pipes and organic contaminations of the air pumped through the pipes may lead to a rapid degradation of lead. In this study, the effect of organic acids, such as acetic acid, on the degradation of lead-made organ-pipes was investigated. Lead made specimens obtained from real organ-pipes were exposed to organic-acid rich environments and the induced degradation was monitored by means of electrochemical techniques. In literature, it was evidenced that the degradation promoted by the organic acids leads to the formation of lead oxides and carbonates characterized by a very high volume, which promotes a quick degradation of the lead specimens. The effect of different concentrations of acetic acid on the degradation rate of the organ pipes was investigated by means of electrochemical impedance spectroscopy (EIS). The effect of the acid concentration on the corrosion process occurring on lead surface was evaluated by means of cathodic and anodic polarization measurements in both aerated and degassed conditions. The morphology of the degradation products was investigated by means of SEM during exposure time in the aggressive environment.

¶167: Combined in situ micro-XRF, LIBS and SEM-EDS analysis of base metal and corrosion products

Reference 91 - 0.37% Coverage

¶168: Selected copper alloy artefacts from the collection of the Umm Qais museum at Irbid, Jordan, were studied by SEM-EDS analysis, while in situ analyses were performed by means of portable μ-XRF and LIBS spectrometers. Analysis and characterization of base metal and corrosion products of the copper alloyed artefacts were performed in relation to the environmental conditions of the display and as part of the overall assessment of the museum environment. Findings of this study are directed towards guiding a preventive conservation strategy for the copper alloyed artefacts at the Umm Qais museum.

Reference 92 - 0.07% Coverage

¶172: Ancient materials specificities for their synchrotron examination and insights into their epistemological implications

Reference 93 - 0.78% Coverage

¶173: The synchrotron characterisation of archaeological and heritage materials has undergone a steep development in the past years, among a range of other advanced characterisation techniques. For synchrotron techniques alone, close to a hundred articles were published in 2011 on such materials, prompting new developments at large scale facilities. However, few publications have discussed the specific characteristics of heritage materials in their advanced spectroscopic and imaging study. Here, we suggest that a greater consideration be put on the specificities of ancient materials and their theoretical implications on the analytical process. In particular, we discuss the importance of the a posteriori framework of the study of heterogeneous materials considered in their historicity as structuring parameters of their study. Major implications are the relevance of trace analyses, those of majors and we suggest, more importantly, the dynamics between both

endpoints. The on-going development of multimodal spectral imaging appears as a way to better address corresponding difficulties. Epistemologically, we suggest that a reflexive approach be developed to explain, structure and possibly contribute to narrowing down the field of possible methodological research.

Reference 94 - 0.12% Coverage

¶174: Fibre Optic Reflectance Spectroscopy as a non-invasive tool for investigating plastics degradation in contemporary art collections: A methodological study on an expanded polystyrene artwork

Reference 95 - 0.44% Coverage

¶175: Fibre Optics Reflectance Spectroscopy (FORS) is a well-established technique, widely used in the conservation field for in situ investigations and non-invasive diagnostics on traditional artworks. Nevertheless, there is little knowledge on the use of this technique for investigating modern artists materials used in contemporary artworks. The present study, carried out within the wider framework of the EC funded Project “POPART” (Preservation of Plastic ARTefacts in museum collections”), was aimed at investigating the possibility of extending the applications of FORS to synthetic polymers, and proposing this technique as new non-invasive analytical tool for diagnostics on plastic artworks in museum collections

Reference 96 - 0.92% Coverage

¶175: The need of singling out the main causes of deterioration in order to prevent further damages was evident. An in situ FORS measurements campaign was performed with the aim of gaining in-depth information about its conservation state and identifying the main agents responsible for the observed degradation. Thanks to the non-invasivity of the technique an extensive spectroscopic characterisation of different areas of the EPS surface could be performed and the spectral data were exploited to build a map of the degraded areas of the artwork. Data acquired in field were compared with those obtained from laboratory test performed on artificially aged EPS samples. These results helped in ascertaining the detrimental actions of the light sources used to back illuminate the artwork. In particular, in this case FORS proved to be effective in detecting EPS alterations before the chromatic effects became visually evident. These results suggested that FORS may be considered as a good candidate to be used for non-invasive investigations also on some modern materials and contemporary artworks. The research was completed with an interview to the artist Stefano Arienti, whose point of view was constructively integrated with the scientific results obtained. This emphasized the importance of an interdisciplinary approach to the solution of conservative problem in the field of contemporary art.

¶176: Viscoelastic and mechano-sorptive studies applied to the conservation of historical violins

Reference 97 - 0.09% Coverage

¶177: To assess the possible effects of mechanical loading on the conservation of historical wooden musical instruments, a research project was carried out

Reference 98 - 0.43% Coverage

¶177: This paper refers to the results obtained by studying the deformations to which a violin is subjected after being tuned, with special attention to the viscous and mechano-sorptive behaviour (as in a concert environment for example). The amount of viscoelastic creep was quantified under normal tuning conditions, and the mechano-sorptive creep was quantified using a dead mass resulting in 55% of the elastic deformation obtained after tuning. The viscoelastic and mechano-sorptive deformations were clearly observed. These deformations were completely recovered once the violin was unloaded, demonstrating that this violin structure is appropriately dimensioned for the applied stresses.

Reference 99 - 0.08% Coverage

¶178: Evaluation of the effectiveness of treatment products in improving the quality of ceramics used in new and historical buildings

Reference 100 - 0.98% Coverage

¶179: Ceramic samples made with a mixture of 70% ball clay and 30% quartz sand were moulded and then fired at 900 °C in an electric kiln. Samples were then treated with different products and analyses and tests were performed to evaluate the physical changes induced by the application of these products and their effects on the quality of the ceramics. A petrographic study indicated that the ceramics were composed of quartz, small amounts of mullite and sanidine and traces of hematite. Mineral clays (i.e. kaolinite) disappeared during firing. Two consolidating products (Paraloid B72 and Tegovakon V) and one water repellent (Silo 111) were applied to samples by capillarity, and physical changes (colour, water flow, porosity and pore size distribution) were measured. Finally, we carried out salt crystallization tests in order to determine which product improved the quality of the ceramics. Treated samples registered a decrease in porosity and a general increase in pore size. The application of Silo 111 drastically reduced water absorption by immersion and by capillarity. This product was also responsible for a decrease in pore interconnection. Samples treated with Tegovakon V performed better in terms of their overall hydric behaviour. Silo 111 was the only product that did not modify the colour of samples when compared with untreated ones, and after accelerated aging tests, samples treated with this product hindered the absorption of saline solution into ceramic pores and prevented their decay. Paraloid B72 did not improve any of the properties of the ceramics.

Reference 101 - 0.06% Coverage

¶184: Innovative uses of 3D digital technologies to assist the restoration of a fragmented terracotta statue

Reference 102 - 1.18% Coverage

¶185: The statue, fragmented in many pieces, has undergone a complex restoration performed by a multidisciplinary working group. The contribution of digital technologies was planned from the very beginning, since the complexity of this restoration originated the design of innovative procedures for

managing the reassembly and restoration process. The Madonna test bed was therefore an example of how technology innovation could be pushed by clear application needs. A first important contribution was the study of the recombination hypothesis of the fragments. This initial phase was performed on digitized 3D models of the statue fragments, with the aim of reducing fragments manipulation, preventing further damages and increasing the capabilities to rehearse and evaluate different reassembly options. The accuracy of the 3D scanned models and the new recombination procedure introduced in this paper allowed to manage this phase in the digital domain with successful results. The digital 3D models were also used to design and produce an innovative supporting structure, constructed with a rapid prototyping device. Another important contribution concerned the study and virtual restoration of the polychrome decoration of the statue; our aim was to reproduce and restore in the virtual 3D domain the very complex original polychrome decoration, on the base of the remaining traces. Consequently, new virtual painting functionalities have been designed on the MeshLab platform (an open-source tool for 3D models visualization and manipulation) for reproducing pictorial decorations over digital 3D models and have been assessed on this specific test bed. This allowed us also to investigate the complexity of the virtual repainting process and to identify further technology enhancements. Finally, computer graphics technologies have been also used to produce a video that tells the story of the restoration.

Reference 103 - 0.08% Coverage

¶186: Mapping stone surface temperature fluctuations: Implications for lichen distribution and biomodification on historic stone surfaces

Reference 104 - 0.27% Coverage

¶187: The exposure of historic stone to processes of lichen-induced surface biomodification is determined, first and foremost, by the bioreceptivity of those surfaces to lichen colonization. As an important component of surface bioreceptivity, spatiotemporal variation in stone surface temperature plays a critical role in the spatial distribution of saxicolous lichen on historic stone structures, especially within seasonally hot environments.

Reference 105 - 1.05% Coverage

¶187: exhibits significant aspect-related differences in lichen distribution. Lichen coverage and diurnal fluctuations in stone surface temperature on the stairwell were monitored and mapped, under anticyclonic conditions in summer and winter, using an infrared thermometer and Geographical Information Systems approach. This research suggests that it is not extreme high surface temperatures that determine the presence or absence of lichen coverage on stonework. Instead, average stone surface temperatures over the course of the year seem to play a critical role in determining whether or not surfaces are receptive to lichen colonization and subsequent biomodification. It is inferred that lichen, capable of surviving extreme surface temperatures during the Mediterranean summer in an ametabolic state, require a respite period of lower temperatures within which they can metabolize, grow and reproduce. The higher the average annual temperature a surface experiences, the shorter the respite period for any lichen potentially inhabiting that surface. A critical average temperature threshold of approximately 21 °C has been identified on the stairwell, with average stone surface temperatures greater than this generally inhibiting lichen colonization. A brief visual condition assessment between lichen-covered and lichen-free surfaces on

the limestone sections of the stairwell suggests relative bioprotection induced by lichen coverage, with stonework quality and sharpness remaining more defined beneath lichen-covered surfaces. The methodology employed in this paper may have further applications in the monitoring and mapping of thermal stress fatigue on historic building materials.

¶188:
Reference 106 - 0.07% Coverage

¶190: Key block theory application for rock slope stability analysis in the foundations of medieval castles in Slovakia

Reference 107 - 0.85% Coverage

¶191: This research investigates the stability of rock slopes in the foundations of selected medieval castles in Slovakia. In the first phase, static analysis of the 45 selected medieval castle rock slopes was performed, where more than 12,000 potentially unstable blocks were analyzed and the factor of safety in static condition was calculated using the key block theory implemented in the Kbslope module of PTworkshop software. Based on results of the static stability analysis, a pseudo-static analysis was performed adopting the seismic acceleration in accordance with Slovak Technical Standards – Seismic actions on structures. This was implemented by calculating the vectors of horizontal force acting upon shear failure in the direction of the slope face with a zero vertical component. When non-finite and tapered blocks were ignored, the results proved that 14% of the 12,217 blocks investigated under static conditions could be considered unstable. This number increased to 23% under pseudo-static conditions, when seismic acceleration was implemented in the stability calculations. A detailed stability assessment of the Gymes Castle located in western Slovakia was carried out with delineation of blocks prone to rock sliding and proper stabilization methods, based on joint sets orientation measurements performed on the 3D point cloud generated by laser scanner.

Reference 108 - 0.06% Coverage

¶193: Granite desalination using electromigration. Influence of type of granite and saline contaminant

Reference 109 - 0.61% Coverage

¶194: We describe the results of electromigration desalination of two soluble salt-contaminated Galician granites. The efficacy of electromigration, which had not been previously applied to granite, was assessed for two types of granite contaminated with a 20% NaCl solution and seawater. Desalination effectiveness was evaluated as follows: (1) analysis of anode and cathode ion content during testing; (2) analysis of ions at different distances from the electrodes after testing; (3) pH assessment of the stone surfaces; and (4) evaluation of colour changes. Results were very satisfactory; by the end of testing, chloride was reduced by almost 100% in both the NaCl and seawater contaminated samples. Sulfate reduction was also significant, despite this ion's lower mobility. The granite pH values remained close to neutral and colour changes were minimal. The difference in effectiveness of the process for the two types of stone was associated with their dissimilar pore structure.

Reference 110 - 0.05% Coverage

¶195: A nano to macroscale study on structure-mechanics relationships of archaeological oak

Reference 111 - 0.30% Coverage

¶196: Mechanical properties of wood at different length scales of its hierarchical structure are governed by structural and compositional properties on smaller length scales. This opens up the possibility to use microstructural data for estimating mechanical properties, which are difficult to assess by conventional, destructive testing but are nevertheless of high relevance for conservation practice. Herein, we investigate such microstructure-mechanics relationships for a particular example

Reference 112 - 1.57% Coverage

¶196: In order to identify the effects of degradation on the mechanical behavior and their relations to the microstructure, recent oak specimens of different geographical origin (Norway and Austria) are investigated as well. Wood exhibits a cellular structure. Its cell walls are composed of an amorphous polymer matrix consisting of lignin and hemicelluloses and embedded, stiff cellulose fibers. At the cell level, experimental studies comprised microscopic investigations of the cellular structure, chemical analyses of the composition of the cell walls, as well as nanoindentation tests on single cell walls. The same samples were also analyzed on the macroscopic level, where additionally mass density and annual ring data were measured together with ultrasonic stiffnesses. The chemical data clearly indicate deterioration in the archaeological oak, affecting mainly hemicelluloses and amorphous cellulose. At the cell wall scale, however, this does not necessarily lead to a weaker material behavior. The nanoindentation modulus, as a measure of the cell wall stiffness, was found to even increase. This is counterintuitive to our understanding of the effects of chemical degradation. It might be due to possible modification of lignin in the Oseberg oak, and thus have a stronger effect on the indentation modulus than the concurrent weakening of the interfaces between the load-carrying cellulose fibers and the connecting cell wall matrix when analyzing wood at the microscopic level. A similar effect is also observed for the transversal stiffness of macroscopic samples, which increases. In tension-dominated loading modes, however, the degradation of the interfaces is the dominant effect, resulting for example in a considerable reduction of the macroscopic stiffness in longitudinal direction. This underlines the utmost relevance of the loading condition on the remaining load-carrying capacity of degraded wood. On the macroscale, effects of the geographical origin (i.e. growth conditions) on ring characteristics of the oak tissues override the effects of degradation on the mechanical behavior. They have to be carefully extracted in order to come up with conclusions on the effect of degradation from macroscopic test results. The identified microstructure-mechanics relationships provide the basis for–in further research steps–building mathematical models describing the relations between microstructural characteristics and macroscopic mechanical properties and, thereon, for structural analyses of historical wooden objects.

¶197:

Reference 113 - 0.09% Coverage

¶199: Historical coastal urban landscapes digital documentation and temporal study with 2D/3D modeling functionality: The case of Thessaloniki, Greece

Reference 114 - 0.63% Coverage

¶200: The research was initially based on the photogrammetric processing of archive aerial images (1938) of Thessaloniki's city centre. Besides the vertical images, high oblique aerial images dated back to 1932, proved to be a significant source of information. A rich archive of old photographic material, sketches, drawings and gravures of the coastal forehead of the city was also used. Ortho-images of the coastal front, derived from laser scanning (2010), and a 3D model of the historical city center, derived from the stereo photogrammetric process of aerial images (1990), contributed decisively at the multi temporal study of the city front. The main outcomes of the present documentation study are the 3D representation (at scale of 1:200, accuracy 5 cm) of temporal changes of a part of the coastal front of the historical center of Thessaloniki and the 2D representation (at scale 1:100, accuracy 1–2 cm) of these changes with respect to variations on skyline, lacunas, interventions in old buildings, etc.

Reference 115 - 0.09% Coverage

¶203: Geometric characterization of a cylinder-shaped structure from laser scanner data: Development of an analysis tool and its use on a leaning bell tower

Reference 116 - 0.54% Coverage

¶204: A terrestrial laser scanning (TLS) survey was carried out in 2011 and some analyses were performed on the resulting point cloud to provide the following: bell tower leaning angle, wall inclination/tapering and radius, local deviation from circular shape, and local curvature. Emphasis was placed on the changes of these quantities with elevation. In order to perform these analyses, a MATLAB/Octave toolbox was developed and is available as supplementary material of this paper. In this way, a reliable picture of the current geometry of the bell tower was obtained. In particular, a correlation between leaning angle (average value 1.4° towards East-South-East) and some surface deformations and damage (bulges, brick displacements or also material loss) was found. These results are useful for cultural heritage preservation purposes.

¶205: A high resolution laser scanning model

Reference 117 - 0.77% Coverage

¶206: A gross inclination of the stone rows of the auditorium of 0.81° towards N 314°E was interpreted as a consequence of recent coseismic tectonic movements. A new survey of the theater with a terrestrial phase laser scanner is the basis for a model with 15 times higher resolution and 28 times more data points. Parallel to the fieldwork in this study, the process and accuracy of the leveling of the 3D point clouds produced by the scanner was tested in a series of experiments. Based on the orientation of the blocks forming the seats of the theater, we suggest six sections with changing average inclination of the seats and a fault line separating a northern and a southern section. While the previously found overall inclination of the auditorium is confirmed by the new model and the dip direction agrees, the inclination is 0.58° compared to previously determined 0.81°. The almost perfect increase of inclination with the height of the first 10 entire seating rows and the nearly constant inclination from row 11 onward, makes systematic measurement errors

during the construction a possible cause. This is an alternative scenario to the interpretation of a coseismic displacement of the conglomerate block on which the theater was built.

¶207:
Reference 118 - 0.01% Coverage

¶207: DEA approach

¶208:
Reference 119 - 0.04% Coverage

¶209: Transylvanian glass icons: A GC/MS study on the binding media

Reference 120 - 0.08% Coverage

¶210: The present research reports the results of a study on the organic components of the paint layers, analyzing the binding media

Reference 121 - 0.57% Coverage

¶210: The analysis of the binding media has been done by means of gas chromatography coupled with mass spectrometry (GC/MS). The applied analytical procedure allowed the characterization of the proteinaceous, polysaccharide and lipid-resinous content of the binding media starting from a unique microsample. Results showed that a wide range of materials were used by the icons painters, mostly applied as mixtures of a proteinaceous material and a lipid one. The proteinaceous component proved to be mainly egg, though animal glue and casein were ascertained too, and proteins were often mixed; the lipid material was identified as linseed oil. In some of the icons pine resin and saccharide material were found. Data also highlighted that though the materials used in all the glass icons under study are similar, some particularities could be observed in the painting technique of the studied producing centers and icon painters.

Reference 122 - 0.06% Coverage

¶214: Fluorescence and photodegradation of Xuan paper: The photostability of traditional Chinese handmade paper

Reference 123 - 0.86% Coverage

¶215: In this study, the fluorescence and photochemical properties of Xuan paper were investigated. Xuan paper exhibits auto-fluorescence in the blue spectral range (450–500 nm) and UVA photolysis of the paper resulted in a substantial reduction in the blue fluorescence together with the formation of chromophores absorbing in the visible spectrum, resulting in photoyellowing of the paper. A more significant yellowing of paper was observed when irradiated in the dry state than under wet conditions. The associated photogeneration of hydrogen peroxide and superoxide from three types of Xuan paper samples during irradiation showed a correlation between the yields of reactive oxygen species and their relative yellowing rates. The results are interpreted in terms of sensitised photooxidation via a mechanism of electron transfer involving the fluorophores in their excited singlet states being responsible for the photodegradation of Xuan paper. SEM/EDS analyses were

performed on the Xuan paper samples to investigate their morphological and elemental characteristics. Silica-containing fibres characteristic of a special rice straw that grows in siliceous soil were observed in all types of Xuan paper. Micron-sized calcium precipitates possibly formed from the “lime-steaming” manufacture process were shown to protect against the acidification of paper during accelerated thermal ageing

Reference 124 - 0.05% Coverage

¶216: Ageing of brazilwood dye in wool – a chromatographic and spectrometric study

Reference 125 - 0.94% Coverage

¶217: Brazilwood was used in this work to dye wool mordanted with different amounts of copper(II) sulfate, alum and iron(II) sulfate. Two different dyeing methods were used: premordanting (MD) and simultaneous mordanting (M+D) procedures. In order to evaluate the influence of the mordant ion in the brazilein chromophore photodegradation, samples were subjected to artificial light ageing. Color measurements were made and, for the first time, LC-DAD-ESI-MS was used for chromophore analysis of the dyed fibers before and after light exposure. Mordant ion quantification was done after fiber acid digestion, by inductively coupled plasma-optical emission spectroscopy (ICP-OES) and flame atomic absorption spectroscopy (FAAS). Mordant metal ion, mordant bath concentration and dyeing procedure were found to have strong influence in the wool fiber hues. Color variation was more pronounced in the alum dyed samples. Overall, mordant quantification showed that the amount of metal ions found in the fibers is very small when compared to the original concentrations of the dyeing bath, being Cu the ion with greater affinity for the wool fibers. MD dyeing procedure yielded fibers with larger amounts of mordant metal ions and higher chromophore peak areas. Higher amounts of brazilein were extracted from wool mordanted with copper(II) sulfate. Finally, chromatographic analysis of the brazilwood dyed samples before and after light exposure resulted in the detection of Type C compound as an outcome of the photodegradation process.

Reference 126 - 0.09% Coverage

¶218: Theoretical aspects of physical-chemical parameters for the correct conservation of mummies on display in museums and preserved in storage rooms

Reference 127 - 0.30% Coverage

¶219: This study is aimed at evaluating physical and chemical parameters which are considered as the most appropriate for the long-term preservation of mummies, distinguishing between those which are on display in museums and those which are preserved in storage rooms. The objective of this study is also to compare and discuss differences among the most widely known guidelines and norms of the field and to highlight the single phenomena which affect the decay of this kind of cultural asset.

Reference 128 - 0.07% Coverage

¶222: Tannins characterization in historic leathers by complementary analytical techniques ATR-FTIR, UV-Vis and chemical tests

Reference 129 - 0.89% Coverage

¶223: presents a complementary analytical approach to characterize vegetable tanning materials in historic leathers. It is described the application of two molecular spectroscopic techniques, ATR-FTIR and UV-Vis, and three specific chemical tests to analyse tannins present in leathers. Acid butanol, nitrous acid and rhodanine colorimetric tests, evaluated both visually and spectrophotometrically, were used to identify condensed tannins, ellagitannins and gallotannins, respectively. Ten samples of commercial, or laboratory prepared, vegetable tannins and seven new vegetable tanned leathers were also analysed and obtained results were used for comparison. The complete analytical procedure was performed, in a semi-micro-destructive scale, using fibres collected from leather. Analysis of ATR-FTIR and UV spectra of commercial and laboratory prepared vegetable tannins allowed the establishment of the characteristic bands of condensed and hydrolysable tannins and, more specifically, gallotannins. These data were used to confirm the type of vegetable tanning agents used in new leather extracts. The same approach was used in cultural heritage leathers, supported by the colorimetric tests, since protein degradation products were co-extracted in aged leathers and interfered in IR spectra.

¶224: Validating chemical and structural changes in painting materials by principal component analysis of spectroscopic data using internal mineral standards

Reference 130 - 0.96% Coverage

¶225: shows the capability of principal component analysis (PCA) to detect molecular, chemical and mineralogical changes in historic painting materials subjected to a thermal ageing test (< 250 °C). To simulate the heat-induced alterations an ageing accelerated process was performed on two sets of samples containing two mineral phases (hydroxyapatite and quartz) and two organic compounds (collagen and albumin). The chosen minerals behaved as internal standards during the tests since they are stable and chemically inert at the tested temperatures. Raman microscopy (RM) was applied to characterise one set of samples made of bone, containing ca. 70% hydroxyapatite and 30% collagen. Attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectroscopy was used to study the other set of samples made of four different quartz/albumin mixtures with quartz contents of 30%, 50%, 70% and 90% (w/w). The aim was to identify the ideal proportion of internal standard to be validated by ATR-FTIR and PCA, determined to be 70%. PCA analyses detected changes in the molecular structures of the organic components while the internal mineral standard remained stable. Moreover, the internal standard IR/Raman bands were constant during the tests and confirmed that the results of PCA analyses were independent of instrumental and technical factors, as well as sample collecting and handling. This demonstrates the potential benefits of our approach to study historical painting materials, which have suffered any type of heat-induced alteration.

Reference 131 - 0.82% Coverage

¶226: Automated camera network design for 3D modeling of cultural heritage objects

¶227: Image-based modeling is an appropriate technique to create 3D models of cultural heritage objects, which starts with the basic task of designing the camera network. This task is, however, quite crucial in practical applications because it needs a thorough planning and a certain level of experience. The optimal camera network is designed when certain accuracy demands are fulfilled with a reasonable effort, namely keeping the number of camera shots at a minimum. In this study, we report on the development of an automated method for designing the optimal camera network for a given cultural heritage building or statue. Starting from a rough point cloud derived from a video image stream, the initial configuration of the camera network is designed, assuming a high-resolution HR state-of-the-art non-metric camera. To improve the image coverage and accuracy, we use a mathematical non-linear optimization with constraints. Furthermore, synthetic images are created to guide the camera operator to the designed images. From the first experimental test, we found that a target accuracy of 10 mm could be maintained although the initial number of more than 300 high-resolution images got reduced to less than 90 for the final, optimized network.

Reference 132 - 0.68% Coverage

¶229: The research carried out by the different project partners established a new multidisciplinary approach aimed at evaluating the efficiency of the protective glazing systems and their effects on stained glass windows conservation, and finally at assessing the most appropriate strategy to preserve stained glass windows. Scientific results showed that the so-called isothermal glazing (i.e. ventilation by the air coming from the inside of the building) protected efficiently the ancient stained glass window from environmental attack (i.e. rain, pollutants, condensation, thermal shocks) with very limited secondary effects. The scientific research highlighted that its efficiency was strongly related to the technical design of the protective system. In particular, the ventilation and the size of the interspace had to be carefully considered. The research developed within the VIDRIO project was turned into general recommendations to the owners and practitioners on the best practice for the stained glass windows future conservation.

¶230: The scientific investigation for the study and conservation

Reference 133 - 0.50% Coverage

¶231: The samples from the painted surfaces were examined by means of micro-Raman spectroscopy, fourier transform infrared (FTIR) spectrometry and internal microstratigraphic analysis. Thin sections of the wood samples were examined under an optical transmission light microscope in order to identify the botanical species. The results shown in this paper suggest the possibility that the original painted layers are made of calcium carbonate white, red ochre and indigo and they were applied by protein binder without any ground layer. Some non-original pigments were found on the model surface like Prussian blue and chrome yellow. Concerning wood components, poplar was characterized both in the original and non-original parts of the model whereas pine species were detected only in the restoration elements

<Internals\\JCH 2014 abstracts> - § 141 references coded [67.51% Coverage]

Reference 1 - 0.08% Coverage

¶3: Developing a toolkit for mapping and displaying stone alteration on a web-based documentation platform

Reference 2 - 0.71% Coverage

¶4: Its porous stones suffer from degradation problems depending on physical and chemical parameters that are the origin of frequent restorations. The goal of this research is to supply authorities of the castle with a tool for scientific monitoring and decision support, based on the acquisition of alteration mapping and on the estimation of degradation patterns, in order to permit rational programming operations of restorations. This paper proposes an approach for digital documentation about the conservation state of buildings. The approach is based on the connection between a structured 3D model and structured 2D mapping data. In particular, in the NUBES web platform, a specific interface has been implemented, permitting the displaying and cross-reference of 2D mapping data on the 3D model in real time, by means of structured 2D layer-like annotations concerning stone degradation, dating, and material.

Reference 3 - 0.11% Coverage

¶5: Consolidating preservative-treated wood: Combined mechanical performance of boron and polymeric products in wood degraded by Coniophora puteana

Reference 4 - 0.68% Coverage

¶6: The aim of this work is to investigate the mechanical performance of maritime pine wood degraded by fungi after being treated with a biocide followed by impregnation with a polymer product. Three commercially available products were used: a boron water-based biocide, an acrylic consolidant and an epoxy-based consolidant. Treated and consolidated specimens were subjected to mechanical tests: axial compression test (NP 618), static surface hardness (ISO 3350) and bending test (NP 619). Sets of replicates were subjected to an evaporation ageing test (EN 73) after application of the products and also tested for mechanical behaviour. An increase in mechanical strength was observed for both consolidants with no significant influence from the previous use of biocide product. The specimens subjected to ageing showed a slightly better general mechanical performance.

Reference 5 - 0.11% Coverage

¶7: Determination of the experimental conditions of the transglutaminase-mediated restoration of thermal aged silk by orthogonal experiment

Reference 6 - 0.68% Coverage

¶8: Unlike the traditional methods of silk restoration based on the application of synthetic polymers, transglutaminase-mediated polymerization was used as a compatible and innocuous method to reinforce the aged silk fabrics. Artificially aged (dry thermal ageing) silk samples were restored using this method. The optimal experimental conditions of the treatment were determined by orthogonal experiment. The effects of the reaction on silk fibers were investigated by tensile tests, TGA and SDS-

PAGE. The results showed that tensile strength, elongation rate at breakage and thermal stability of the silk samples were remarkably improved by using this method. Biopolymers with a molecular weight of more than 260 kDa were formed in the reaction. From the results of this study, the potential of transglutaminase-mediated polymerization to restore historic silk was demonstrated.

Reference 7 - 0.12% Coverage

¶9: Past, present and future effects of climate change on a wooden inlay bookcase cabinet: A new methodology inspired by the novel European Standard EN 15757:2010

Reference 8 - 0.70% Coverage

¶10: The paper illustrates the methodology used to reconstruct the historic climate, i.e. with proxy data from 1500 to 1715 and from 1716 to 2009 with instrumental observations. For the present, the indoor climate of the exhibition room and the cabinet response have been investigated to remove the perturbing factors that are damaging the cabinet. For the future, the ENSEMBLES model has been used for a probabilistic forecast of the temperature and humidity over the next century, the sustainability and the potential risk for conservation connected with the expected climate change. This research constitutes an example of a novel methodology based on the relevance of the Historic climate, and includes a synergistic effort of climatologists, material scientists and conservators, to be applied for preventive conservation and to evaluate and face the negative impact of the expected climate change.

¶11:
Reference 9 - 0.04% Coverage

¶13: Acrylic copolymer coatings for protection against UV rays

Reference 10 - 0.53% Coverage

¶14: summarizes the basic properties of new acrylic copolymers with UV-absorbing groups (derivates of benzotriazole) bonded in macromolecular chains. These polymers are highly suitable as a material for UV protective coating of artifacts sensitive to natural and/or artificial UV light. Diane type epoxy resin was used as a test organic material with very low resistance to UV radiation. The behavior of new copolymers was compared with the UV protecting ability of Paraloid B72. Based on obtained results, we have chosen the copolymer whose properties were most similar to those of Paraloid B72, but whose protective ability is superior. This copolymer is now commercially available.

Reference 11 - 1.00% Coverage

¶16: A condition assessment tool was used to first quantify the level of deterioration of each panel (called “staging”). Stage estimates then were compared statistically with 27 geochemical and physical descriptors of local environments, such as soil moisture, salinity, pH, lichen coverage, soil anions and cation levels, and panel orientation, slope, and standing height. In parallel, climate modelling was performed using UKCP09 to assess how projected climatic conditions (to 2099) might affect the environmental descriptors most correlated with elevated stone deterioration. Only two descriptors significantly correlated ($P < 0.05$) with increased stage: the standing height of the panel

and the exchangeable cation content of the local soils, although moisture conditions also were potentially influential at some panels. Climate modelling predicts warming temperatures, more seasonally variable precipitation, and increased wind speeds, which hint stone deterioration could accelerate in the future due to increased physiochemical weathering. We recommend key panels be targeted for immediate management intervention, focusing on reducing wind exposures, improving site drainage, and potentially immobilizing soil salts.

¶17: The varnished truth: The recipes and reality of tintype coatings

Reference 12 - 1.03% Coverage

¶18: A collection of 221 tintypes was analyzed using pyrolysis gas chromatography-mass spectrometry (py-GC-MS) to compare the components of actual tintype varnishes with recipes from the historical literature. Several resins in published tintype varnish recipes, including mastic, copal, and amber, are entirely absent from this collection and only five constituents – shellac, Pinaceae resin (Canada balsam or colophony), dammar, sandarac, and camphor – are detected alone or in combination. Each detected resin appears in historical recipes, but just 24% of the samples have varnish layer constituents consistent with published tintype varnish recipes. Forty-four percent of the tintypes have varnish constituents consistent with formulations recommended for other collodion images, but the varnishes of the remaining samples have no direct literature equivalents. The preponderance of shellac- and Pinaceae-based varnishes suggests that these correspond to inexpensive commercial varnishes, but tintypists may have developed their own preferred mixtures or simply used what was at hand. This first in-depth technical analysis of tintype materials suggests that the cheapest and most readily available materials were employed in the varnishing process and that the artists were not bound by literature recommendations.

Reference 13 - 0.08% Coverage

¶21: Occurrence of organic biocides in the air and dust at the Natural History Museum of Rouen, France

Reference 14 - 0.13% Coverage

¶22: Using over 100 years of biocides for preservation of collections of natural history museums has led to significant pollution of specimens and the environment of museums

Reference 15 - 0.09% Coverage

¶22: In this work, we present the results of a screening of volatile and semi-volatile organic compounds in the air and dust

Reference 16 - 0.19% Coverage

¶22: It is shown that the concentration in the air of the different substances is acceptable and below regulatory limits. Nevertheless, concentrations in dust especially for DDT and DDD are high and require special precautions and a regular dusting.

Reference 17 - 0.04% Coverage

¶23: Multi-image 3D reconstruction data evaluation

Reference 18 - 0.32% Coverage

¶24: A number of software solutions based on the Structure-From-Motion (SFM) and Dense Multi-View 3D Reconstruction (DMVR) algorithms have been made recently available. They allow the production of high quality 3D models by using unordered image collections that depict a scene or an object from different viewpoints. In this work, we question the quality of the data produced by a commercial SFM-DMVR software.

Reference 19 - 0.49% Coverage

¶24: We attempted to quantify the quality of the SFM-DMVR data in relation to the data produced by a Time-of-Flight terrestrial 3D range scanner. We have implemented a number of comparisons between different parts of the monument in order to assess the mesh deviations and the reconstruction's accuracy. In order to further ensure the validity of our evaluation phase, we performed additional distance measurements between feature points on the monument's surface by using a total station and empirical measurements. The applicability of the SFM-DMVR method was questioned by creating a complete 3D digital replica of the monument.

¶25:
Reference 20 - 0.50% Coverage

¶26: was studied by several techniques in order to characterize the materials used in the original and in the repainted areas. FORS, light microscopy, ESEM-EDX, ToF-SIMS and GC-MS were used. Red ochre and raw sienna earth were identified by FORS in the original parts of the painting. On the repainted parts of the panel, cinnabar, ultramarine blue and lead white were found. By means of GC-MS and ToF-SIMS measurements it was possible to identify the organic binding media used in the preparatory and painted layers.

¶27: Enhancing the examination workflow for Byzantine icons: Implementation of information technology tools in a traditional context

Reference 21 - 1.53% Coverage

¶28: In the interdisciplinary domain of conservation science, a critical and selective eye is required in order to allow researchers to choose the most effective combination of analytical techniques for each project and, more importantly, to process and analyze the resulting volume of diverse data. The current essay attempts to combine a more traditional workflow for the examination of painted objects with techniques borrowed from the domain of computer science in order to yield the maximum amount of information and make that added knowledge more accessible to the researcher. The project was approached as a case study, regarding a post-Byzantine icon. Three-dimensional digitization with a laser scanning system, X-ray radiography and optical microscopy were applied for the determination of several structural characteristics of the painted surface and the icon's state of preservation. Multispectral imaging was used for the collection of surface spectral

data, which were subsequently processed by means of cluster analysis in a novel approach to map the composition of the painted surface. Finally, micro-X-Ray Fluorescence (μ-XRF) was chosen as the primary source for surface pointwise elemental composition data while Fourier Transform Infrared Spectroscopy (FTIR) and Gas Chromatography coupled with Mass Spectroscopy (GC-MS) provided additional assistance in the characterization of materials based on their molecular structure. A custom platform was developed to address the issue of multilevel visualization and assessment of the data, designed to act as a tool for viewing and combining the acquired information. Via this integrated approach valuable information regarding the icon was revealed, including the verification of a prior conservation attempt and partial overpainting, the recording and quantification of the warping of the wooden panel and, finally, the identification of the constituent materials and their spatial distribution.

Reference 22 - 0.13% Coverage

¶29: Principal component analysis on spectrophotometric and colorimetric data

¶30: Spectrophotometric and colorimetric data obtained during a measurement campaign aimed at supporting

Reference 23 - 1.03% Coverage

¶30: are presented. Special attention was paid to the possible variation of the chromatic coordinates, possibly due to the interventions of cleaning, consolidation, and protection. Data have been analyzed by the Principal Component Analysis (PCA) statistical technique, with the attempt to investigate its role in data variability reduction and verify its effectiveness in interpreting the phenomena occurring on the mosaic surface of the Villa, through grouping the observations into homogenous clusters. Effectiveness in the use of the information provided by the spectrophotometric and colorimetric analyses is strongly related to the immediacy and ease of data reading by the restoration operators for whom the issues concerning the color measurement and its representation are often unfamiliar. This paper analyses data of different mosaic tesserae before/after the cleaning intervention and presents data clustering with PCA. This statistical technique has provided a synoptic scheme capable of improving data interpretation concerning the chromatic behavior of the materials. Moreover, the cluster distribution highlighted by the multivariate analysis made it possible to identify, more clearly, the parameters that mostly contribute to the chromatic shift and to monitor the behavior of variously colored tesserae.

Reference 24 - 0.06% Coverage

¶33: Corrosion monitoring in archives by the electrical resistance technique

Reference 25 - 0.50% Coverage

¶34: It is essential that corrosion monitoring of indoor atmospheres should be highly sensitive, especially, when corrosion rates corresponding to the lowest standard corrosivity categories are supposed to be identified within one or a few days. The electrical resistance technique in combination with high-sensitivity electrical resistance sensors enabled detection of a corrosion loss on an atomic scale. Case studies have demonstrated the sensors' ability to timely inform the users

about changes in the atmosphere quality. In confrontation with quartz crystal microbalance technique, resistometric sensors provided better explainable data.

Reference 26 - 0.05% Coverage

¶35: State of conservation assessment by a Hybrid ultrasonic method

Reference 27 - 0.53% Coverage

¶36: The non-destructive inspection of these structures is very important, but traditional inspection techniques are usually limited in resolution, which may be a problem for detection of defects at a very early stage. The paper presents the development and application of a high-resolution inspection technique based on a hybrid ultrasonic method, where a contact emitter probe and a non-contact air-coupled receiver probe are used. Results show the effectiveness of the method on laboratory samples and propose an inspection procedure for in-field application.

¶37: Rising moisture, salts and electrokinetic effects in ancient masonries: From laboratory testing to on-site monitoring

Reference 28 - 0.70% Coverage

¶38: The investigation of capillary water rise mechanisms in old masonries is of great practical interest, as well as the investigation of the electrical effects accompanying such phenomenon. In fact, moisture presence facilitates all the decay processes in porous building materials and strongly threatens the preservation of materials in architectural heritage. Previous papers have shown that performing a correct and accurate measurement of spontaneous electric potential in masonries is very challenging due to several variables influencing these phenomena, such as materials microstructure, soluble salts nature and amount. In this paper, the influence of mortar joints on the capillary water rise and on the related electrokinetic effects was investigated on laboratory assemblies; then, the same measuring procedure was applied on site to a real XVI Cent. masonry building affected by rising damp.

Reference 29 - 0.07% Coverage

¶39: Wall base ventilation system to treat rising damp: The influence of the size of the channels

Reference 30 - 0.70% Coverage

¶40: The treatment techniques available nowadays are quite diverse but all of them have low applicability to historic constructions. Research has been carried out, in this past years, at the Department of Civil Engineering of the University of Coimbra in collaboration with Department of Civil Engineering of the Faculty of Engineering of the University of Porto to try and solve this problem. An old but poorly studied technique has been investigated experimentally and numerically in the past few years: ventilation of the base of the walls. It was experimentally validated to limestone walls 20 cm thick. Numerical investigation has been carried out in order to analyze the influence of different parameters on its efficiency. In this paper we present the results of the latest

investigations that have been carried out about the influence of the size of the ventilation channel on its efficiency.

Reference 31 - 0.06% Coverage

¶41: Re-treatment of whale bones – How to extract degraded fats from weakened bones?

Reference 32 - 1.58% Coverage

¶42: Many whale (baleen whale or toothed whale) skeletons still contain residual lipids even after an initial osteological preparation. This paper examines the different possibilities of re-treatment. Before a conservation intervention, it was necessary to determine the materials of which bones are made up. The samples were analyzed by Raman spectroscopy. Different compounds were identified: a mineral part (apatite), an organic part (collagen) and lipids. Chromatography analysis yielded a detailed composition of the lipids. It was in fact degraded fat with saturated and unsaturated fatty acids. To remove these lipids, several techniques were identified and tested: enzymatic treatments, supercritical CO2, and green or organic solvents. Esterification catalyzed by lipases could be suitable for a degreasing treatment since the solubility of esters is higher than that of the corresponding fatty acids. The enzymatic treatment acted only on the surface and did not appear to be very efficient. The use of supercritical CO2 was even less effective. Some green solvents can partially extract lipids but prove difficult to eliminate after treatment. The best results for degreasing were achieved using organic solvents. Different solutions were evaluated at hot or ambient temperature and in simple immersion or with agitation (Soxhlet or pulsed pressure): hexane, heptane, a mixture of hexane/isopropanol, or an azeotropic mixture of methanol/chloroform. Only the mixture of methanol/chloroform succeeded in extracting the overall fat content, but this treatment degraded the organic part of the bones. The other organic solvents extracted mainly colored fat, which generally corresponded to a weight loss of 20 to 50%. The majority of fat was extracted during the first bath. Thus the treatment selected is that of immersion in heptane at ambient temperature. The degreasing of whole bones is less effective because of the film of sticky degraded fat on the bone's surface. A pre-cleaning is necessary to eliminate this film.

Reference 33 - 0.09% Coverage

¶43: An analytical study of polypropylene as a support for paint layers. From concept to material in contemporary art

Reference 34 - 0.73% Coverage

¶44: In recent years, he has used a synthetic polymer as a support for his art work, namely polypropylene. The behaviour of this material in combination with layers of oil paint has not been studied until now. One of the objectives of this study was to chemically characterise the material present in Jordi Teixidor's work, using FT-IR spectroscopy, in order to be able to examine the behaviour of this set of materials after undergoing cycles of accelerated aging. After subjecting the samples to temperature and relative humidity cycles and ultraviolet radiation, their physico-mechanical behaviour was determined via tensile and bend tests, with the results being processed further by means of spectroscopic techniques and colour measurements. It was found that the

possible migration of the additives present in the PP support and the gradual degradation of the materials could affect the adherence between the paint layers in the future.

Reference 35 - 0.05% Coverage

¶45: The identification of organic additives in traditional lime mortar

Reference 36 - 0.62% Coverage

¶46: So, the understanding of the components of original lime mortar which remained in ancient sites is of fundamental significance. In this work a set of analytical procedures to identify the organic additives in lime mortars by classical chemical analysis is proposed. The results show that using iodine-potassium iodide reagent, Benedict's reagent, reduction phenolphthalein reagent, Coomassie brilliant blue and sodium periodate oxidation glycerin acetyl acetone method could effectively detect a small amount of starch, reducing sugar, blood, protein and fatty acid ester that remained in ancient buildings' lime mortars, respectively. These analytical methods are easy to operate with low detection limit, high accuracy and some other advantages.

¶47: Consolidation and protection by nanolime

Reference 37 - 0.54% Coverage

¶48: Nanolime dispersed in 2-propanol was extensively used for the consolidation of wall paintings. The knowledge of the advances of this methodology dealing with all the possible effects associated with the nanolime new material in conservation is fundamental to assess and improve the technique. In this paper, four different dispersions of Ca(OH)2 nanoparticles were characterised by Small Angle X-rays Scattering technique (SAXS) and Transmission Electron Microscopy (TEM) in order to achieve information on size, shape, polydispersity, agglomeration, and crystal structure (by SAED patterns) of the particles. Once characterised, the dispersions were tested in two different case studies

Reference 38 - 0.68% Coverage

¶48: The treated samples were characterised in relationship to either their morphology and surface chemical composition by Scanning Electron Microscopy coupled with Energy Dispersive X-rays spectroscopy (SEM-EDX), or their water absorption and mechanical properties (resistance to material abrasion). The results obtained showed that all the dispersions were nanometrically structured and their application succeeded in recovering the mechanical properties of the painting or graffito layers, not altering their permeability to water and keeping perfectly the wall transpiration. However, the dispersions constituted of the nanoparticles obtained via a synthesis able to control size and shape of the Ca(OH)2 particles resulted in a better performance in situ, even if the differences found by SAXS and TEM were slight.

¶49: Deacidification of paper relics by plasma technology

Reference 39 - 0.45% Coverage

¶50: With the acidification of paper and paper-containing relics becoming increasingly serious, a convenient, effective and harmless method for deacidification has become an urgent necessity in the protection of paper relics. In this research, a novel method for reducing the acidity of paper by plasma technology is presented, which can be used simply at room temperature and atmospheric pressure. The pH of the paper rises to alkalescence rapidly after treatment and remains stable with no color change, with a slight accompanying increase in the mechanical properties of the paper.

Reference 40 - 0.09% Coverage

¶51: Use of ZnO nanoparticles for protecting oil paintings on paper support against dirt, fungal attack, and UV aging

Reference 41 - 0.74% Coverage

¶52: Zinc oxide nanoparticles were prepared and used for surface treatment of oil paintings painted on paper supports. The prepared coating mixture containing 2% of ZnO nanoparticles showed excellent transparency. The effect of coating on protecting the paper support and paintings against microbial attack by Trichoderma reesei and Aspergillus niger, dirt accumulation, and UV aging was studied. Coatings containing ZnO nanoparticles enhanced the durability of linseed oil-based paintings toward UV aging regarding the change in color. Coatings containing ZnO nanoparticles improved resistance to microbial attack when subjected to inoculums containing T. reesei or A. niger fungi. In addition, coatings containing ZnO nanoparticles reduced accumulation of dirt on oil paintings when left in open air for 6 months; cleaning of paintings was quite easy compared to the non-coated paintings or those coated with the varnish without ZnO nanoparticles.

Reference 42 - 0.06% Coverage

¶53: 3D reconstruction of small sized objects from a sequence of multi-focused images

Reference 43 - 1.12% Coverage

¶54: 3D reconstructions of small objects are more and more frequently employed in several disciplines such as medicine, archaeology, restoration of cultural heritage, forensics, etc. The capability of performing accurate analyses directly on a three-dimensional surface allows for a significant improvement in the accuracy of the measurements, which are otherwise performed on 2D images acquired through a microscope. In this work we present a new methodology for the 3D reconstruction of small sized objects based on a multi-view passive stereo technique applied on a sequence of macro images. The resolving power of macro lenses makes them ideal for photogrammetric applications, but the very small depth of field is their biggest limit. Our approach solves this issue by using an image fusion algorithm to extend the depth of field of the images used in the photogrammetric process. The paper aims to overcome the problems related to the use of macro lenses in photogrammetry, showing how it is possible to retrieve the camera calibration parameters of the sharp images by using an open source Structure from Motion software. Our approach has been tested on two case studies, on objects with a bounding box diagonal ranging from 13.5 mm to 41 mm. The accuracy analysis, performed on certified gauge blocks, demonstrates

that the experimental setup returns a 3D model with an accuracy that can reach the 0.05% of the bounding box diagonal.

Reference 44 - 0.08% Coverage

¶55: Cartographic heritage: Toward unconventional methods for quantitative analysis of pre-geodetic maps

Reference 45 - 1.66% Coverage

¶56: In such a way, modern digital techniques, in particular study of map deformations and map georeferencing, help in metric analysis of ancient cartography, and at last they appear to be useful for researchers to derive historical information for their studies, for example related to urban development or to geomorphological and environmental topics. The present research would give an example of the usefulness of the digital regeneration of ancient cartography, but also an example of possible difficulties in correctly interpreting information preserved in historical cartography, especially the pre-geodetic one. The study subject consists in three contemporaneous pre-geodetic maps (late 16th century) from the ancient Po river delta area (Italy), by means of which a geometrically correct representation of those parts of the landscape, not preserved today because of sea erosion, was tried. In fact, standard georeferencing methods, that use reference control points to compare historical cartography with the present one, in this specific case demonstrated to be not successful in describing the real location of disappeared landscape details with an adequate level of accuracy. For these reasons, in order to define which map among the others was the most faithful to the contemporaneous physical reality, a compound methodology, consisting of a three-step analytical process, is here applied to the three samples. Starting from measurement of sighting angles and distances applied to a number of landmarks, a splitting of the old maps in sub-areas, probably corresponding to the set of original surveyed zones, was performed. In the area of main concern, the use of absolute measurements was avoided in order to check the level of inner congruence of the representation. Finally, a new specific error index, that can also be applied to maps lacking an explicit graphical scale, is proposed to evaluate the map truthfulness degree. The proposed method can be applied to other similar examples from ancient cartography.

¶57: Using 3D digital models for the virtual restoration of polychrome in interesting cultural sites

Reference 46 - 0.54% Coverage

¶58: Three-dimensional digitalization and modelling is proved to be the basis for the virtual recovery of paintings in a significant edifice. To do so, an innovative methodology is presented that allows the 3D geometric information of a site (captured using a laser scanner) to be combined with specially designed 2D artistic images. The resulting 3D digital models can then be focused, with high efficiency projectors, on the equivalent area of the original site, and also used as raw material to compose a video-projection without perspective effects to emulate, with due rigour, the primitive appearance, its evolution along time, the effects of the deterioration, or other interesting aspects

Reference 47 - 0.21% Coverage

¶58: are presented, supporting the potential of this new methodology not only as a scientific way to discuss possible restoration hypotheses with experts or as a didactic tool for narrating the historical evolution of a monument, but also as a spectacular show for tourists.

Reference 48 - 0.12% Coverage

¶59: A qualitative method for combining thermal imprints to emerging weak points of ancient wall structures by passive infrared thermography – A case study

Reference 49 - 0.41% Coverage

¶60: On the basis of the surveys carried out by the Las.e.r. Laboratory (university of L'Aquila) before and after 2009 earthquake, this paper introduces the infrared thermography (IRT) as a mean to characterize particular thermal imprints that appear on ancient facades, employing the passive thermography, discussing the infrared images collected during several years, and analyzing their relationship with all kinds of influence factors, in order to validate the effectiveness of the technique and its role in preventive diagnosis.

Reference 50 - 0.62% Coverage

¶62: For selection of the most appropriate type of slate to use in the restoration of historical slate roofing, we propose the following steps: a) study of the roof's state, b) spectrophotometric determination of the texture and colour of the original slate, c) petrographic study and determination of the weatherability of the replacement slate, and d) location of the original slate quarry area. With all these data it is possible to choose the most suitable type of commercial slate for replacing the original slate. Thus, even in the absence of historical information, with this four-stage process a replacement slate for building restoration can still be selected on clear and justifiable grounds. The present article uses this methodology to examine two case studies of roofing slate restoration.

Reference 51 - 0.56% Coverage

¶66: were radiocarbon dated by accelerator mass spectrometry (AMS) and examined for physical and chemical changes to assess the degree of degradation. The analyzed woods were dated to the 2nd half of the twelfth – 1st half of the thirteenth centuries AD. The results of all the used methods (maximum water content, basic density, shrinkage, XRD analysis and holocellulose content) indicated a low level of degradation in the inner part of the wooden find. The outer and middle part, on the other hand, showed a greater degradation level. An important result is the identification of a not homogeneous degradation in the different parts of the examined wooden block, which will affect the design of the consolidating treatment.

Reference 52 - 0.08% Coverage

¶68: Mineralogical and microstructural characteristics of historic Roman cement renders from Budapest, Hungary

Reference 53 - 1.59% Coverage

¶69: This paper deals with the chemical-mineralogical and microstructural characterisation of historic Roman cement renders from Budapest, Hungary. Different microscopic techniques were used on polished thin sections and fracture surfaces in order to understand the method of producing these renders and the effect of urban pollution on them. The renders exhibited characteristics typical to a Roman cement mortar, such as high binder to aggregate ratios (b/a), mostly fine-grained aggregates and high capillary porosity, but without the shrinkage cracks that are also normally present. This research suggests that coarse residual cement grains may have acted in a manner similar to aggregates by absorbing stress and thereby reducing the formation of shrinkage cracks. Based on the mineral characteristics of residual cement grains, the samples could be divided into two groups, which correspond to either a higher or lower temperature of calcination of the original source material of the cement. Chemical characteristics of the binders suggest the presence of intermixed CaCO3 originating from the carbonation of hydration products and partly from residual calcium carbonate of the raw material. Despite dense and often impermeable coats applied in later renovations and exposure to a polluted urban environment, which resulted in formation of gypsum on the surface of the renders, the samples show good to excellent state of preservation after more than a century. The strong “house of cards”-like arrangement of the complex C-(A)-S-H-type phases is responsible for both the high capillary porosity and the good resistance of Roman cement renders to atmospheric pollution and potentially damaging salts such as Na- and K-chlorides which are found near the base of the building due to sidewalk de-icing. These results help to better understand the behaviour of historic Roman cement renders, which in turn assists in making good decisions in choosing a repair material to future restorations of 19th century façades built with this material.

Reference 54 - 0.96% Coverage

¶71: Leaves of common deciduous trees: the horse chestnut (Aesculus hippocastanum) and linden (Tilia spp.) from the park, near one of the most important cultural institutions, the National Library of Serbia, were studied as bioaccumulators of heavy metal (Cr, Fe, Ni, Zn, Pb, Cu, V, As and Cd) air pollution. The leaf samples were collected from the urban park exposed to the exhaust of heavy traffic. The May–September heavy metal accumulation in the leaves, and their temporal trends, were assayed in a multi-year period (2002–2006). Comparing the obtained concentration of the investigated elements from the beginning to the end of growing seasons, a significant rate of accumulation was determined for a majority of measured elements, and it was concluded that these tree species (horse chestnut and linden) can be used as bioaccumulators of the investigated heavy metals. The SEM-EDAX analysis of individual particles deposited on the leaves showed that the 50–60% belong to a class of fine particles (D < 2 μm), mainly of anthropogenic origin. Thus, the investigated tree species could be grown as a natural barrier against urban air pollution in the vicinity of libraries, museums and other buildings for cultural heritage storage.

Reference 55 - 0.13% Coverage

¶73: A methodological framework is proposed for the production, digitization, authoring and presentation of audiovisual (AV) content, related to traditional music and dances

Reference 56 - 0.32% Coverage

¶73: The proposed methodology has been implemented on the occasion of a folk-heritage multilingual DVD video production and its enhanced Web-TV edition1. The paper brings forward novel theoretical, technical and mostly methodological guidelines in preserving and disseminating CH, using state of the art AV production technologies.

¶74: Methyl–modified hybrid organic-inorganic coatings for the conservation of copper

Reference 57 - 0.75% Coverage

¶75: A simple sol-gel technique for the preparation of methyl–modified silica coatings for the protection of the external surface of copper has been used in this study. Tetraethylorthosilicate (TEOS) has been used as a precursor to prepare nanosilica coatings on the surface of copper. The methyl–modified silica sols were obtained by mixing of 3% SiO2 sol solution with trimethylchlorosilane (TMCS) or hexamethyldisilozane (HMDS) as basic materials. For comparison, the copper substrates were also coated with commercial polymers (Paraloid B 72, Plexisol P 550-40 and polyvinyl butyral (PVB)). The surface morphology changes of uncoated and coated specimens were investigated by atomic force microscopy (AFM) and scanning electron microscopy (SEM). The hydrophobicity of surfaces and photochemical ageing effects were evaluated by contact angle measurements. Potentiodynamic measurements were obtained in order to compare corrosion parameters of the coatings.

Reference 58 - 0.06% Coverage

¶76: A visible and long-wavelength photocured epoxy coating for stone protection

Reference 59 - 0.98% Coverage

¶77: An epoxy coating modified by PDMS hydroxyl terminated is presented in this paper in order to evaluate its potential use as a protective of a stone surface. With a view to its use in restoration sites, visible and long-wavelength photoinitiated cationic polymerization is proposed here. The system investigated is based on a crosslinking mechanism which shows remarkable advantages for stone protection, such as the low toxicity of the products and facility of mixture preparation. Furthermore, the visible light exploitation represents the most important advantage, because it is easy to apply in a restoration site, with or without irradiation instruments. Besides coating characterization through FT-IR, DMTA analyses and contact angle measurement on glass slides, analyses were also carried out on coated plaster samples. These analyses were performed in order to evaluate the effectiveness of the protective, in relationship to hydrophobicity (contact angle measurement, capillary water absorption) and morphology surface changing (SE/SEM observations, colorimetric measurements) before and after polymer application and UV aging test of coated samples. The overall characterization makes it possible to consider it a suitable coating for stone protection.

Reference 60 - 0.05% Coverage

¶78: Femtosecond laser cleaning of historical paper with sizing

Reference 61 - 1.12% Coverage

¶79: Lasers have served as cleaning tools for historical objects and artworks for about 40 years. In many cases, superior results of laser cleaning were achieved with respect to traditional methods. In this technique, contaminations on the surface of the object are ablated by laser irradiation. In order to apply laser cleaning method to fragile materials such as paper made of cellulose or parchment, heat deposition to the bulk should be minimal, to prevent damage. In this work, it is demonstrated that laser pulses with femtosecond (fs) duration can exhibit non-thermal ablation of contaminants on paper samples. In particular, laser cleaning studies are concentrated on paper samples with sizing. Fs laser cleaning is performed on artificially soiled and aged samples, as well as on historical ones. The laser used in the experiments has pulse duration of 550 fs and 1030 nm center wavelength. The fluence of the laser is varied and the post-cleaning statuses of samples are investigated. The analyses are color changes, fiber integrity, chemical composition changes and mechanical strengths. These results show that fs lasers can be very efficient in cleaning paper samples, yielding minimal discoloration and no damage to fibers distinguishable on microscopic examination. The presence of sizing also provides further protection against possible side effects.

¶80: Historical pigments characterisation by quantitative X-ray fluorescence

Reference 62 - 0.83% Coverage

¶81: Most of the historical paints are mainly constituted by inorganic pigments, either pure or mixed, spread on the surfaces using different binding agents. The knowledge of the exact amount of different constituents of the paint, as well as of the mixing and pictorial techniques, is crucial for a careful program of conservation of polychrome works. Moreover, since the availability of these pigments has been changing through the centuries, their identification and chemical characterisation is useful to acquire or deepen information about the artist and his/her work. This information can also be useful for authentication purposes through relative dating because the identification of one pigment respect to another one can be used as a terminus post quem or ante quem the artwork was realized. In this work, X-ray fluorescence data from historical pigments, both pure and mixed, will be presented, in order to obtain quantitative information on the samples and to extract calibration curves to the aim of evaluating the pigment concentration in unknown mixtures.

Reference 63 - 0.20% Coverage

¶83: The paper presents a synergic and multidisciplinary approach where laser scanner survey, radar interferometric monitoring and finite element (FE) numerical modelling are used for expeditious and no-contact dynamic identification of monumental masonry towers

Reference 64 - 0.63% Coverage

¶83: The tower geometry was acquired through Terrestrial Laser Scanning (TLS) techniques. The tower oscillations were detected using an interferometric radar in “Piazza del Campo”, the square facing the Mangia's Tower, along three alignments, and movement of the structure at several heights were recorded. A FE model, built on the basis of the geometry acquired through the TLS, was used to interpret and verify the physical meaning of the experimental results. Through the discussion of the case study, the paper shows that the proposed approach can be considered as an

effective and expeditious method for assessing the dynamic behavior of monumental buildings (and to plan interventions) on territorial scale.

¶84: Chinese archaeological artefacts: Microstructure and corrosion behaviour of high-leaded bronzes

Reference 65 - 1.05% Coverage

¶85: Metallographic features of ancient bronze artefacts often hide peculiar micro-chemical processes and corrosion behaviours, which are worth to be studied as they can provide conservators and archaeologists with valuable tools and information. It is widely documented that Chinese bronzes were cast and the way to adjust their properties was to change the alloy composition. In particular, addition of lead, which is insoluble in the bronze matrix, results in the formation of inclusions or globules, which undergo oxidation processes leading to their conversion into corrosion products. The mechanisms through which this occurs were still poorly investigated. The present work was conducted to further study the corrosion behaviour of high-leaded bronze, especially focusing on the behaviour of lead globules. To this aim, a collection of Chinese archaeological bronzes, showing intermediate steps of degradation, were selected and investigated. The use of combined microscopy-based, molecular and elemental, analytical techniques allowed the characterization as well as the precise location of corrosion products, thus enabling us to propose a degradation pathway basing on thermodynamic data provided by Pourbaix diagram. The achieved results will be useful for researchers involved in these kinds of studies to better interpret data obtained

Reference 66 - 0.11% Coverage

¶86: Unveiling the colour palette of Arraiolos carpets: Material study of carpets from the 17th to 19th century period by HPLC-DAD-MS and ICP-MS

Reference 67 - 0.86% Coverage

¶87: were analysed to identify the natural dyes and mordants employed in the traditional dyeing process, in a way to complement and improve actual knowledge on this rugs. Natural dyes were extracted from Arraiolos historical wool fibres using a mild extraction method, followed by high-performance liquid chromatography with diode array and mass spectrometry detection (HPLC-DAD-MS) for compound identification. Colourimetry was used to measure colour parameters in all historical samples. Quantification of mordants in the historical fibres was carried out by inductively coupled plasma-mass spectrometry (ICP-MS). Weld, indigo, spurge flax, brazilwood, madder and cochineal were identified as dye sources in the fibres. Alum was the most commonly used mordant, but the presence of iron and zinc was also detected in some darker samples. The use of madder and cochineal is not referred in the available historical dyeing recipes. This study also proved that the actual visual perception of these carpets is strongly affected by the natural dyes photodegradation, which was mostly unaccounted for before.

Reference 68 - 0.05% Coverage

¶88: Characterization of the organic materials used in the painting

Reference 69 - 0.67% Coverage

¶89: This paper presents the first attempt to identify the organic materials used by the Moroccan artisans. A GC/MS analytical procedure was used for the characterization of lipids, waxes, resins, pitch, tar, proteinaceous and saccharide materials in the same paint micro-sample. The analytical study identified the organic materials used in the polychrome and gilded decorations of the walls, ceiling and dome of the hall. Data showed that the polychrome decorations were painted using animal glue as a binder, and highlighted the treatment of the wall surface with linseed oil and the retouching of the paintings based on a saccharide binder. The use of a proteinaceous-resinous-oil mixture, applied on a proteinaceous preparation layer, for the gilded decorations revealed a very similar technique to that used at the time in Europe for mural paintings.

¶90:
Reference 70 - 0.04% Coverage

¶91: the work related to the 3D reconstruction of the scene

Reference 71 - 1.43% Coverage

¶93: This stone is suffering a severe delamination and scaling, which has, in the course of the centuries, led to a considerable material loss from the surface of some of the stone elements. In order to identify the damage process and define a sound basis for the conservation of the monument, a research plan was set-up including, next to the tests and analyses on the stone, a 1-year monitoring of the microclimate in the church and the investigation of the structure of the monument as well as its connections to the adjacent walls. First of all, the stone type was identified by macroscopic features and by thin section microscopy. The moisture distribution in the monument and in the adjacent walls was gravimetrically determined on samples taken at different height and depths. The content and type of salt in the Tournai stone from the monument were determined by X-ray diffraction and ion chromatography, and the results compared to those obtained for the fresh stone. The analyses showed the presence of considerable amount of gypsum, together with a low content of soluble salts (chlorides and nitrates). The SEM-EDS observations showed that gypsum is mainly crystallizing in cracks between the layers of the material. The damage mechanism and the influence of salt on the decay were further investigated by combining hygroscopic moisture uptake, hygric dilation (RH cycles between 50% and 95% RH) measurements and SEM-EDS observations; all measurements were performed both on stone sampled from the monument and, as comparison, on fresh stone specimens. The results show that gypsum is the main salt present, but its role in the damage is not significant. The naturally thin laminated structure of the stone together with the considerable hygric dilation seem to be the main causes of the delamination observed in this stone.

Reference 72 - 0.08% Coverage

¶98: A note on Chinese Bamboo paper: The impact of modern manufacturing processes on its photostability

Reference 73 - 0.80% Coverage

¶99: Following our previous approach on Xuan paper, four modern Bamboo papers manufactured using traditional or chemically-facilitated techniques were artificially aged by UVA radiation and changes to their optical properties were evaluated by reflectance and 3D-fluorescence spectroscopies. Paper samples produced by different methods displayed different fluorescence spectra and UVA photolysis of paper resulted in decreases in the fluorescence intensities and reflectance values, manifested as differing photoyellowing of the papers. Assays of reactive oxygen species, ROS, revealed that papers made by chemically-assisted pulping methods generally produce more hydrogen peroxide or superoxide radicals than those made by traditional methods, which correlates with their relative yellowing rates. Different spatial distributions of calcium and chlorine were also observed by SEM/EDS analysis in the chemically-manufactured papers, probably arising from the specific pulping and/or bleaching chemicals used in their manufacture.

Reference 74 - 0.07% Coverage

¶100: Diethyl oxalate as a new potential conservation product for decayed carbonatic substrates

Reference 75 - 0.62% Coverage

¶101: shows the first results of a study concerning the development of a new method for the consolidation of decayed carbonatic matrices. On the basis of the results achieved with ammonium oxalate, the authors tested a different mechanism to crystallize calcium oxalate phases in calcium carbonate substrate using diethyl oxalate solution. Raman spectroscopy provided a significant analytical support on the study of diethyl oxalate hydrolysis allowing to monitor the reaction and to suppose the occurrence of a reaction intermediate. The investigation of the newly-formed calcium oxalate phases after the reaction of diethyl oxalate with calcite powder allowed to verify the reactivity of the proposed solution and to highlight the crystallization of caoxite, an uncommon calcium oxalate phase.

Reference 76 - 0.03% Coverage

¶103: Combined tannate/decanoate coatings

Reference 77 - 0.50% Coverage

¶104: This study focused on tannate and decanoate coatings on iron surfaces and their potential combinations. The properties of the coatings were evaluated using a broad range of methods: spectrophotometry, contact angles measurement, impedance spectroscopy, mass gain, glow discharge optical emission spectroscopy (GD-OES), resistometry, and exposure experiments complete with digital image analysis. A decanoate coating was superior in a humid environment (low wettability and water vapour permeability) than tannate. A combined coating, with tannate deposited initially and then sealed in a decanoate bath, appeared to provide an ideal coating.

Reference 78 - 0.11% Coverage

¶105: A Bacillus subtilis cell fraction (BCF) inducing calcium carbonate precipitation: Biotechnological perspectives for monumental stone reinforcement

Reference 79 - 0.68% Coverage

¶106: Monumental stone decay is a consequence of the weathering action of physical, chemical and biological factors, which induce a progressive increase in porosity. To cope this degradation, bacterial calcium carbonate mineralization has been proposed as a tool for the conservation of monumental calcareous stones. The advantage of this kind of treatment is to obtain a mineral product similar to the stone substrate, mimicking the natural process responsible for stone formation. In this work, the possibility to induce CaCO3 mineralization by a bacteria-mediated system in absence of viable cells was investigated and tested on stone. Our results showed that Bacillus subtilis dead cells as wells as its bacterial cell wall fraction (BCF) can act as calcite crystallization nuclei in solution. BCF consolidating capability was further tested in laboratory on slab stones

Reference 80 - 0.24% Coverage

¶106: New crystals formation was observed inside pores and significant decrease in water absorption (up to 16.7%) in BCF treated samples. A little cohesion increase was observed in the treated area of the Angera Church, showing the potential of this application, even though further improvements are needed.

¶107:
Reference 81 - 0.61% Coverage

¶108: therefore, it was considered relevant to evaluate and synthetize different stone consolidants that could be applied in the regional weather conditions and renew the stability of those buildings; since the commercial products are developed and tested in foreign countries, and in some cases, when applied under the weather conditions of Mexico, the results differ from those reported. For the altered tuffs from Santa Mónica's Church in Guadalajara, Mexico, the deterioration mechanism of the local tuff was determined, thus a silicate and aluminosilicate consolidants were synthesized by the sol-gel method and applied to altered tuffs in order to evaluate their performance from structural to macroscopic level.

¶109: Conservation of paper relics by electrospun PVDF fiber membranes

Reference 82 - 0.64% Coverage

¶110: Electrostatic spinning (electrospinning) is a useful technique for producing ultrafine fibers with large specific surface areas and porous structures. Polyvinylidene fluoride (PVDF) is a chemically stable material with extraordinary properties. In this research, PVDF fiber membranes were produced directly on paper surfaces by electrospinning to protect brittle paper relics from environmental damage. Tensile strength and elongation tests for paper with and without the deposited PVDF membranes show that the PVDF fiber membranes can effectively protect paper under an externally applied force under both ambient and aging conditions. Water, insects, dust and mould can be isolated by the compact fiber structure while common gases can pass through freely to maintain a favorable environment for the paper relics.

Reference 83 - 0.10% Coverage

¶111: First experiments for the use of microblasting technique with powdered cellulose as a new tool for dry cleaning artworks on paper

Reference 84 - 0.82% Coverage

¶112: This research evaluates the use of microblasting technique with powdered cellulose as a new tool for dry cleaning documents. Different cleaning tests were conducted on three documents with different properties following this new approach and the results were compared to those obtained with traditional dry cleaning with erasers. In order to assess changes caused to the supports, the treated documents were examined both before and after cleaning with optical and 3D stereomicroscopy, SEM-EDS and spectrophotometry. The results allow the conclusion that microblasting with powdered cellulose is a feasible technique to remove surface dirt or grime on paper documents. This research proves that the new use of the technique does not entail changes to the surface properties of the treated supports. Moreover, powdered cellulose is chemically stable and compatible with paper documents, preventing negative long-term effects derived from the presence of rubber residues that may remain in paper fibres when using erasers in dry cleaning treatments.

Reference 85 - 0.06% Coverage

¶113: The influence of pollutants on accelerated ageing of parchment with iron gall inks

Reference 86 - 1.06% Coverage

¶114: Moist heat (100 °C in closed vessels) and pollutants (SO2 or NOx, 100 °C) techniques of accelerated ageing were applied in stability investigation of iron gall inks on parchment. The measured characteristics on parchment samples coated with inks (made of iron(II) sulfate and gallic acid or tannic acid in various ratios) reflected their chemical, optical and spectroscopic attributes. Decrease of surface pH values was measured for all samples, especially after ageing with SO2. The results obtained, comparing the non-aged samples with those aged upon heat and pollutants, revealed the decrease of lightness L* and the increase of chromatic coordinate b* for all six ink layers. These differences in b* were dominantly reflected in values of total color difference (, CIE L*a*b*). The variations in UV/VIS reflectance spectra and evidenced the considerable damage of inks exposed to accelerated ageing, especially for inks prepared with excess of acid to iron. FTIR spectroscopic measurements of parchment showed that accelerated ageing procedures caused changes in structure and arrangement of collagen, and the formation of oxidation products in parchment during the accelerated ageing was stimulated by presence of inks. EPR spectra of parchment coated with inks showed the paramagnetic signals of various Fe(III) species ions in different coordination.

Reference 87 - 0.06% Coverage

¶115: Optimized anti-vibratory system for stretched canvas artwork hanging in a museum

Reference 88 - 0.68% Coverage

¶116: To prevent the deterioration of artwork on stretched canvas in a museum, it is often necessary to neutralize the transmission of vibrations from sources such as the wall or the floor. An anti-vibratory system easily optimizes vibrations that are transmitted from the floor because the artwork's motion occurs in vertical translation. Hanging artwork, which receives vibrations from the wall, presents a more complex case because the motion consists of a translation and a rotation. This paper presents a model to determine a cutting frequency above which vibrations transmitted to the artwork are lowered. A procedure to obtain the parameters of this model is also presented. Experiments in a laboratory and in the Louvre Museum validate the predicted cutting frequency given by the model. A downloadable spreadsheet is available to apply this method to specific artwork.

Reference 89 - 1.25% Coverage

¶118: Since 2004 an international research group of Wood Technologists has been given by the Louvre Museum the task of analysing the hygro-mechanical state of the Poplar (Populus alba L.) panel on which Leonardo da Vinci painted his “Mona Lisa”, namely verifying the appropriateness of the thermo-hygrometric conditions in its exhibiting showcase, where the microclimate is actively controlled, and assessing the potential consequences of any hypothetical fluctuation. In order to acquire data about the mechanical behaviour of the panel, and to feed and calibrate appropriate simulation models, the team has not only set up a continuous monitoring by means of automatic equipment, but has also performed manual measurements on the occasion of the annual openings of the showcase where the masterpiece is conserved and exhibited. This paper reports about techniques used for estimating the forces acting between the wooden panel and its frame (the châssis-cadre), and their location, such data being of primary importance for evaluating the panel's internal stresses. The contact forces have been calculated on the basis of the local contact pressures, imprinted on a pressure-sensitive foil as a range of saturation values of the colour developed in the contact areas. The forces calculated as above have also been compared with the contact forces between the panel's back face and the crossbeams pressing it against the châssis-cadre, which have been measured by means of a load cell. As could be expected, the results from so different techniques do not strictly coincide; however the agreement is fairly good.

Reference 90 - 0.06% Coverage

¶119: Different methods for soluble salt removal tested on late-Roman cooking ware

Reference 91 - 0.13% Coverage

¶120: This paper deals with the comparative evaluation of different procedures of salt extraction designed for archaeological ceramics from submarine burial environments.

Reference 92 - 1.02% Coverage

¶120: The studied ceramic test-pieces were first recognised in terms of bulk characteristics (mineralogy, petrography and chemistry). SEM-EDS observation allowed verification of the presence of various secondary minerals at the surface and in the pore spaces formed after the prolonged permanence in seawater under oxidising or reducing conditions. Pore-size distribution was also

determined in the same fragments that had been subjected to the salt extraction routines. Three salt extraction methods were tested: two methods based on diffusion processes (water immersion under stationary conditions and under mechanical stirring conditions) and one method based on both diffusive and advective processes (multiple packages of sepiolite). The obtained experimental data allowed us to identify strengths and weaknesses of the tested procedures with practical spin-off for archaeologists and restorers (efficiency, kinetics, compatibility with the ceramic substrate, costs and simplicity of use). Salt extraction under mechanical stirring was the most effective method and, for this reason, is suitable for laboratory fieldwork during or immediately after submarine archaeological excavations. Similar advantages are also intended for the preliminary treatments of the most precious findings prior to museum storage

Reference 93 - 0.05% Coverage

¶121: Hypotheses from archaeometric multi-technique investigations

¶122:
Reference 94 - 0.37% Coverage

¶122: A multianalytical approach has been used to try to indicate the supply area of the white marble of the studied sculpture. Considering the whole mineralogical, petrographic and geochemical data, the source rock can be possibly limited to the main classical white marbles of the Mediterranean district, as the classical marble of Aphrodisias. A reuse practice of a former artwork can be also hypothesized.

¶123: Non-destructive monitoring methods as indicators of damage cause

Reference 95 - 0.34% Coverage

¶124: Geotechnical investigation techniques require the damage and destruction of a building's surroundings or the damage of a foundation with a boring device. Non-destructive methods, such as geophysical methods, are less reliable and the results of such investigations must be combined with the results of subsurface exploration. This paper is a presentation of results achieved through the monitoring of the activity of a number of joints

Reference 96 - 0.83% Coverage

¶124: The displacement in time of the construction elements of the cathedral were measured and recorded using non-destructive methods. Fissure displacement behaviour, air temperature and air humidity were monitored. The monitoring of the air humidity did not lead to any useful conclusion, so it was quickly dismissed. Observations of data were performed during two periods with an interruption between the two caused by insufficient monetary resources. Data from almost 8 years of continuous measuring are available. The aim of this paper is to present the data of the measured fissure displacements which were correlated with air temperature changes and mathematical models which were based on statistical analysis. Correlation coefficients show that the analysed fissures react to the air temperature changes with different intensities. The obtained data lead to the conclusion that the causes of the structural damage are not found within a displacement or failure of the foundations. Instead, the causes of the damage were found in other parts of the structure.

Reference 97 - 0.70% Coverage

¶126: Risk maps built with GIS software provide information about the probability of the main hazards in a region, and is a very useful tool to identify, evaluate and prioritize the restoration budget of a city in order to manage preventive conservation. In this paper, new methodologies are applied based on the vulnerability matrix and its relationship with static and structural factors, climate conditions, air quality and social agents. This technique has some obvious advantages in the application of risk analysis for cultural heritage conservation, such as the capability of simultaneous risk assessment and geographical references. The vulnerability study implies an on-site diagnosis analysis and requires an adapted protocol for archaeological heritage. The validation of this methodology was carried out in the historical town of Merida (Spain) with a GIS application (ArcGIS software

Reference 98 - 0.06% Coverage

¶128: Academic studies concerning how climate influences Asian heritage are rare.

Reference 99 - 0.15% Coverage

¶128: The object of this study was to utilize the concept of heritage climatology together with a spatial analysis approach that includes respective climate parameter risks to cultural heritage sites

Reference 100 - 1.12% Coverage

¶128: This study used maps to gain information about potential climactic threats to Tainan's cultural-historical legacy. There are four kinds of map that use ArcGIS to analyse and demarcate regions not only by climate parameters but also by risk to heritage. These four types of map are climate maps, heritage climate maps, heritage maps and heritage risk maps. Climate maps give the short- to medium-term general status of the climate in Tainan City and thus served as the foundation of the other maps used in this study. Heritage climate maps give data concerning index factors that influence wood and stone materials. Heritage maps show locations of cultural heritage sites on an administrative map and categorize them according to their historic value. Heritage risk maps use accumulated calculations to superimpose the heritage climate map onto the heritage map in order to evaluate the risks to heritage sites in certain areas and categorize the levels of risk. Heritage sites in mountainous areas generally need to be protected from heavy rain, whereas downtown city environments, due to the urban heat island effect, require better protection against heat and cracking. By comparison of our field study results and climate risk maps, we found that in urban areas wooden materials have a higher risk of structural cracking, colour fading and bio-degradation, while coastal areas have a higher risk of weathering of stone materials.

Reference 101 - 0.09% Coverage

¶129: Computational fluid dynamics (CFD) modeling of microclimate for salts crystallization control and artworks conservation

Reference 102 - 0.30% Coverage

¶130: Many deterioration processes are linked to unsuitable microclimatic condition in cultural buildings. One of the most diffused processes is soluble salts crystallization that can be accelerated in masonry structures within specific microclimatic values for different chemical compounds. In this paper, microclimate and efflorescence diffusion were monitored over a one-year period in

Reference 103 - 0.60% Coverage

¶130: This allowed to relate the microclimate with the efflorescence variation over time. A three-dimensional computational fluid dynamics (CFD) model was then developed to detail the thermo-hygrometric parameters and airflow patterns responsible for salts crystallization and artworks deterioration. Two main conditions were reproduced; one to simulate the current microclimate, which simulations showed to be inadequate for conservation, and the other to search for a more appropriate solution. In both cases, summer and winter conditions were simulated and compared to find a microclimate able to ensure more suitable thermo-hygrometric intervals required by the constituting artworks materials. The results helped to suggest actions to improve maintenance of the Crypt.

¶131:
Reference 104 - 0.09% Coverage

¶134: Evaluation of the effect of phase change materials technology on the thermal stability of Cultural Heritage objects

Reference 105 - 1.27% Coverage

¶135: The use of phase change materials (PCMs) in civil buildings as an effective thermal energy storage solution has been well documented in literature and proven in the field. When applied to Cultural Heritage, PCMs' technology needs to be adapted to specific requirements. Besides the important objectives of economic return and human comfort, the indoor microclimatic conditions have to be suitable for conservation purposes. The application of PCMs' technology to Cultural Heritage has been investigated within the European MESSIB (Multi-source Energy Storage System Integrated in Buildings) project. Firstly, several methodologies of incorporation of PCMs in different materials were studied and tested. The thermal properties of gypsum panels and silicon coatings incorporating micro-encapsulated PCMs in the form of powder and emulsion were analysed in the laboratory. Then, PCMs incorporated in gypsum panels in contact with a wooden panel were tested and their effect on the thermal behaviour of the wooden panel was evaluated under thermal cycles in a climatic chamber. PCMs incorporated in silicon coatings in contact with a painting were also tested. Moreover, gypsum panels containing PCMs were tested in the S. Croce Museum in Florence, Italy, where the microclimatic monitoring has shown thermal conditions potentially dangerous for the works of art preserved. The research performed both in the laboratory and on the field confirmed the effectiveness of the PCMs as thermal storage solutions, but also gave evidence on an important drawback when the material incorporating PCMs is in direct contact with an object of art.

Reference 106 - 1.34% Coverage

¶137: The proposed methodology includes two workflows: the first starts with photographic and casting processes conducted recently on various groups of moulds and involves historical surveys for investigating the relationships between the various sets of moulds, the models from which they were derived and the porcelain objects derived from them. The second workflow was applied when no information was available for a set of moulds, and involved 3D scanning of the moulds, with virtual reconstruction of the corresponding model followed by a final art historical survey like that used in the first procedure. 3D scanning techniques and successive model reconstruction can also be applied for obtaining a virtual model in the first process, when the physical model was lost, damaged or never existed. The variety and extent of the Ginori collection suggested the use of a customized Data-Base (DB) and a set of functions designed to manage and extract information, data and archived images. This filing system, called DocciaDigitalArchive (DDA), also makes it possible to specify the relationships between the different typology samples (prototype models, moulds derived from them, handmade porcelain objects produced from these moulds), which are associated when the same subject is portrayed. The DB structure conceived also provides the possibility of incorporating pictures and data of known archetypes. This additional information makes it possible to place each subject in its historical and artistic context. For each sample filed in the DDA system, documentary cards, which summarize data, images, reports and links to other entities or samples connected to the subject consulted, can be viewed on a suitable interface

Reference 107 - 1.22% Coverage

¶139: both the type of structure and the extent of damage should be characterized with minimal interference to the structure, which could be overcome solely by non-destructive testing (NDT). However, due to the complexity of plastered multi-leaf masonry structure, the performance of well-known NDT methods could be significantly worsened. Therefore, as a prerequisite for applying NDT on multi-leaf stone masonry in practice, a validation process should be carried out. In this study, complementary ground penetrating radar (GPR) and infrared (IR) thermography measurements on plastered laboratory three-leaf stone masonry walls were performed. Apart from assessing the wall texture and morphology with the type of connection between the leaves, detection of gradual plaster delamination and crack propagation while subjecting the walls to an in-plane cyclic shear test was taken into account. The results showed that GPR could successfully visualize header stones passing through the whole depth of the specimen. The masonry texture behind the plaster could be well resolved by both methods, although GPR near-field effects worsened its localisation. For the detection of plaster delamination, IR thermography outperformed GPR by detecting delamination as small as 2 mm as well as structural crack patterns, whereas GPR only detected delamination larger than 8 mm. It was shown that the performance of both methods for defect detection could be further improved by image fusion based on unsupervised clustering methods.

¶140: Historical and probabilistic structural analysis

Reference 108 - 0.42% Coverage

¶141: This work analyzes the history, geometric modeling, materials and stability of the aqueduct. Due to difficulties in testing and measuring the properties and loads, the Monte Carlo analysis technique is used to analyze stability, where the input parameters are defined as probabilistic distributions. Monte Carlo analysis provides the probability of risk of collapse defined by the geometric security coefficient obtained by means of the theory of limit analysis. Additionally, this technique is used to optimize the thickness of the arch.

¶142:
Reference 109 - 0.05% Coverage

¶144: Strontium, a new marker of the origin of gypsum in cultural heritage?

Reference 110 - 0.86% Coverage

¶145: A new possible methodology for recognizing the nature of gypsum in artworks, in particular for wall paintings, was developed. Calcium sulfate can be an alteration product of the calcium carbonate, or a component used by the Artist himself; the problem of identification of the presence and the nature of gypsum could be found detecting the presence of strontium. This element could be used as a marker since, differently from the alteration form, in mineral gypsum simultaneous presence of calcium and strontium occurs. The correlation between these two elements may be recognized using non-invasive in situ X-ray fluorescence measurements. In the present work, we tested this occurrence in various mineral samples of gypsum and alabaster as well in tempera, fresco and Egyptian paintings. Considering the new possible role of strontium indicating the presence of natural gypsum, we expect to provide a valuable tool for conservation scientists, restorers and art historians.

¶146: A multi analytical approach to discriminate the Italian colored marble “Portasanta” from Portasanta “Marmor Chium” (Greece)

Reference 111 - 0.39% Coverage

¶147: In this work, a complete characterization of the Italian Portasanta was made: chemical (X-ray fluorescence and isotopic analyses), mineralogical (X-ray diffraction on the bulk sample and on insoluble residue after acid attack), physical (water accessible porosity and imbibition coefficients), petrographical (optical microscopy) and mechanical (compressive strength test) analyses have been carried out in order to obtain a better distinction between Italian and Greek “marble”, sometimes mistaken.

Reference 112 - 0.08% Coverage

¶148: Unusual differential erosion related to the presence of endolithic microorganisms (Martvili, Georgia)

Reference 113 - 0.10% Coverage

¶149: The presence of a diffuse biodeterioration phenomena can be observed across large areas of the outer surface of the limestone walls

Reference 114 - 1.75% Coverage

¶149: A differential erosion phenomenon was detected, suggesting a possible association with biological colonization. The erosion phenomenon is characterized by a circular discoloration leading progressively to the detachment of flakes of limestone at its center. Since the aforementioned process has not been described in the literature until now, the present study was focused on the

interpretation of its origin and evolution. Three sides of the Church are affected by a variety of occurrences of circular differential erosion which display different stages of the process, whereas the western side is affected by epilithic growths across its entire surface. Surveys of the petrographic, mineralogical and physical features of the stone were made, and parameters such as density and porosity were recorded. Samples were analyzed by optical microscopy and SEM analysis in order to detected the presence of microorganisms whose species were then identified by means of morphological and molecular examinations. The study of cross-sections stained using the PAS method has confirmed the causal connection between microorganisms and the deterioration phenomena, providing information about their spread of penetration into the substrate and their substantial potential for causing damage. Dryness appears to be the main ecological condition favoring endolithic rather than epilithic growth. The most common isolated microorganisms were cyanobacteria (Chroococcales) and, to a lesser extent, meristematic fungi. The characteristics of the stone, and especially some endogenous discontinuities related to the accumulation of sedimentary layers and to the action of stone carving tools, might explain why the same differential erosion phenomenon occurs in specific areas of the block stones. The development of the differential erosion phenomenon shows a variety of stages of biological colonization. The progressive evolution of the deterioration process has been observed in detail: (a) firstly, white circular discolorations appear on the stone, which darken over time eventually becoming almost black; (b) circular perforations appear around the perimeter; (c) and finally a flake detaches from the center, leaving a deep depression in the stone.

¶150:

Reference 115 - 0.38% Coverage

¶151: The present work aims to investigate the morphology and composition of natural patina formed after long-term atmospheric exposure (∼100 years) on the bronze screws used in assembling the statuary group of Mathias Rex, placed in the center of Cluj-Napoca, Romania. The chemical composition of the bronze and of the natural patina, formed on the screws' surface were determined by X-ray fluorescence analysis, and the morphology of the latter was determined by SEM - EDX cartographies.

Reference 116 - 0.30% Coverage

¶155: and aims to illustrate how oils contained in the pictorial media have influenced these works' respective ageing and degradation processes. Despite the apparent coherence in the behaviour of many of Fontana's creations, some artworks revealed discrepancies in terms of the physical and mechanical behaviour of the pictorial films and in alterations resulting from degradation processes

Reference 117 - 0.57% Coverage

¶155: Samples taken from case studies belonging to the Olii and Fine di Dio series were analysed using optical microscopy, X-Ray Fluorescence (XRF), Fourier-Transform Infrared Spectroscopy in attenuated total reflectance (FTIR-ATR) and Gas Chromatography-Mass Spectrometry (GC-MS) in order to study and identify the materials employed by the artist and the products of their degradation processes. These analyses gave unexpected but useful results (such as the presence of non-drying or slow-drying oils in the paint formulations) which not only provided us with new insight into the nature of the constituent materials, but also facilitated the elaboration of correct conservation measures and suitable restoration interventions.

Reference 118 - 0.67% Coverage

¶157: Photographic and analytical techniques demonstrated the use of innovative products as an experimentation tendency, that pressed the artist to use non-conventional support, industrially treated with plasticized PVC and primed with acrylate polymers and to paint with traditional and industrial pigments mixed with an oil-modified alkyd resin. In the span of a few years, an unexpected and extended degradation on the whole surface of the painting took place, with the consequent formation of lifting and detachment of the paint film. The detected alteration is mainly due to the fast ageing of the employed polymeric materials, actually responsible of the impermanence of many contemporary works of arts. Clarifying the unknown aspects of the Remo Brindisi's stylistic choices together with the deterioration processes of the employed painting materials,

Reference 119 - 0.07% Coverage

¶158: Titanium dioxide thin film: Environmental control for preservation of paper-art-works

Reference 120 - 0.85% Coverage

¶159: Due to sensitivity of historic papers and their conservation importance, it is necessary to produce appropriate environment condition for preservation purposes. TiO2 nanoparticles have been evaluated for multiple applications in the conservation of paper because of TiO2 nanoparticles special characteristics for UV filtration, decomposing of air pollutants and their antifungal and antibacterial properties. Firstly, TiO2 nanoparticles synthesized in sol-gel process, and then have been coated on glass surface with spray-pyrolysis method. Then, coated glass used for preparing display box for protecting paper-art-works. Also, non-coated glass was used as a blank sample and assessments have been done on the filter paper (Whatman®) as a standard for paper-art-works. Temperature, humidity and light accelerated aging were done on samples in both coated and uncoated boxes. Results showed more tension strength and lower oxidation of paper and also, lower growth of fungi and bacteria in coated glassy box. Furthermore, madder dyed papers into coated box showed lower fading after UV exposure.

Reference 121 - 0.02% Coverage

¶162: Centre for Digital Heritage,

Reference 122 - 0.09% Coverage

¶164: Artwork conservation materials and Hansen solubility parameters: A novel methodology towards critical solvent selection

Reference 123 - 1.08% Coverage

¶165: Solvents are widely used in cleaning, but solubility issues are also of high importance in consolidation treatments as well as in protective coating applications. The central aim of this work is to critically re-assess the potential of Hansen solubility parameters (HSPs) for a reliable use in the

field of artwork conservation. An effort was made to develop an efficient methodology for critical solvent selection (CSS). For this purpose, two different methods were used for the estimation of various artwork conservation materials. A group-contribution method (GC), based on the chemical composition of materials, was applied for the prediction of HSPs of egg yolk, pine resin and seven red organic colorants (Mexican, Polish and Armenian cochineal, kermes, madder, lac dye and dragon's blood), traditionally used in paintings, textiles and illuminated manuscripts. Additionally, an experimental set up was used for testing the solubility of the commercial products of synthetic conservation materials, Primal AC-532K, Beva gel 371 a and b (old and new formula) and a commercial matt varnish made of dammar and wax. With the direct use of Hansen solubility parameters and the relative energy difference (RED) between various materials it was made possible to carry out ad hoc “virtual” solubility tests that may apply to real and complex systems such as cultural heritage artworks.

Reference 124 - 0.07% Coverage

¶166: Epoxy monomers consolidant for lime plaster cured via a redox activated cationic polymerization

Reference 125 - 0.83% Coverage

¶167: Epoxy resins, widely used in conservation, still remain controversial materials. Considering some of the drawbacks that currently limit the application of epoxy consolidants, we present the application of the cationic ring opening polymerization as a novel method to cure the epoxy monomer in the restoration field. The cationic polymerization was carried out through a redox system based on the reduction of the iodonium salt in the presence of ascorbic acid catalyzed by a copper salt. The use of this initiator system for carrying out a suitable consolidant for lime plaster is considered. First, the film properties of the cured films were investigated. Then, the formulation was applied on a sample of plaster and its compatibility was verified. Its effectiveness as a consolidant product is explored through the evaluation of chromatic changes, mechanical strength, morphology of the re-aggregated material, and changes of the surface properties.

¶168: Middle-ultraviolet laser cleaning of particulates from sized ground wood cellulose and pure cellulose paper

Reference 126 - 0.31% Coverage

¶169: Ground wood cellulose paper exhibits a practicable cleaning laser fluence window during middle-UV radiation processing. In this case, a minimum dose volume density should be applied. However, cleaning of bleached cellulose paper is accompanied by strong yellowing and destruction. The presence of charcoal graphite particulates shows substantial influence on the yellowing with increasing coverage.

Reference 127 - 0.10% Coverage

¶170: Investigation of Cheb relief intarsia and the study of the technological process of its production by micro computed tomography

Reference 128 - 0.50% Coverage

¶171: Here we report on the findings made on the basis of non-destructive X-ray micro computed tomography (μCT) analysis for determination of the condition and characteristics of the inner structures of an original plate of Cheb relief intarsia. The results of this analysis not only helped to clarify the manufacturing process itself, but also contributed to aim the future actions of the effective intarsia conservation in regard to the spreading internal cracks and defects in the plate discovered by μCT analysis.

¶172: Application of reflected light microscopy for non-invasive wood identification of marquetry furniture and small wood carvings

Reference 129 - 0.96% Coverage

¶173: Wood identification is a basic information that should interest any wooden artefact. This typically involves invasive sampling, but sometimes sampling is unattainable either because of the object typology or because it is difficult to obtain authorizations. In the present study, reflected light microscopy potential as a non-invasive identification tool for wooden cultural artefacts is assessed on a number of marquetry furniture and small wood carvings. In more than one half of the 13 examined cases accurate wood identification was possible, while the remaining cases yielded information of diagnostic value, making it possible to exclude several potential candidate species. In a number of cases the use of optical filters improved the visibility of character states. Shape and orientation of surfaces influenced the visibility of microscopic characters. The study confirms that reflected light microscopy is a valuable tool for non-invasive wood identification. In many cases it is able to support accurate identification, in others it can anyway provide important information, useful to help decision about supposed species, or to limit the invasiveness of possible further analysis by addressing them on specific features.

Reference 130 - 0.09% Coverage

¶174: Quantitative modeling of blistering zones by active thermography for deterioration evaluation of stone monuments

Reference 131 - 1.06% Coverage

¶175: Infrared thermography for stone monuments to date has primarily focused on qualitative analysis to judge the location of defect zones using relative temperature differences, but there are difficulties in mapping a blistering zone and quantitatively calculating its area. Therefore, this study used quantitative modeling to map blistering zones with graduated heating thermography. To achieve this goal, the following steps were performed: acquisition of thermographic images by passive and active methods, construction of a temperature distribution curve, establishment of the critical temperature and transitional zone, classification of the relative deterioration grades of the blistering zone, monochrome processing, vectorization, and deterioration evaluation of the blistering zone. After evaluating the blistering degree of the specimen through modeling, the total areas and rates were calculated as 359.3 cm2 and 80.1%, respectively. This study was very useful for identifying the location, area, and relative degree of deterioration of blistering zones that were not

easily detectable with the naked eye. In the future, if quantitative modeling of blistering zones is actively applied to deterioration maps, the reliability of deterioration evaluation for stone monuments will be improved, and additional deterioration, such as scaling, may be prevented.

Reference 132 - 0.37% Coverage

¶177: The textiles were grouped according to functional use with sampling controlled by random number generation of the registers. The highest significance and conservation rankings were rated at 5 and the lowest in the categories was given values of one. The numbers in each category fell logarithmically as the significance values increased. The number of hours of work required to stabilise the objects increased logarithmically as the conservation ranking increased from 1 to 5.

Reference 133 - 0.19% Coverage

¶177: provides a treatment priority score to guide collection managers in determining which objects are treated by conservators. Data is also provided on the impact of light exposure on the deterioration of the coloured fabrics of the vestments.

¶178:
Reference 134 - 0.15% Coverage

¶181: It has been generally agreed that Multicriteria Decision Analysis (MCDA) can offer a formal methodology to deal with such decision problems, taking into account the available technical information

Reference 135 - 0.04% Coverage

¶181: which is a particular kind of MCDA technique.

Reference 136 - 0.08% Coverage

¶181: aims at exploring the contribution of MAVT for decision problems in the field of cultural heritage.

¶182:
Reference 137 - 0.51% Coverage

¶189: . It is easy to determine the interior and exterior 3D geometry of the church using scanner laser techniques. By combining both geometries, it is easy to determine the difference between the interior vaults and the roof of the church. However, the interior of both geometries is completely unknown, and it is not possible to act on their condition for structural consolidation purposes. This work shows the methods used to determine the interior sections of the vault thicknesses by referencing the internal geometry of both models with the interior of the church, using plumb line system scanning. The results obtained show accuracy better than 6 millimeters.

Reference 138 - 0.26% Coverage

¶191: . Digital levelling indicated a marked differential settlement of the foundations with regard to the trend of secular movement, while terrestrial laser scanning (TLS) revealed a significant increase of the inclination of the tower's axis, confirming the results from levelling and showing good integration of both monitoring techniques.

Reference 139 - 0.02% Coverage

¶192: Thermographic study

Reference 140 - 0.08% Coverage

¶193: In this paper, we present an application of the infrared thermography to the study of illuminations.

Reference 141 - 0.29% Coverage

¶193: . We show the results achieved from the stratigraphic investigation of the gilded surface, the parchment substrate and the underdrawing. The obtained information have been, then, used to direct the necessary restoration steps and also to assess the effectiveness of the treatments by a comparative analysis of the thermograms recorded before and after the restoration.

<Internals\\JCH 2015 abstracts> - § 158 references coded [62.24% Coverage]

Reference 1 - 0.06% Coverage

¶5: Disinfestation of historical buildings – corrosion evaluation of four fumigants on standard metals

Reference 2 - 1.01% Coverage

¶6: This study aims for providing adapted solutions for disinfestation of cultural buildings and collections in place of the use of methyl bromide, ozone depleting substance recently forbidden. It reports on a two-step corrosion test assessing the corrosive activity (corrosivity) of alternative fumigants. Four candidate fumigants are investigated: sulfuryl fluoride (SF), dimethyl disulfide (DMDS), phosphine (PH3) and cyanogen (EDN) in conjunction with five standard metals: silver (Ag), tin (Sn), iron (Fe), lead (Pb) and copper (Cu). The applied procedure is detailed including the fumigation protocol and the description of a specific electrochemical twin cells device. The surface evolution of metallic coupons after fumigation treatments and after hygrothermal ageing (35 °C, 95% RH) is compared to a blank reference series (indoor atmosphere). Results from colorimetry and electrochemical (linear sweep voltammetry) measurements, completed by Raman spectroscopy investigation show that each fumigant differently affects metals both in amplitude (amount of surface species) and in composition (nature of corrosion products). Sulfuryl fluoride (SF) can be recommended for cultural heritage but care has to be taken in presence of Pb, Sn and Cu. DMDS is also a good alternative candidate, however, it affects greatly Cu coloration and promotes Pb corrosion. Phosphine (PH3) is dramatic for Cu and has to be avoided while the efficient biocide EDN increases corrosion of Ag and Cu even if low color variation is observed. It is strongly recommended for selecting the fumigant to properly identify the metallic artefacts prior fumigation.

Reference 3 - 0.06% Coverage

¶7: Modelling the failure mechanisms of Michelangelo's David through small-scale centrifuge experiments

Reference 4 - 0.70% Coverage

¶8: In this study, we use an analogue modelling approach to test the conditions that led to the development of fractures in the David's legs and to get insights into its stability. Small-scale (10 cm-high) gypsum replicas of the statue were deformed in a centrifuge, where the models were affected by a body force stronger than gravity but otherwise playing the same role. Analysis of the model results suggests that both the stability and the resulting deformation of the statue are highly sensitive to its attitude. A forward inclination promotes destabilization: the higher the angle of inclination (α), the more unstable the statue becomes under its own weight, confirming existing FEM modelling. In a vertical position, rupture of the statue typically occurs in the lower portions of the legs, but ruptures tend to develop progressively higher along the legs as α increases. Comparison of these results with the lesions detected on the actual David suggests that a long-lasting, small forward inclination (likely close to ∼ 5°) of the statue may have represented a critical driving factor for the development of the observed damages.

Reference 5 - 0.88% Coverage

¶10: Microbiological destruction of woollen textiles may occur as a result of the influence of both bacteria and fungi and it is connected with their nutrition. However, in view of the conditions endured by the fabrics during transport, storage or museum exhibitions, fungi pose the greatest threat, due to their physiology. Fungal activity, by causing irreparable damage to woollen textiles, may lead to the irreversible loss of cultural properties. In this work, assessment of the mode of action of selected fungal species on cochineal-dyed woollen textiles was performed. Furthermore, determination of the impact of enriching a microbiological medium with additional nutrients upon the degree of biodeterioration of the dyed textiles was carried out. Experiments were conducted using the pure culture method. To analyse the type and extent of microbial deterioration of the cochineal-dyed woollen textile's tensile strength, elongation tests and spectrophotometric measurements of colour were applied. Additionally, selected samples were analysed by both transmitted light and scanning electron microscopy (SEM). The undertaken research showed that all the fungi tested cause structural and aesthetic damage, of varying degrees, to the woollen textile. Moreover, the presence of additional nutrients in the medium is a significant factor, which determines the susceptibility of a particular textile to microbial deterioration.

Reference 6 - 0.40% Coverage

¶12: This paper proposes a model attempting to convey the benefits of modern ontological know-how to the management and processing of information concerning the diagnostic phase. The methodology consists in translating the professional approach to diagnosis of damages into a computer readable form able to replicate the assessment procedure, step by step, towards a feasible intervention. An overview of possible applications to conservation practice, such as the

development of a mobile application dedicated to damage surveying and assessment, is also presented.

¶13: Measurement of the reversible rate of conservation materials for ancient murals

Reference 7 - 0.65% Coverage

¶14: The study of how to remove the ineffective conservation materials without damaging the mural's surface has been one of the hot issues of modern conservation science, and the reversibility problem of mural protective materials needs to be resolved instantly. In this article, we measured the reversible rates of 4 typical protective agents both on glazed tiles and model samples of Dunhuang murals, and used 3D microscopic system to observe the removal effect. The experimental results show that the cleaning agents should not contain water considering the water-soluble binding material of Dunhuang murals. All conservation materials are reversible, but their reversibilities are different. We obtained the best pairs of “conservation material-cleaning agent”, which are “silicone-acrylic emulsion-p-xylene + propylene carbonate”, “acrylic emulsion-p-xylene”, “polyvinyl acetate emulsion-p-xylene + ethyl acetate” and “Paraloid B72-p-xylene + propylene carbonate”. It is also found that the reversible rate of conservation materials declines after aging.

Reference 8 - 0.32% Coverage

¶16: the sampling of the artwork is discussed and described, together with the methodology used for the identification of wood species following the Italian standard UNI 11118:2004. The 12 identified timbers are listed together with their distribution within the cultural provenance of the sculptures. The discussion deals with the timber species utilised by the artists from the four cultural European provenances most represented within the collection: Italy, Alps, central-southern Germany and Lowlands around the Rhine delta

Reference 9 - 0.07% Coverage

¶19: Obtaining noninvasive stratigraphic details of panel paintings using terahertz time domain spectroscopy imaging system

Reference 10 - 0.58% Coverage

¶20: Over the past two decades, terahertz (THz) technology has gained in importance and visibility as an emerging technique to be applied in a variety of fields. Since 2006, noninvasive THz time domain spectroscopy (TDS) imaging technology has been proposed for the study of artworks. When applied to panel paintings, THz-TDS imaging makes it possible to fill in the information gap on these artworks between two diagnostic imaging techniques, namely IR reflectography and X-ray radiography, because it provides useful data on the internal physical structure of non-metallic objects without touching the artworks investigated. The resulting noninvasive cross-section image of the object is acquired by extracting the reflected pulse from a particular interface of two media that have different refractive indexes. In this paper, we used a portable THz-TDS imaging system to acquire THz images on a laboratory panel painting and on two artworks,

Reference 11 - 0.46% Coverage

¶20: This was the first application of THz-TDS on masterpieces that is part of conservation – restoration projects focussed on acquiring data on the materials and techniques used by the artists and the state of conservation of the paintings, as well as on testing the potentials of an application of the new emerging THz-TDS imaging technique for the art conservation field. In particular, the data acquired noninvasively on the panel paintings provided useful information on the internal structure of the paintings and on their conditions, as well as a tentative chemical composition of the works or some of their parts. Lastly, this paper offers some basic information on the application of the THz-TDS imaging technique to panel paintings.

¶21:
Reference 12 - 0.05% Coverage

¶22: the use of modern computer-based instruments, appliances and tools with a single goal

Reference 13 - 0.06% Coverage

¶25: Hydroxyapatite-based consolidant and the acceleration of hydrolysis of silicate-based consolidants

Reference 14 - 1.28% Coverage

¶26: Limestone, composed of the mineral calcite, is susceptible to environmental weathering processes that cause weakening from disintegration at grain boundaries. This paper discusses the effectiveness of hydroxyapatite (HAP) as an inorganic consolidant for physically weathered Indiana Limestone compared to a commercially available silicate-based consolidant (Conservare® OH-100). A double application is also investigated, in which samples are coated with HAP followed by Conservare® OH-100. Finally, a technique to accelerate the hydrolysis reaction of the initially hydrophobic Conservare® OH-100 is also developed. The motivation for using HAP is its low dissolution rate and crystal and lattice compatibility with calcite. To artificially weather limestone, so that the damage found in nature could be mimicked in the lab, a reproducible thermal degradation technique was utilized. Then, a mild wet chemical synthesis route, in which diammonium hydrogen phosphate (DAP) salt was reacted with limestone, alone and with cationic precursors, was used to produce HAP microfilms to consolidate the grains. The effectiveness of Conservare® OH-100 is investigated by applying it alone, and by following up with an ethanol-water rinse to accelerate the hydrolysis reaction. Samples that were to be rinsed were left to hydrolyze naturally over two and seven weeks before being reacted in the ethanol-water mixture. The dynamic elastic modulus (a measure of stiffness) and water sorptivity of the treated stones were evaluated. HAP was found to be an effective consolidant for weathered Indiana Limestone, as it restored the modulus of damaged stones to their original values and exhibited superior performance to Conservare® OH-100. Rinsing the Conservare® OH-100-treated stones increased stone hydrophilicity significantly, although not to the level of DAP-treated stones, as determined by water sorptivity. The formation of the consolidants in the pores and at grain boundaries was confirmed by scanning electron microscopy (SEM) and energy-dispersive X-Ray spectroscopy (EDX).

¶27:
Reference 15 - 0.06% Coverage

¶31: Microclimatic monitoring of a semi-confined archaeological site affected by salt crystallisation

Reference 16 - 0.61% Coverage

¶32: The aim of the research is to investigate the role of the microclimatic conditions and their variations on the decay due to salt crystallisation, observed in a semi-confined archaeological site, in an urban area. A microclimatic monitoring was carried out in the site to detect temperature and relative humidity and their respective variations. Statistical methodology was conducted to examine the microclimatic data with seasonal, monthly and daily analyses. Different zones of the site were monitored and a microclimatic zoning was detected. The outside environment influences the most external zones of the site, while in the confined ones a high relative humidity was detected in all the seasons. The comparison between the hygrothermal conditions monitored in the site and those thermodynamic favourable to salt crystallization revealed a very harmful risk of salt damage for the archaeological structures.

¶33: Theoretical background and historical analysis for 3D reconstruction model.

Reference 17 - 0.51% Coverage

¶34: Authors will demonstrate how a 3D reconstruction project is a mean for historical analysis. This method aims not just to obtain a model from the plan and façades published in I Quattro Libri dell'Architettura, but also to allow a better reading of the architecture thanks to semantic organization. The entire process is based on understanding the drawings edited by Palladio. In fact the system of classical architectural rules allows us to model 3D close to Palladio's intent. Especially, the use of a shape-grammar, already employed for Palladian built heritage, paves the way for achieving semantic models according to Palladio's planning practice. In this paper, we explain a robust method to generate detailed primitive-based 3D models of architectural projects from historical drawings, using well-known procedures and software

Reference 18 - 0.10% Coverage

¶34: This project allowed us to validate a quick and easy workflow for the construction, hierarchical organization and the dissemination of unbuilt Palladian heritage.

Reference 19 - 0.81% Coverage

¶38: This possibility has been explored using the catch from some thirty thousand insect traps laid out in English Heritage properties over more than a decade. The trapping programme resulted from an increasing focus on integrated pest management (IPM). Trapping has been more frequent in London and the Southeast. Quarterly inspection and replacement has led to a detailed record of catch. Although these data were collected for management purposes, they offer the potential to assess the impact of environmental change. Variation in the number of traps placed out requires data to be expressed as catch rate (insects caught per trap). The record suggests an increase in the average catch of booklice (Liposcelis bostrychophila) summed across all the properties examined over the period 2000–2012. There was a striking increase in the prevalence of the webbing clothes moth (Tinea pellionella) even when accounting for the increasing use of attractant pheromones in traps. In addition, infestations (i.e. > 10 insects per trap) also seemed to increase. However, these

increases over time are not likely to be attributable to increasing temperatures. Nevertheless, the catch rate for woolly bear larvae (Anthrenus spp.) at the London properties showed a weak correlation with temperature in the warmer seasons.

Reference 20 - 0.08% Coverage

¶41: A non-invasive investigation of cyclododecane kinetics in porous matrices by near-infrared spectroscopy and NMR in-depth profilometry

Reference 21 - 0.62% Coverage

¶42: In order to evaluate the effectiveness of cyclododecane (CDD) as a temporary protective coating and consolidating agent for fragile stone materials, this paper focuses on its physicochemical behaviour in terms of its penetration into porous matrices and subsequent sublimation. In particular, a near-infrared spectroscopy (NIR) and NMR in-depth profilometry study has been carried out by monitoring the evaporation/sublimation process of CDD solutions as a function of time. By means of this non-invasive multitechnique approach, the behavior of CDD both on the surface and inside the first millimeters of the stones has been adequately described. It has also been highlighted how the progression of CDD's disappearance within different stones is affected by both substrate porosity and boiling point of the carrier solvent. These results demonstrate the potential of such a method of protocol for non-invasive in situ monitoring of the unconstrained sublimation process of this temporary protective agent.

Reference 22 - 0.10% Coverage

¶45: Brushing, poultice or immersion? The role of the application technique on the performance of a novel hydroxyapatite-based consolidating treatment for limestone

Reference 23 - 1.60% Coverage

¶46: A novel inorganic consolidant has recently been proposed for the treatment of carbonate stones used in architectural and cultural heritage. The consolidant is an aqueous solution of diammonium hydrogen phosphate (DAP), which penetrates inside the stone and reacts with calcite to form hydroxyapatite (HAP). This HAP-based treatment seems very promising in several respects. It is effective in enhancing mechanical properties, only slightly alters stone transport properties, causes limited color change, and involves the use of non-toxic water solvent. However, several different treatment conditions and application methods have been investigated so far in the literature and the most suitable procedure for application in situ has not been identified yet. Therefore, in this paper a systematic investigation of the effects of different application methods of the DAP solution (brushing, poultice and immersion) was carried out. After DAP application, a further step consisting in a limewater-saturated poultice, aimed at overcoming possible issues connected to the presence of unreacted DAP in the treated stone, was performed and an “application cycle” was finally proposed. The treatments were tested on artificially weathered samples of Globigerina limestone (“Franka” type), a highly porous stone typically used in historical architecture in Malta and severely affected by decay processes. Even if Globigerina limestone is usually subject to salt-induced damage in the field, in this study artificial weathering was performed by heating to induce a controlled and uniformly

distributed decay in the samples, as the presence of soluble salts would have interfered with the mechanisms of penetration and distribution of the DAP solution in the substrate, which was the main research objective. The outcome of the different treatments was evaluated in terms of consolidant penetration depth, mechanical properties, microstructure, contact angle, water sorptivity and color change, with respect to the untreated samples. The newly formed phases were characterized by SEM/EDS, FT-IR and ion chromatography. Based on the results of the study, brushing seems to be the most suitable method for DAP application, as it induces significant mechanical improvement but still limited microstructural, physical and chromatic alterations. Moreover, the benefits deriving from a higher consolidant absorption, as achieved by poultice and immersion applications (which are however much more laborious on site) are not so great in terms of HAP distribution in the substrate and consolidating performances.

¶47:

Reference 24 - 0.40% Coverage

¶48: The chemical and mineralogical composition as well as the physical properties observed in the stone (Loseros tuff) presently used to restore such buildings suggests the need for preventive treatment to delay the decay process. A hybrid formulation based on tetraethyl orthosilicate (TEOS), colloidal silica, and hydroxyl-terminated polydimethylsiloxane (PDMS-OH) has been used to treat the volcanic tuff. Several studies were performed in order to evaluate the properties of the stone after treatment; such as determination of the percentage of formulation deposited, as well as variations in porosity, hardness, and salt crystallization resistance.

Reference 25 - 0.10% Coverage

¶49: Combining Structure-from-Motion with high and intermediate resolution satellite images to document threats to archaeological heritage in arid environments

Reference 26 - 0.78% Coverage

¶50: The aim of this paper is to show how data from high and intermediate resolution satellite sensors and ground-based multi-image photogrammetry (Structure-from-Motion) can be combined to document damage to spatially extensive archaeological heritage in arid environments. In this approach, high-resolution satellite images (QuickBird) are used to locate archaeological sites and to verify the type of disturbance. Multiple sequential intermediate resolution satellite images (Landsat 7 ETM+) are used to document the spatial extent and temporal development of surface disturbances at the site and in the surrounding area. Structure-from-Motion (SfM) is used to document damage to a small segment of the archaeological site by creating a very high resolution DEM and orthophoto which are used for detailed damage assessment. The approach is exemplified using damage by off-road vehicles to a large Nasca period geoglyph in the coastal desert of southern Peru. It can be applied to document threats to spatially extensive archaeological sites in arid environments, such as large-scale looting, agricultural expansion or urban and industrial sprawl.

¶51: Monitoring cultural heritage by comparing DEMs derived from historical aerial photographs and airborne laser scanning

Reference 27 - 0.42% Coverage

¶52: Georeferenced digital elevation models (DEMs) were generated using historical air photographs from the years 1968, 1979 and 1999. In addition ALS datasets from 2008 and 2010 were used in the study. Altogether seven difference models were generated as a result of conducting automated change detections between the different epochs. In this way detailed information about changes that occurred in the landscape and to individual monuments for almost the last 50 years was obtained. Further, the incidents that caused the identified changes were interpreted based on documents from archives. Using this approach the dynamic character of the studied protected site was proven.

Reference 28 - 0.06% Coverage

¶62: This new approach to cultural heritage requires scientific knowledge supported by new technologies

Reference 29 - 0.11% Coverage

¶62: uses computer simulation to expose the acoustic behaviour of the original Romanesque space – now covered by Baroque elements – and its effect on the functional and spatial structure.

¶63:
Reference 30 - 0.09% Coverage

¶65: Condition assessment of two early Christian martyrs', St. Christine's and St. Augustine's relics with paleoradiological methods in Hungary

Reference 31 - 0.02% Coverage

¶67: using radiological methods.

Reference 32 - 0.05% Coverage

¶68: Methods

¶69: Hundred and twenty-eight slice CT-scanner, conventional digital radiography.

Reference 33 - 0.05% Coverage

¶71: Some kind of filling and reinforcement is proved in certain parts of the bodies.

Reference 34 - 0.09% Coverage

¶73: These radiographical images will provide crucial information in the course of the forthcoming conservation work conducted on the relics.

¶74:
Reference 35 - 0.09% Coverage

¶75: The scientific research of the holy relics are mainly connected Italian researchers and specialist from other countries, whom they cooperated with

Reference 36 - 0.07% Coverage

¶75: In Central Europe, including Hungary, this was the first radiological examination and analysis of the entire relics

Reference 37 - 0.07% Coverage

¶77: Multisensor surveys of tall historical buildings in high seismic hazard areas before and during a seismic sequence

Reference 38 - 0.55% Coverage

¶78: A project aimed at studying the geometry of the tower, possible local seismic amplification and soil-structure interaction began in early 2013 before the earthquake. The data were provided by terrestrial laser scanning, low-cost operational modal analysis and geophysical measurements. The repetition of the surveys during and after the seismic sequence, which was augmented by thermal imaging measurements, allowed an evaluation of the changes caused by the earthquake. In addition to an evaluation of the damage, the data allowed the development of a method based on fast and relatively low-cost measurements that provide useful information for cultural heritage management purposes. The results highlighted that the surveys can be carried out during a seismic emergency and that preventive measures can be carried out under reasonable time and budget constraints in high seismic hazard areas.

Reference 39 - 0.87% Coverage

¶80: Correctly describing the deterioration patterns is an essential requisite when studying exposed stone objects, to understand the problems, to identify conservation needs and to define conservation actions. This paper discusses a few types of deterioration patterns to illustrate the need of choosing accurate definitions to describe them with the aim of reducing ambiguity when crossing the border between theory and practical application. The paper discusses a few deterioration patterns (detachment forms, black crusts and patina) that are currently found in conservation of built cultural heritage to highlight the importance of reducing the ambiguity that is frequently associated to such descriptive terms, aiming at better using them when acting in the passage from diagnostics to conservation actions. When mapping the spatial distribution of deterioration patterns, the most widely used methodologies are appropriate for scientific studies, but their usefulness to prepare and implement conservation interventions is much smaller. The paper proposes an innovative methodology to identify, describe and classify conservation problems and to prepare the documentation to support the tender documents in conservation interventions. A new methodology to help assessing the risk of structural instability and to help defining priorities in maintenance strategies in dry-stone laid constructions is presented.

Reference 40 - 0.05% Coverage

¶81: Hydric dilation of Mount Nemrut sandstones and its control by surfactants

Reference 41 - 0.46% Coverage

¶82: Hydric dilation measurements of Mount Nemrut sandstones, using a linear variation differential transformer (LVDT), were used to quantify in order to understand the effect of wetting-drying cycles on Mount Nemrut sandstones. Trials with some surfactants to inhibit swelling, resulting from the clay minerals in the structure, were investigated in order to propose some conservation treatments for the Mount Nemrut monument sandstones. The hydric dilation measurements of surfactant-treated sandstones showed some decrease in swelling. Diaminoalkine (DAA) seemed to be most successful surfactant for the inhibition of clay swelling, which is in accordance with previous studies. In this study, hydric dilation was decreased by 40% with the use of DAA.

Reference 42 - 0.05% Coverage

¶83: Experimental modal analysis of brick masonry arches strengthened prepreg composites

Reference 43 - 0.77% Coverage

¶84: Polymer composites have been significantly used for strengthening of masonry structures in order to improve their structural behavior. In this study, the modal parameters and dynamic responses of the brick masonry arches, strengthened with prepreg polymer composites, have been experimentally assessed using experimental and numerical tests. The study was carried out in four major steps. Firstly, prepreg composites and traditional Horasan mortar were produced in the laboratory. In the second step, compression and tensile tests on the materials were conducted to determine the mechanical properties. In the third step, semicircular arches were built with masonry units and the prepreg composites were applied to four different strengthening configurations on the extrados and intrados surface of the arches. Finally, modal parameters of all arches were determined through experimental modal analysis method (EMA). After that, the results of the experimental analysis were compared with the numerical analysis. The results of the analyses show that the prepreg composites play an important role in the strengthening of the brick masonry arches and the prepreg composites enhance the frequencies and damping ratios of the brick masonry arches.

Reference 44 - 0.84% Coverage

¶86: The main construction specificities of this building are: the systematic alignment of vertical joints made without mortar, the lack of a ring beam combined with a high slenderness ratio, and a lack of protection against the rain. The special characteristics of the adobes used in this building are a very significant fineness combined with an exceptionally low limit of liquidity. These characteristics are outside the limits recommended by the French standard on earth bricks, yet the compressive strength of these adobe bricks is comparable to those of traditional adobe bricks reported in the literature and they have proved their efficiency over many decades, which calls the relevance of modern standards on earth bricks into question. It seems that the behaviour of these adobes is related to their mineralogical composition, which shows that the use of particle size distribution as the sole criterion of acceptability of a type of earth for the manufacture of adobe is not relevant.

Although the study of this building was very instructive, many questions (technical, historical and societal) still remain and would merit further investigations on this type of buildings. The answers could be useful for modern reflection on the changes in choices that will be necessary to take account of environmental and social impacts in building practice

Reference 45 - 0.05% Coverage

¶87: Sustainable bio-nano composite coatings for the protection of marble surfaces

Reference 46 - 0.69% Coverage

¶88: Water repellency on natural stone surfaces is the most important issue in the protection of stone monuments from effects of atmospheric pollutants. In this study, effectiveness of a bio-nano composite coating, composed of a biodegradable polymer (poly-L-lactide [PLA]) and montmorillonite clay (MMT) was investigated for the protection of marble surfaces from pollution. The clay dispersion in polymer matrices was analyzed by using Scanning Tunnel Electron Microscopy (STEM) and X-Ray Diffraction (XRD), while protection performance was investigated by the measurement of surface roughness, wettability, water vapor permeability, capillary water absorption, and color changes on the marble surfaces. As a result, no alteration on the color of coated marbles was observed, significant improvement was obtained for hydrophobicity of the surface and inhibition of sulfation reaction on the exposed marble surfaces under acidic atmosphere. It could be said that PLA based nanocomposites seem to be promising materials as protective coating agents in reducing the effects of water and atmospheric pollutants on marble surfaces.

Reference 47 - 0.04% Coverage

¶91: X-ray and optical spectroscopic study of the coloration of red glass

Reference 48 - 0.23% Coverage

¶92: In this work, we examine the chemical composition and optical properties of the red glass manufactured at that time. Through the use of X-ray and optical spectroscopies, we demonstrate evidence that the 19th century craftsmen produced “ruby-gold” glass, wherein the red coloration is caused by the dispersal of nanoscale metallic gold particles throughout the glass matrix.

Reference 49 - 0.08% Coverage

¶95: Surface cleaning of intaglio prints with microblasting powdered cellulose and erasing: Treatment effects on inks and support texture

Reference 50 - 0.45% Coverage

¶96: In this research, microblasting cleaning technique with powdered cellulose has been applied to inked areas of intaglio prints. Taking as starting-point the previous results obtained in cellulosic supports, different cleaning tests were conducted on four prints following the new approach and results were compared to those obtained with dry cleaning with erasers. In order to assess potential

changes of surface texture or colour, the documents were examined with optical and 3D stereomicroscopy, SEM and spectrophotometry. The results allow the conclusion that microblasting with powdered cellulose could remove surface dirt or grime on intaglio prints without entailing visible changes to the surface properties of treated supports.

Reference 51 - 0.05% Coverage

¶97: Acoustic emission to detect xylophagous insects in wooden musical instrument

Reference 52 - 0.16% Coverage

¶98: Acoustic emission monitoring was applied for the detection of xylophagous insects and more specifically oligomerus and relative species in wooden cultural heritage musical instruments kept in European museums where the temperature and hygrometry are controlled

Reference 53 - 0.47% Coverage

¶98: Using broadband high frequency sensors [75–1000 kHz] and a high level of amplification to compensate the acoustic attenuation in wood, it is possible to detect the presence of very small larvae (1–2 mm length) in a wooden object. Different coupling materials which respect conservation rules have been tested to fix the sensor to the artefact with an optimized signal to noise ratio. Such coupling materials must not damage the surface of the object and must enable a reversible operation. Since the acoustic signal (frequency and amplitude) depends on the distance between the sensor and the source, robust data processing based on an orthogonal linear transformation is then applied to the recorded signals to distinguish insect signals from ambient noise.

Reference 54 - 0.05% Coverage

¶101: An AHP-based indoor Air Pollution Risk Index Method for cultural heritage collections

Reference 55 - 0.64% Coverage

¶102: Although pollution identification and monitoring methods are well-known practices, the assessment methodologies are not yet sufficiently developed. In this study, a novel air pollution condition indexing assessment method based on an analytical hierarchy process (AHP), the so-called Air Quality Risk Condition Index (AQRCI), is suggested. It quantifies the relative potential synergic impacts (e.g., soiling and color change, salt crystallization, metal corrosion, biodegradation, swelling/shrinkage, loss of strength, cracking, and embrittlement) of measured pollution levels on collection materials in any selected location. The proposed method is based on quantitative (gaseous and particulate pollutant levels) and qualitative (pairwise comparison scores for associated risks) data. Dolmabahçe Palace was selected as a study site, and the proposed AQRCI method was used to present the relative risk levels for five different categories in several indoor locations where the Dolmabahçe Palace collections are being presented.

Reference 56 - 0.03% Coverage

¶105: Investigating its deterioration mechanism

Reference 57 - 0.63% Coverage

¶106: Deterioration was in most cases minimal and largely limited itself to the blue areas of the fragments. Here, cracking in both the enamel and the glass surface beneath it was observed, which resulted in detachment of the painted enamel and of some of its underlying glass in the more severely affected areas. This study investigates the deterioration mechanisms involved and demonstrates that cracking was probably brought about by different levels of expansion and contraction experienced by the paint layer constituents in response to fluctuations in temperature. Differences between the thermal expansion coefficients in the enamel paint and glass are thought to induce the formation of microcracks within the enamel. Certain physical properties of the blue enamel were expected to increase these thermal expansion coefficient differences, making this colour more susceptible to deterioration, resulting in the selective detachment observed in these painted fragments.

¶107: Structural characterization of corrosion product layers

Reference 58 - 0.49% Coverage

¶108: They show evident forms of degradation although they were restored around twenty years ago. The aim of this work was to study the chemistry of the corrosion layers formed on the iron artifacts. Techniques such as optical and electronic microscopies (OM and SEM-EDS), X-Ray diffraction (XRD), Ion Chromatography, ATR/FTIR Spectroscopy and Micro-Raman Spectroscopy have been applied. It was found that corrosion products are mainly made up of goethite, maghemite, magnetite, hematite, lepidocrocite and ferrihyidrite. Akaganeite was often found at the interface between the corrosion products and the core of the metal. This could be considered as the main cause of the rapid post-restoration deterioration of iron objects investigated.

¶109: Mössbauer spectroscopy analysis of valence state of iron

Reference 59 - 0.66% Coverage

¶110: Documents of historical and cultural value are under constant risk of deterioration by acid hydrolysis and catalytic oxidation. The assessment of this risk of degradation is necessary in order to prepare for the conservation and preservation of such documents. The risk of oxidative degradation of four historical documents obtained from the National Library of South Africa and one sample from the Timbuktu manuscripts was assessed by determining the valence states of Fe in the samples using Mössbauer Spectroscopy (MS). The pH levels of the samples were also determined using the Abbey pH pen. It was found that all the samples were acidic, indicating that acid hydrolysis is occurring in all samples. One sample (Wildsport of Africa) had both Fe2+ (21%) and Fe3+ (79%); all the other samples had only Fe3+. The detection Fe2+ in the Wildsport of Africa sample shows that oxidative degradation is also occurring in this document. The results also show for the first time ever that MS can be used to determine the valence state of trace amount of iron in paper

Reference 60 - 0.27% Coverage

¶114: The study focuses on the description of the acoustic characteristics of Romanesque churches with a matroneum from the 10th up to the 12th century and compares the results of measurements taken from different positions intended for speech recitation. From the complex acoustic research, the case study focuses on the presentation of the results of measurements of clarity and intelligibility of the speech via acoustic field research

Reference 61 - 0.07% Coverage

¶115: Modified atmosphere packaging and irradiation to preserve contemporary food-based art: An experimental study

Reference 62 - 0.14% Coverage

¶116: evaluates the application of modified atmosphere packaging (MAP) and irradiation for preserving contemporary food-based art. Both techniques are used in the food industry for preservation of foodstuffs present in the food chain.

Reference 63 - 0.34% Coverage

¶116: The context for conservation was determined by analysing the production method of the artwork, the artist's intention and the degradation processes of the food materials used. Experimental laboratory studies involved accelerated ageing tests using test samples of the work. From the results obtained specific guidelines to preserve the work were proposed. This study showed that food preservation techniques could contribute to the development of effective strategies for the conservation of perishable contemporary art respecting the overall context.

Reference 64 - 0.04% Coverage

¶117: Atlas of the ancient mortars in thin section under optical microscope

Reference 65 - 0.48% Coverage

¶121: The aim of this inter-disciplinary research is to understand the formation of crack patterns in ancient Chinese glazed ceramics in order to gain knowledge on the manufacturing process. We propose a new approach based on a time-scale investigation of the crackling process and of the cracks morphology obtained on glazed ceramic model systems synthesized under controlled conditions. In order to establish a link between macroscopic and microscopic properties, EDXRF, XRD and SEM-EDX analyses have been performed. Our results show that the relative glaze-body thickness and the firing temperature and atmosphere are key factors to control the crack patterns morphology.

¶122: Passive control of microclimate in museum display cases: A lumped parameter model and experimental tests

Reference 66 - 0.93% Coverage

¶123: Inappropriate values, large and fast variations of air humidity and temperature could enhance the risks of damages to works of art and to cultural materials hosted in museums. The use of showcases as a microclimate control tool is widely accepted and ever increasing. The microclimate control of the air inside display cases relies on passive means (air-tightness, thermal insulation and inertia, adsorption capacity) or on active means (equipment to heat, cool, humidify, dehumidify the air). This paper only deals with passive type display cases. The aim has been the development and the validation of a lumped parameters model, able to simulate the air temperature and humidity behaviors inside a showcase under different conditions of the museum indoor air. The simulation model allows explicit consideration of the impact (on internal temperature and humidity) of the display case design features, such as size, material properties, air-tightness, etc., and of some other possible passive temperature and/or humidity control systems (added thermal capacity and water vapor adsorption capacity). A re-configurable freestanding showcase has been experimentally tested in a climatic test chamber under different conditions of temperature and humidity. The simulated showcase internal conditions agree well with the experimental ones. Hence, the model may be regarded as a useful simulation tool for new showcase design optimization, operation and maintenance, as well as for assessment of existing ones.

Reference 67 - 0.10% Coverage

¶124: Modelling of heat and moisture induced strain to assess the impact of present and historical indoor climate conditions on mechanical degradation of a wooden cabinet

Reference 68 - 0.61% Coverage

¶125: To assess the risk of present and future indoor climate conditions within historic buildings on mechanical degradation of wooden art objects, it is of high importance to know the climate variations that these objects might have been exposed to in the past. Historical indoor climate data can indicate climate variations that may have caused damage to objects. Avoiding these variations in the present and future may prevent new or further degradation. However, historical indoor climate data conditions are often not available and cannot be derived from recent indoor climate data as many historic buildings nowadays have climate control systems. In this study, multi-zone hygrothermal building simulation is applied to reconstruct the historical indoor climate in a 17th-century Dutch castle based on meteorological data, building properties, and user behaviour. Furthermore, a finite element model is created to analyse heat and moisture induced strain of a historic wooden cabinet.

Reference 69 - 0.05% Coverage

¶125: shows damage caused by movement of the wood in response to climate variations

Reference 70 - 0.64% Coverage

¶125: Mechanical degradation of the cabinet could have occurred when the strain exceeded the yield strain for safe, reversible deformation. The results show that combining a hygrothermal building simulation model and a finite element model can generate an adequate prediction of the microclimate around an object; though obtaining accurate data on hygroscopic and mechanical

material properties can be difficult. Although the cabinet has experienced considerable tension after a conservation heating system was installed in the castle during a recent major renovation, the predicted strain was within the limits for safe, reversible deformation. This corresponds to the observation that no further damage occurred after the renovation. Damage may not be caused by the regular present or historical indoor climate in the castle, but could be indicated if the long-term average moisture content of the wood significantly deviates from the room conditions or if the vapour concentration in the room increases because of a flooding event.

¶126:
Reference 71 - 0.06% Coverage

¶128: Evaluation of consolidation of different porous media with hydraulic lime grout injection

Reference 72 - 1.61% Coverage

¶129: The grout injection is a technique widely used for structural consolidation of the multi-leafs stone masonry, which often present low compactness and weak links between the internal and external leaves. Grouts can be seen as mixtures of binder with water, with or without special additives. To ensure an adequate flow of the grout and a correct filling of the internal voids inside the masonry, it is essential to assure good fresh grout properties, such as stability, water retention and a rheological behaviour. The grout specification involves the knowledge of the flow capacity within the masonry inner core and physic-chemical compatibility with the original materials present in the historic materials. Thereby, the scope of this paper is to evaluate the injection performance of hydraulic lime based grouts as a function of the porous media to be injected. For this purpose, simplified models were created to allow injectability tests in controlled conditions. To enable the simulation of different permeabilities and internal structures of masonries, the models were created by filling plexiglass cylinders with different grain size distributions of limestone sands and crushed bricks. Since, these materials exhibit different water absorption coefficients, it also was possible to study the influence of water loss from grout to porous media in grout injectability. Another variable studied with influence on grout injectability was the water content of porous media. As it is not expected that masonries are always dried, the pre-wetting of some cylinders by simple injection of water is of extreme relevance to compare the results of grout injectability in the two opposite situations. The grout injection performance was analysed both in the fresh and hardened states. The injectability of the grout as well as its link to the materials within the inner core of old masonries was assessed by tomography and mechanical tests. The mechanical results showed good correlation with injectability and high dependence with the position of the specimen analysed on the cylinder injected, creating tensile strength gradients along the height of the cylinder. Regarding the tomography, the tomographs demonstrate the compactness of the porous media after grout injection. In fact, according to the results obtained, it can be stated that the tomography allows the evaluation of the grout injection capacity to improve the physical and mechanical properties of the inner core of old masonries.

¶130: Consolidation of weak lime mortars by means of saturated solution of calcium hydroxide or barium hydroxide

Reference 73 - 0.69% Coverage

¶131: presents research results on the effects of repeated treatments with saturated solutions of calcium hydroxide (lime water) or barium hydroxide (barium water) on consolidating a friable lime mortar. The influence of lime or barium water treatment on various mainly mechanical characteristics of consolidated lime mortar was studied in detail by means of tests on non-standard specimens fabricated from a poor mortar of 1:9 vol. lime-to-sand ratio. The traditional lime water technology and barium hydroxide treatment were further compared with distilled water and lime water with added metakaolin. Lime water treatment of a specific lime mortar was shown to be effective after a sufficiently large number of applications (160 saturations) into a weak lime mortar. No consolidating effect of distilled water on the compressive strength of the tested mortar with a low lime content (1:9) was observed. The mechanical characteristics of the tested mortar were not improved by treatment with lime water with added metakaolin. Barium water treatment significantly increased mainly the tensile strength of the tested lime mortar.

Reference 74 - 0.06% Coverage

¶132: Alkaline activation as an alternative method for the consolidation of earthen architecture

Reference 75 - 0.79% Coverage

¶133: The majority of historic buildings and archaeological remains made of earth exhibit important conservation problems, which require consolidation. Most conventional consolidation treatments used in the past have not succeeded in providing a long-term solution because they did not tackle the main cause of degradation, the expansion and contraction of constituent clay minerals in response to humidity changes. Clay swelling could be reduced significantly by transforming clay minerals into non-expandable binding materials with cementing capacity using alkaline activation. It is demonstrated that a significant degree of clay mineral dissolution and transformation is achieved upon activation with 5 M NaOH and 5 M KOH solutions. Furthermore, adobe test blocks impregnated with either 5 M NaOH or 5 M KOH solution experience an important improvement in water resistance and mechanical strength. The influence of structural and compositional differences of clay minerals commonly present in earthen structures on their reactivity under high pH conditions and the consolidation efficacy of the various alkaline solutions are discussed. Also addressed are possible side effects of the alkaline treatment such as colour change and the formation of potentially damaging salts.

Reference 76 - 0.07% Coverage

¶134: Characterization of TEOS/PDMS/HA nanocomposites for application as consolidant/hydrophobic products on sandstones

Reference 77 - 0.79% Coverage

¶135: Extensive studies have been conducted on the conservation of historical stones. Although many different surface-coating materials have been tested to date, alkoxysilane materials and their composites have shown the most promising results. In this study, composites of nano-hydroxyapatite (n-HA) and tetraethoxysilane (TEOS) were prepared and used for sandstone conservation. The effectiveness of the composites in consolidating and conferring hydrophobic

properties to sandstone were evaluated by X-ray diffraction, scanning electron microscopy, static contact angle, mercury intrusion porosimetry, mechanical properties and water capillary absorption. The durability of the materials was examined under different environmental conditions by artificial aging tests. Results showed that the introduction of n-HA and hydroxyl-terminated polydimethylsiloxane into TEOS associated with a neutral catalyst could impart to the stone surface a coarser network for vapor transport and a hydrophobic effect for liquid water at the same time when the TEOS-based nanocomposites were applied as consolidant products on sandstones. Moreover, n-HA played an important role in improving mechanical properties and resistance to artificial aging tests but not in changing the color of sandstone samples.

Reference 78 - 0.04% Coverage

¶136: A study on reversibility of BEVA®371 in the lining of paintings

Reference 79 - 0.67% Coverage

¶137: The adhesive properties of BEVA®371 used in the lining of paintings and the reversibility and invasiveness of the operation as a function of the different application conditions has been investigated in this work. Peel and lap shear mechanical tests on specific samples were then done in order to study the adhesion effectiveness. After the tests, cross-sections of samples were observed under optical microscope to examine the adhesive distribution; moreover, the samples were examined with SEM analysis to evaluate the adhesive invasiveness. Also, a series of removal tests of lining fabrics from an original painting were done in order to establish the method allowing the highest degree of reversibility. The influence of artificial ageing was evaluated on a series of samples subjected to thermal-hygrometric stress for some months. Changes in the elastic and adhesive properties were observed, but all together the study indicates that from the mechanical point of view BEVA®371 is a quite stable material for lining operations made with properly controlled application methods.

Reference 80 - 0.05% Coverage

¶138: Evaluating the use of chitosan coated Ag nano-SeO2 composite in consolidation

Reference 81 - 0.18% Coverage

¶139: Polymers nano-composite sciences (PNC) provide us each day with updated contributions enriching the consolidation methodology of ancient materials. This study aims to evaluate the use of cross-linked chitosan (CCTS) coated Ag-loading nano-SeO2 composite (CCTS–SLS) in the consolidation of

Reference 82 - 1.15% Coverage

¶139: In this study, new linen textile samples were artificially aged to simulate the ancient ones. The new accelerated aged linen textile samples simulated to the ancient one were infested with active strains of fungi and bacteria, which were isolated from the ancient shroud. Both the ancient fibers and the newly prepared linen samples were consolidated with cross-linked chitosan (CCTS) coated

Ag-loading nano-SeO2 composite (CCTS–SLS) and chitosan biopolymer. Various methods and instruments were used to investigate both the treated and untreated samples. The structures of (CCTS–SLS) were characterized by field emission scanning electron microscope (FESEM). The change of the colors (ΔL, Δa, and Δb), tensile strength and elongation of the untreated and treated linen samples after ageing were assessed. Consolidated and non-consolidated ancient fibers and accelerated linen samples were examined using atomic force microscopy (AFM), scanning electron microscopy (SEM) and scanning tunneling microscopy (STM) and Fourier transform–infra-red spectroscopy (FT–IR) and have been elementally analyzed using inductively coupled plasma (ICP). The consolidated samples were appraised via dynamic thermal analysis (DMTA). The results show that the antibacterial activity of (CCTS–SLS) was affected by the mass ratio of selenium dioxide to chitosan, and by the cross-linking time. The antibacterial activity against Staphlococcus aureus sp. strains was studied. Samples treated with (CCTS–SLS) showed excellent properties in comparison to chitosan treated samples. Genetic efficacy of nano CCTS–SLS is different from normal-sized chitosan. The application of cross-linked chitosan (CCTS) coated Ag-loading nano-SeO2 composite (CCTS–SLS) to the consolidation of the ancient shroud showed good bacterial resistance, enriching the long-term durability of the ancient linen.

Reference 83 - 0.02% Coverage

¶142: Near infrared spectroscopic studies on

Reference 84 - 0.36% Coverage

¶143: It is necessary to develop the knowledge related to the chemical, physical and mechanical properties of antique floor heritage, for its proper conservation. Near infrared spectroscopy was applied here for rapid and non-destructive recognition of natural finishes traditionally applied for the protection of the wooden floors. The system was capable to correctly identify the reference finishes applied on contemporary wood samples. However, analyses of antiques floors were more problematic. The set of samples of original antique decorative wooden flooring was collected from

Reference 85 - 0.38% Coverage

¶143: Both houses contained well preserved wooden flooring that had not been subject to restoration in the past. The method shows great potential, even if in some cases an ambiguous classification was obtained. The reasons included natural deteriorations of floors during service life. Originally used substances might change their chemical composition during lifetime as a result of aging, weathering, usage and external contaminations. Given that, it was concluded that the results of spectroscopic evaluations might provide valuable assistance to conservators and facilitate decisions on the proper object maintenance.

Reference 86 - 0.06% Coverage

¶144: A perceptual approach to the fusion of visible and NIR images in the examination of ancient documents

Reference 87 - 0.96% Coverage

¶145: Imaging techniques are commonly used to improve the legibility of text in ancient or degraded documents. Infrared reflectography is one of the best methods for examining documents written in a carbon-based ink since the contrast between the ink and the support is usually much greater in that band. In these cases, for archival and study purposes, the visible and the corresponding infrared images are usually shown next to one another. In other cases, like e.g. papyri, this separation between text and background is not easily achievable, and therefore, a more sophisticated elaboration is needed. Moreover, in these cases, the background is a relevant source of information on the original document, and thus its integration with the extracted text could represent an effective solution for scholars. In this paper, we present a new method to improve the legibility of the text in visible light reflectance images without altering the appearance of the support. The method is based on the fusion of the text extracted from the infrared image with the visible image. The contrast of the text in the infrared image is first enhanced with the Automatic Color Equalization algorithm, a perceptual-based enhancement technique, and then extracted with a thresholding process. The proposed method allows to visualize different information (text, background, alterations, etc.) on a single image, and can be also used for an efficient archival approach.

¶146: Using advanced NDT for historic buildings: Towards an integrated multidisciplinary health assessment strategy

Reference 88 - 0.08% Coverage

¶147: The reliability of non-destructive techniques (NDT) is examined, in particular in connection with the technique's application

Reference 89 - 0.27% Coverage

¶147: NDT techniques are effective in the identification of such defects as cavities and water ingress hidden within a structure, in addition to providing information on material properties. This research is unique in utilizing NDT within a multidisciplinary assessment strategy to demonstrate its value within the field and will be of particular interest to structural engineers and architects.

¶148: An approach for the mechanical characterisation

Reference 90 - 0.03% Coverage

¶148: in presence of insufficient experimental data

¶149:
Reference 91 - 0.71% Coverage

¶149: For its structural configuration, the tower appears prone to seismic damages and, therefore, an assessment of its dynamic properties is of primary importance to predict its seismic response. In the present paper, based on the results of limited material tests, the mechanical and dynamic properties of the tower are analysed through the development of models of increasing complexity. First, models for the evaluation of the main materials mechanical properties are compared to validate the experimental results. Then, different structural models of the tower (from simple continuum analytical models to more complex finite element models) are developed. The analytical and numerical results obtained from the different models are finally compared to some recent

experimental measurements of the free vibration response of the tower conducted by the Italian National Institute of Geophysics and Volcanology (the INGV). The preliminary results indicate that the experimental frequencies are in good agreement with the values obtained from the models. However, additional studies are necessary to better understand the torsional response of the tower.

Reference 92 - 0.09% Coverage

¶150: Combining digital speckle pattern interferometry with shearography in a new instrument to characterize surface delamination in museum artefacts

Reference 93 - 0.10% Coverage

¶151: Digital speckle-shearing-pattern interferometry (DSSPI) combined with digital speckle pattern interferometry (DSPI) were used to document the state of preservation

Reference 94 - 0.58% Coverage

¶151: Delaminated areas in surfaces of the paintings were detected by inducing surface vibrations with a sonic wave of varying frequency emitted from a loudspeaker. DSPI allowed the size of the areas and vibration resonant frequencies to be characterized, whereas DSSPI was successful in obtaining the spatial distribution of the vibration amplitude with sub-micrometre accuracy as a function of the sound frequency used. The procedure provided precise, detailed and reproducible information on the character of each damaged area in spite of the considerable size of the paintings and the unstable out-of-lab conditions of a conservation studio in which the measurements were carried out. The obtained results will be used as a reference for future surveys of the paintings in order to trace the possible development of surface detachments, even at an incipient stage, which cannot be easily detected by the naked eye or manual inspection

Reference 95 - 0.02% Coverage

¶152: Laser scanning and 3D modeling

Reference 96 - 1.36% Coverage

¶153: To preserve information about the tower, we performed laser scanning and created a precise polygonal 3D model using both the results of the scanning and the existing drawings. The transition from an unstructured point cloud to a highly structured representation included the development of a special methodology to model deformed steel elements of hyperboloid sections. The tower was scanned from seven viewpoints, resulting in a 65 M point cloud. To reproduce the individual shapes of twisted rods and rings, we used > 4 K pre-defined cross-sections. These were precisely positioned in a point cloud. The connection joints of steel elements were modeled using drawings based on measurements that were made in 1947. Non-original design elements such as service platforms and an elevator were also modeled using the point cloud. We also made use of historical drawings and photographs to represent the internal structure of the concrete basement and the non-extant original superstructure. The combination of various methods of 3D modeling for different parts of the tower allowed us to visualize the geometry of the huge steel construction with high accuracy (1

cm or so) and with high level of detail in a reasonable timeframe (300 man-days). Public access to large 3D models and to vast amounts of raw data is a sensitive issue for virtual heritage applications. To provide free access to our results, we created an open-source software application based on Open Scene Graph. It supports stereo visualization of the point cloud and the 3D model, as well as management of the visibility of different layers of the model in accordance with its lifecycle period. A light web-version based on Unity 3D is also being developed to provide Internet access to the model. The software is freely available at our website (http://virtual.ihst.ru/shukhov-tower.html). Thus, we created a comprehensive visual representation of a steel lattice radio tower of the early 20th century and shared precise technical documentation with researchers worldwide. The experience that we have gained can be useful for other similar projects that involve precise polygonal modeling of large-scale objects of modern cultural heritage.

Reference 97 - 0.08% Coverage

¶160: Evaluation of mechanical soft-abrasive blasting and chemical cleaning methods on alkyd-paint graffiti made on calcareous stones

Reference 98 - 1.23% Coverage

¶161: focuses on the assessment of three graffiti cleaning systems on alkyd-paint graffiti aerosols made on two Portuguese calcareous stones, a marble, Branco, and a limestone, Lioz. These calcareous stones are commonly used in Portugal as building materials and ornamental stones. Two non-conventional commercial dry soft-abrasive blasting media (MC1 and MC2), specifically developed to clean the sensitive and delicate surfaces were tested: MC1 uses a sponge-like urethane polymer involving spherical calcium carbonate particles and in MC2 pure spherical calcium carbonate particles are used. An alkaline cleaner based on a solution of potassium hydroxide was also tested. The criteria for assessing the effectiveness and potential risks included changes in the chromatic parameters, static contact angle and surface roughness of the stones, identification of deleterious products and modification of the morphology and the composition of the surfaces. The methods were effective in the removal of the paint layers, although surfaces became slightly lighter. Adapting the classification proposed by Garcia and Malaga, 2012, the mechanical soft-abrasive cleaning methods were classified for both stones as Class C, i.e., with ΔEab near 12. The chemical cleaning was classified as Class A for the marble (ΔEab < 5) and as Class B for the limestone (5 < ΔEab < 10). No subproducts were identified. With the chemical cleaning, distinct removal of crystals or dissolution of grain boundaries in addition to surface dissolution was observed. The cleaning methods presented a slight low damage potential to these stone materials, i.e., the impact of the cleaning methods on the topography of the surfaces was much reduced. These methods also altered the water repellence of the stone surfaces. An increase in the static contact angles was observed and could be related with changes in the roughness of the surfaces and also to unremoved polymers absorbed in some of the pores of the surfaces.

¶162:
Reference 99 - 0.45% Coverage

¶167: An extensive experimental programme − including geometric survey, visual inspections, ambient vibration tests, sonic and flat-jack tests − has been planned and carried out to support the future preservation actions of the tower. The paper focuses especially on the outcomes of on-site survey and dynamic tests and highlights the effectiveness of integrating the information obtained

from these tests to assess the structural condition and seismic vulnerability of the tower. The adopted experimental methodology, generally suitable as a prompt diagnostic procedure, successfully detected the local vulnerabilities as well as the overall state of preservation of the tower and addressed the subsequent monitoring phase.

¶168:
Reference 100 - 0.02% Coverage

¶170: By combining scientific studies

Reference 101 - 0.05% Coverage

¶171: Multidisciplinary, diachronic methodology for the conservation of archeological remains.

Reference 102 - 0.04% Coverage

¶177: Texture reconstruction of 3D sculpture using non-rigid transformation

Reference 103 - 0.77% Coverage

¶178: The current generation of high precision 3D digital sculpture models is a primary reality-based modeling tool for digital documentation, archaeological research, virtual restoration, and digital exhibition. However, high precision texture mapping remains a challenge in high fidelity digital reconstruction of complex sculptures, especially in the areas of rich geometrical details. This paper proposes a method to texture mapping one image onto the sculpture model to deal with the mapping problem problems caused by the image distortion and the model deformation. Firstly, we use a rigid pinhole camera model to project the image onto the geometric model to acquire primary texture mapping, where direct linear transformation is employed to estimate the elements of exterior orientation of the texture image. Then, we propose a non-rigid transformation model, called weighted thin-plate spline (W-TPS), discuss the theoretical derivation and the establishment of the W-TPS function, and apply this model to adjust the primary texture mapping results. The proposed method can precisely project the image onto the geometrical model both globally and locally. We conduct three experiments to verify the efficiency and feasibility of the proposed method

Reference 104 - 0.05% Coverage

¶179: A line scan camera-based structure from motion for high-resolution 3D reconstruction

Reference 105 - 0.39% Coverage

¶180: A line scan camera-based structure from motion method for high-resolution 3D reconstruction is proposed. The imaging model of a line scan camera is discussed to characterize the relationship between the coordinates of the physical object in space and the corresponding coordinates of its image taken by the scanner. A camera calibration framework based on such a system to estimate the intrinsic parameters and a set of extrinsic parameters along with recovering 3D shape of the object are addressed in detail for high-resolution 3D reconstruction with improved efficiency. The method was applied to the 3D reconstruction of 31 statues

Reference 106 - 0.15% Coverage

¶180: Experimental results demonstrate the merit and effectiveness of this method to high-resolution digitization of cultural heritage.

¶181: Using noise function-based patterns to enhance photogrammetric 3D reconstruction performance of featureless surfaces

Reference 107 - 0.70% Coverage

¶182: One of the factors that determine the data quality produced by targetless photogrammetric techniques is the feature richness of the surface being captured. The Structure-From-Motion and Multiple View Stereovision (SFM-MVS) pipeline is no exception to this rule as it relies on the ability to identify corresponding points within a collection of unordered images. In this work, we question the introduction of noise function-based pattern (NFP) projection in the SFM-MVS data collection phase in order to enhance the reconstruction performance when applied on featureless surfaces. We selected a set of NFPs and we demonstrate their reconstruction performance enhancement on a Cycladic figurine by using a commercial SFM-MVS software package. We quantify each NFP's behaviour in relation to the produced data. We correlate the reconstruction results with band limiting and aliasing pattern characteristics. We compare the SFM-MVS data with those produced by digitising the same artefact with a laser triangulation scanner. We discuss the NFPs performance along with the advantages of the proposed methodology and its limitations.

¶183:
Reference 108 - 0.50% Coverage

¶184: GIS and remote sensing techniques have been used in order to map the listed monuments in the Paphos District, as well as to record spatial and temporal land use changes since the 1980s. The spatial patterns of urban sprawl are studied and analysed using archive time series medium resolution Landsat ETM+ and TM satellite imagery. In addition, a DMSP-OLS night-ime image was also used. Several supervised and unsupervised classification algorithms have been evaluated and examined for this purpose. Additionally, Markov equation were applied in an attempt to predict future urban expansion The final outcomes revealed that a dramatic increase of the urban areas took place in the last years in Paphos district, and as a result significant pressure is expected on archaeological sites found in the peri-urban areas.

¶185:
Reference 109 - 0.07% Coverage

¶187: An integrated framework to assess complex cultural and natural heritage systems with Multi-Attribute Value Theory

Reference 110 - 0.06% Coverage

¶189: A new method for making artificially weathered stone specimens for testing of conservation treatments

Reference 111 - 1.48% Coverage

¶190: The application of new consolidating products on the surface of weathered materials is a common intervention technique in conservation practice. Due to the difficulty of producing artificially weathered substrates in a reproducible way, the effect of consolidating products in laboratory is generally assessed on sound substrates. However, the properties of a weathered substrate largely differ from that of the original sound material; this might make the results of laboratory tests unreliable or hamper their interpretation. In this research, a new method for the production of weathered specimens in a reproducible way has been developed and validated on three types of limestone with different total porosity, pore size and petrographical characteristics: Maastricht, Savonnières and Euville. The aim was to develop a substrate on which the effectiveness, compatibility and durability of consolidating products can be tested in laboratory in a more reliable way than when using fresh stone. The method consists of grinding and sieving the stones in a grain size largely similar to that of the sound material and re-aggregating the particles by the use of air lime: a lean “mortar” is obtained which is applied as a layer on the sound stone to simulate the decayed surface of a material showing granular disintegration. The grain size and the binder to aggregate ratio are chosen in such a way as to reproduce those characteristics typical of weathered stones showing loss of cohesion (i.e. sanding or powdering): i.e. increased pore size and open porosity and lower cohesion and strength in comparison to the sound substrate. The properties of the obtained weathered substrates have been studied in comparison to that of the fresh stone: pore size and pore size distribution have been measured by Mercury Intrusion Porosimetry; Polarized and Fluorescence Microscopy has been carried out to study the petrographical characteristics of the assemblage sound stone/re-aggregated layer; the water absorption behavior and hardness (by means of Drilling Resistance Measurement System, [DRMS]) have been measured as well. The results of the research show that with this method it is possible to obtain specimens reproducing the higher and coarser porosity and lower mechanical strength, typical of stones suffering loss of cohesion.

¶191: Formulation and microstructural evaluation of tuff repair mortar

Reference 112 - 0.53% Coverage

¶192: The purpose of this study was to develop a compatible repair mortar for two lithotypes of Peračica tuff (Slovenia): fine-grained and coarse-grained. Mineralogical–petrographic characterization of tuff was carried out via optical microscopy and X-ray powder diffraction, and the relevant physical–mechanical properties of tuff and repair mortars were determined: capillary water absorption, water absorption at atmospheric pressure, open porosity, compressive strength and resistance to salt crystallization. A repair mortar was prepared by mixing crushed Peračica tuff and quartz sand, with different grain size and mass ratios, and ethyl silicate (KSE 500 STE, Remmers) as a binder. The results showed that with an appropriate combination of crushed tuff, quartz sand and ethyl silicate, a compatible repair mortars can be obtained for both lithotypes.

Reference 113 - 0.06% Coverage

¶193: Electrochemical desalination of historic Portuguese tiles – Removal of chlorides, nitrates and sulfates

Reference 114 - 0.19% Coverage

¶194: Soluble salts cause severe decay of historic Portuguese tiles. Treatment options for removal of the salts to stop the decay are few. The present paper deals with development of a method for electrochemical desalination, where an electric DC field is applied to the tiles. Laboratory experiments were conducted

Reference 115 - 0.80% Coverage

¶194: Large parts of the glaze and parts of the biscuit were lost from salt decay. The major aim of the investigation was to see if the method could offer sufficient salt removal in the biscuit and in the interface between biscuit and glaze, where salt crystals were clearly identified by SEM-EDX before desalination. The concentrations of chloride and especially nitrate were very high in the tiles (around 280 mmol Cl−/kg and 450 mmol NO3−/kg respectively). Both anions were successfully removed to below 6 mmol/kg during the electrochemical treatment. The removal rate was similar for the two anions so the chloride concentration reached the lowest concentration level first. At this point the electric resistance increased, but the removal of nitrate continued unaffected till similar low concentration. The sulfate concentration was initially very low, but nevertheless, sulfate removal started at the point where chloride and nitrate concentrations were very low in the tiles. Investigating the interface between biscuit and glaze after the treatment showed no signs of crystallized salts, so also in this important point, the desalination was successful. Based on the obtained results an important step is taken towards development of an electrochemical technique for desalination of tile panels.

Reference 116 - 0.05% Coverage

¶195: Measurement of reversible rate of conservation materials based on gel cleaning approach

Reference 117 - 0.04% Coverage

¶196: In this work, a new hydrogel designed for water-sensitive artifacts

Reference 118 - 0.65% Coverage

¶196: was synthesized to remove the ineffective conservation materials on mural surface. The reversible rate of each conservation material was measured based on hydrogel cleaning. It was found that the gel filled with cleaning agents showed excellent performance over the empty gel. Besides, it was more environment-friendly without mechanical damage to the sensitive surface and easier to control the cleaning process compared with pure organic solvent cleaning. 3D microscopic system confirmed the cleaning effects both visually and quantitatively. The best “conservation material-cleaning agent” pairs and their reversible rates were obtained, which were “ParaloidB72---P-xylene + ethyl acetate---80%”, “polyvinyl acetate---P-xylene + ethyl acetate---40%”, “acrylic---P-xylene---44%”, “silicone---P-xylene + 1-Pentanol---55%”. It was also found that the reversible rates of the conservation materials declined after aging.

¶197: Exploring ecological relationships in the biodeterioration patterns of Angkor temples (Cambodia) along a forest canopy gradient

Reference 119 - 0.77% Coverage

¶198: These biodeterioration patterns change in response to different environmental conditions, and the aim of this study is to quantify their frequency and ecological characteristics according to a forest canopy gradient. The descriptive and multivariate statistical analysis applied to data collected from the four temples in the study identifies various biological communities along with a temple-specific ecological succession. The initial pioneer community is primarily composed of a reddish biofilm of the green alga Trentepohlia sp., and it occurs in xeric and shady environmental conditions, becoming dominant in forested areas. Cyanobacteria biofilm, consisting of species belonging to the genera Scytonema and Gloeocapsa, sometimes in combination with the lichen Endocarpon sp., prevails in xeric and sunny conditions. With the progressive increase of the availability of edaphic water, typical of forested areas, various lichen communities are able to establish themselves (dominated by Lepraria, Pyxine coralligera and Cryptothecia subnidulans respectively), followed by moss and higher plant communities. Understanding these relationships appears to be a very useful way of identifying the best microclimatic conditions for stone conservation.

Reference 120 - 0.03% Coverage

¶199: Preliminary digital health record of limestone walls

Reference 121 - 0.06% Coverage

¶200: deals with the preliminary establishment of the so-called digital health record of an ancient monument

Reference 122 - 0.54% Coverage

¶200: This documentation tool is designed to store, organize and analyze heterogeneous data about the states of a monument around a 3D model. To promote and spread the use of this new digital technique, a low-cost and highly portable application is proposed here. The present study compares the mapping of degradation, and the mapping of the previous state of burial, stored and displayed on the 3D photomodel of Al-Ziggurat walls, in order to provide a preliminary analysis and diagnosis of the origin of stone degradations. Photogrammetric techniques appear suitable to create a primitive-based 3D model with textured surfaces for the drawing and the representation of mappings. It is concluded that gypsum pollution from the soil may trigger or enhance new degradations on the recently excavated walls through direct contact with stone or transport of dust by the wind.

¶201:
Reference 123 - 0.99% Coverage

¶204: An initial investigation of the gilded and silvered parts of the paintings, sculptures and architectural decor of the altarpiece was undertaken using a portable X-ray fluorescence analyser. Not only the expected metallic elements gold and silver were identified, but also bismuth. This surprising result led on to a complex study of the altarpiece, focused on the layered structure and the method by which bismuth was used the paint layers under the metal-coated areas (under the gold and silver plating). The coating technique using bismuth powder in the Late Gothic period has

already been described in scientific publications. However, our paper deals with a rare technique, i.e. the use of powdered bismuth in red bole and its plating with gold and silver leaf. Several micro-samples were therefore taken from carefully selected parts of the altarpiece. Only a minimum amount of sample material was taken, due to the significance of altarpiece. The samples were then analyzed with optical and electron microscopy, EDS analysis, micro-XRF, and other methods. The quantitative element mapping on the cross-section of a micro-sample with gilding showed distributions of several elements (Bi, Au, Fe, Al, Ca); this means that the presence of bismuth grains in the red layer under the gilding leaf was proven. Interdisciplinary cooperation and a combination of microscopic and spectral methods have enabled us to describe this unique late Gothic gilding technique, in which metallic bismuth was intentionally used to affect the color scheme of the coated areas in paintings and polychrome sculptures.

¶205:
Reference 124 - 0.06% Coverage

¶207: Biological colonization and biodeterioration of architectural ceramic materials: An overview

Reference 125 - 1.16% Coverage

¶208: Data regarding biodiversity found on architectural ceramic materials was described for three typologies: bricks, roofing tiles and glazed wall tiles. A vast biodiversity has been identified on these ceramic materials, from bacteria to more complex organisms, such as plants. Bricks were the most studied substrate, while literature on glazed wall tiles was scarce. The highest biodiversity was found on bricks, may be due to the fact that this was the most studied typology. Several works regarding the colonization of ceramic roofing tiles by lichens were found in the literature, which led us to realise that this is a topic that arouses the attention of several researchers. Photoautotrophic microorganisms found on glaze wall tiles represented a considerable biodiversity in this ceramic typology, with many genera in common with those identified on bricks and roofing tiles. Nevertheless, in the searched literature, different methods had been used to identify and characterize the organisms. This made the comparison of the global biodiversity found on these substrates difficult. Architectural ceramic materials exposed to outdoor conditions are often affected by biodeterioration. This worldwide problem can cause aesthetical, physical and chemical damages on ceramic materials. The distinct biodeterioration processes occurring on the different substrates found on architectural ceramic materials are explained in detail. The relationship between the ceramic intrinsic properties and bioreceptivity was discussed. Porosity and surface roughness seemed to play a major role in bioreceptivity to colonization. Ceramic microstructure has a strong influence on the resistance to biodeterioration. Finally, the authors come to the conclusion that there are many gaps in the knowledge, especially concerning glazed ceramics, and thus, further research was proposed.

¶209:
Reference 126 - 0.43% Coverage

¶211: In the above perspective, the paper explores the use of multicriteria-spatial decision support systems (MC-SDSS) in order to define enhancement strategies for cultural built heritage. The integration among different evaluation methodologies (SWOT analysis and analytic network process) and tools with spatial analysis strengthens the explorative role of this kind of approaches. In this research the MC-SDSS has been applied to a system of thirteen castles in a mountainous region in the North of Italy. The study has been carried out with a special attention to the mutual relationship

among this system of goods and the surroundings, according to a multidimensional structure of analysis.

¶212:
Reference 127 - 0.53% Coverage

¶213: In this study, we demonstrate that the disregard of environmental control for relics and the imbalances of energy and mass across in situ air-relic-soil interfaces in pits are important causes for the deterioration of relics. Thus, individual environmental management strategies for visitor passages and relic preservation are proposed for the long-term preservation of unearthed relics. Experimental investigations using the test pit, with radiant panels for control of the environmental interfaces, validated these management strategies for the preservation and display of relics in archaeology museums. These results have significant implications for understanding the mechanism of relic deterioration and for formulating appropriate strategies to create sustainable environments for long-term preservation of unearthed relics in archaeology museums.

Reference 128 - 0.47% Coverage

¶215: Classical and advanced theories are implemented in a computer program to obtain the orthostat's overturning safety factor. Two examples of application concerning polylithic and monolithic structures are explained. These cases show the capabilities of this code to deal with current orthostat stability problems. Moreover, the program is able to support simulations on constructive processes and methods of erection or even to study the possible orthostat breakage causes. This information can contribute to a better knowledge of ancient constructional technology, which is directly connected with the cultural heritage of prehistoric societies.

¶216: Innovative approach to the digital documentation and rendering of the total appearance of fine drawings and its validation

Reference 129 - 0.49% Coverage

¶217: The paper presents a new technique for detecting and rendering the total appearance of a drawing with the aim of digitally visualizing fine drawing collections with perceptive accuracy. A drawing's total appearance can be measured using equipment commonly found in a photographic studio. The system consists of four strobes and an RGB camera. The appearance is defined by its spatially varying spectral reflectance factor, surface macrostructure and surface microstructure. Using stereo-photometric principles, images of each light source taken sequentially from 45° by the normal and annularly at each 90° angle (for four lights) were used to measure the surface normal and diffuse reflectance. An OpenGL viewer was written to render images for specific geometries and for studio lighting

Reference 130 - 0.06% Coverage

¶218: Crack assessment in marble sculptures using ultrasonic measurements: Laboratory tests and application

Reference 131 - 0.44% Coverage

¶219: The large marble statues can suffer serious fractures, due to the stress states originated by the weight and the shape, often thin and articulated. Fractures are often triggered by surface cracking. For this reason, it is important to assess the severity of the apparent cracks, by performing periodic nondestructive surveys. The ultrasonic method is well suited for this purpose. This paper presents a research activity finalized at improving the application of the ultrasound method to the detection of crack depth in marble elements. Two different techniques are presented. These, after having been validated in the laboratory by operating on marble specimens, have been applied to a diagnostic investigation

Reference 132 - 0.26% Coverage

¶219: The results obtained have allowed us to provide useful information about the severity of the damage. The depth was estimated with good reliability for some of the more evident cracks present in the left leg and in “broncone”, the false tree trunk on which the left leg rests. The maximum depth is evaluated at approximately 20 mm. In other areas, diffuse cracking or surface deterioration of the marble have been detected.

¶220:
Reference 133 - 0.75% Coverage

¶220: a spectroscopic pilot study

¶221: This study presents a combined Fourier transform (FT) mid-infrared, laser Raman and Commission internationale d’éclairage (CIE) L*a*b* system analysis of quarry-derived impure limestone and fallen masonry from a medieval listed building situated in the south east of England, to ascertain how spectroscopic information can be collectively employed to identify the most exacting possible replacement stone source. Data shows that subtle differences in [Al] and [Fe3+] octahedral and tetrahedral site occupancy in glauconite group clays registered in the mid-infrared [3530 cm−1/3620 cm−1] absorption ratio exerts some influence on L*Cab*hab* values. Increases in L* and Cab are associated with decreasing clay content. The overall weakness of correlations between infrared and visible range spectral attributes indicates multiple contributing sources to overall color. Evidence indicates that the degree of laser Raman induced background noise is related to the overall calcite content and that activators of fluorescence at 785 nm excitation wave length may also contribute to rock color. The results are utilized to define closest matching quarry samples to the fallen masonry.

Reference 134 - 0.07% Coverage

¶222: Study on workability and durability of calcined ginger nuts-based grouts used in anchoring conservation of earthen sites

Reference 135 - 0.69% Coverage

¶223: In this study, calcined ginger nuts (CGN) grouts admixed by fly ash (F) and quartz sand (S) was investigated on its suitability for anchoring use in earthen sites. According to requirement for the consistency of grout, the mix proportions were determined with 0.45 for CGN_F, 0.33 for CGN_S and 0.35 for CGN_F_S, by mass, to study their physical and mechanical property and durability. Test results indicated that use of fly ash can prolong the initial setting time of grout and admixture by fly

ash and quartz sand leaded to lowest density and shrinkage, higher porosity, and highest strength. Accelerated aging tests indicated that admixture by fly ash led to a high resistance to fluctuation of temperature and humidity, sulfate attack and alkali environment; meanwhile, admixture by quartz sand resulted in high resistance to freeze-thaw action and water environment. As a compromise, CGN_F_S can get predominant durability. The paper shows that CGN_F_S grout is basically compatible to earthen sites and suitable for anchoring use in the conservation of earthen sites in terms of workability and durability.

Reference 136 - 0.07% Coverage

¶224: Flos Tectorii degradation of mortars: An example of synergistic action between soluble salts and biodeteriogens

Reference 137 - 0.67% Coverage

¶225: At present, there is still a lack of information about the full interpretation of this phenomenon regarding the interaction between the different physicochemical and biological factors that lead to this particular type of degradation. The present study was aimed to examine whether the specific mineralogical and textural characteristics of plasters can promote or hinder the development of Flos Tectorii and, at the same time, to explore if the presence of biodeteriogens is involved in it. The analytical results seem to suggest that the chemical and mineralogical composition of historic mortars does not significantly influence the advance of this phenomenon. At the same time, the isolation of some Actinobacteria suggests that they could act as biodeteriogens in the presence of hygroscopic soluble salts, leading to selective intergranular decohesion of the affected material. Anyhow, the biodeteriogenic role of microorganisms needs to be further investigated.

¶226: Efficacy of dielectric barrier discharge (DBD) plasma in decontaminating Streptomyces colonizing specific Coptic icons

Reference 138 - 0.60% Coverage

¶227: Eight Streptomyces isolates were collected from three deteriorated icons dated back to 18–19th centuries. Streptomyces isolates cause different deterioration symptoms such as disfiguration, blackening of red lead and thinning of linen fibers in the canvas. Dielectric barrier discharge (DBD) plasma were used in decontamination Streptomyces colonizing icons and a period 8 min was sufficient for decontamination of most isolated Streptomyces and the distance 3 mm was more effective than other distances. DBD plasma treatment for different periods (4, 8, 10 min) for different distances (3, 5, 10 mm) did not cause any visual chromatic alteration for irradiated pigments of red lead, cinnabar HgS, PbCO3, black carbon, copper acetate (CuCOOH, H2O), hematite, limonite and Egyptian blue. On the other hand, FTIR spectra indicated no modification in the structure of tested binder in the grounds. Finally, DBD plasma did not affect on the tensile strength of linen canvas.

Reference 139 - 0.05% Coverage

¶228: Lead isotope data for provenancing mediaeval pigments in Swedish mural paintings

Reference 140 - 0.08% Coverage

¶229: A plausible origin of lead can often be proposed from its stable isotope ratios. The isotopic composition of 28 lead pigments from

Reference 141 - 0.72% Coverage

¶229: were analyzed. In general minium (Pb_3O_4) or its oxidized transformation product plattnerite (β-PbO_2) was analyzed. A number of churches share similar Pb isotope signatures, and tentatively it is possible to distinguish a number of different isotope signatures suggesting various origins of lead. Although lead ore was mined in the Bergslagen ore district (south-central Sweden) during Mediaeval times, there is no isotopic match between Bergslagen ore data and any of the pigments. Based on the lead isotope data and other lines of evidence, we presume that the majority of lead pigments most likely originate from Harz (in the center of Germany) and Erzgebirge (between Sachsen and Bohemia). The results also indicate that usually the different lead pigments taken from an individual church have the same isotopic composition, i.e. indicating the same origin. An exception is the Mästerby church (Gotland), with paintings in a Russian-Byzantine style. Its lead isotope signatures are heterogeneous, and for some material a Russian origin is instead suggested.

¶230: Amphiphile-based nanofludis for the removal of styrene/acrylate coatings: Cleaning of stucco decoration

Reference 142 - 0.76% Coverage

¶231: The conservation of mural paintings, stone and stucco elements, which are present in archaeological sites, may involve the removal of synthetic polymers used in the past as consolidants or protective agents. Unfortunately, traditional cleaning methods do not provide satisfactory results in this case. Micelles and microemulsions are the most effective alternative to the use of traditional organic solvents. In this contribution, we report the results of laboratory and in situ cleaning tests on specimens and works of art, whose surface was coated with Sokrat® (also known as Axylat®). Polymer removal was performed with a microemulsion that was previously used to efficiently remove Paraloid B72® from inorganic porous substrates. The good results obtained in laboratory were confirmed by the cleaning test on the stucco decorations in the Uaxactun archaeological site (Guatemala). Finally, SAXS characterization of the nanofluid before and after the interaction with Sokrat® showed that micelles reorganize and get smaller due to the solvents' migration from the aggregates to the polymer. This behavior is in agreement with previous results obtained on this and other microemulsions interacting with different polymeric films.

¶232:

Reference 143 - 0.48% Coverage

¶233: The fragile polypore was treated with the feather-keratin method that we developed for the preservation of wet organic archaeological materials. The method reinforced the polypore against the collapse caused by air-drying. The anatomical features of the polypore were observed under light microscopy and the host wood present at the edge of the basidiocarp was identified as Morus sp. on the basis of anatomical observations. Eventually, the polypore was identified as Inonotus sanghuang. Macroscopic and microscopic observations were carried out in order to evaluate the effectiveness of the keratin treatment on the polypore tissue. The keratin consolidated to the hyphal

cell walls, where it stabilized the thick walled fungal mycelium that makes up the polypore fruiting body.

Reference 144 - 0.64% Coverage

¶234: Dimensional changes of waterlogged archaeological hardwoods pre-treated with aqueous mixtures of lactitol/trehalose and mannitol/trehalose before freeze-drying

¶235: The article presents research on changes in the dimensions of waterlogged archaeological oak and beech wood pre-treated with aqueous solutions of either a mixture of lactitol and trehalose or a mixture of mannitol and trehalose, and then vacuum freeze-dried or dried with the use of the conventional air-drying method. Uptake of impregnants, shrinkage and moisture content in wood after freeze-drying, and changes in dimensions and moisture content in all modified and dried wood samples after its seasoning in the air at relative humidity 50% and temperature of 18 °C were determined. It was shown that even at a low uptake of lactitol/trehalose or mannitol/trehalose mixture and vacuum freeze-drying, a considerable reduction in the shrinkage of the wood under research could be obtained.

¶236: Aging effects on physical and mechanical properties of spruce, fir and oak wood

Reference 145 - 0.21% Coverage

¶237: It could be shown that aging modifies wood colour and causes a reduction of impact bending strength, whereas sorption and swelling as well as bending and fracture toughness do not, or only partly, show a modification over extended time.

¶238: Effects of Asarum sieboldii Miquel extracts on the properties of Korean traditional paper (Hanji)

Reference 146 - 0.07% Coverage

¶239: The effectiveness of Asarum sieboldii extracts as an environmental-friendly fumigant to mitigate the aging

Reference 147 - 0.53% Coverage

¶239: As results, antimicrobial activity of A. sieboldii extracts against Aspergillus versicolor on Hanji is observed at the concentration exceeding 25 mg. As the short-term change of Hanji property right after treatment of A. sieboldii extracts exceeding 25 mg, it is observed that the physical and optical properties of initial Hanji decreased with the increases of the extracts concentration. In terms of the long-term change by artificial aging test, however, the aging rate of Hanji samples treated by A. sieboldii extracts is similar to that of non-treated Hanji samples. It means that A. sieboldii extracts do not degrade the stability of Hanji property. Overall, these results demonstrate that A. sieboldii extracts may have the potential as a fumigant to the Korean paper cultural heritage due to their antimicrobial effectiveness and long-term permanence.

Reference 148 - 0.06% Coverage

¶240: Application of redox proteomics to the study of oxidative degradation products in archaeological wool

Reference 149 - 1.07% Coverage

¶241: Most archaeological and historical textiles (clothing, tapestries, blankets, carpets, etc.) present traces of UV-induced damage when exposed to light during their lifetime. Yellowing of the fibres, fading of the dyes and loss of physical properties, such as tensile strength are the typical indicators of photodegradation. Natural fibres made of proteins, such as wool and silk are particularly sensitive to UV damage. Photo-oxidative damage is caused by the accumulation of chemical modification at the amino acid residue level that lead to a range of oxidation products, including chromophores responsible for changes in coloration, as well as to the breaking of peptide bonds in the protein backbone. Amino acid residues with aromatic side-chain groups are particularly sensitive to photo-oxidation and breakthroughs have been made in recent years in the field of protein science to identify the photoproducts and locate them within proteins. This study explores new methodologies using redox proteomics-based strategies to assess the extent of photodamage in ancient wool textiles, by identifying modifications occurring at the molecular level. Using a scoring system to determine the level of oxidation in amino acids with aromatic side-chains (tryptophan, tyrosine, histidine and phenylalanine), we compare the effects of dyes and mordants on fibres after UV ageing, and assess the extent of oxidation on the different proteins composing the wool fibres. We determine that dyes and mordants have the capability of slowing down photo-oxidation during ageing. We also assess the effect of UV irradiation on deamidation, a modification targeting glutamine and asparagine, as it is a common marker of ageing in ancient proteins.

¶242:
Reference 150 - 0.08% Coverage

¶243: This paper presents a holistic approach for safety and protection of historical buildings adjacent to tunneling excavation

Reference 151 - 0.95% Coverage

¶243: A finite element model is built to simulate the impact of tunneling excavation on the distribution of structural stress of historical buildings, in order to determine stress concentration regions in materials and structures subjected to forces or loads. Some corresponding reinforcement measures are proposed according to simulative results, aiming to improve its structural integrity and rigidity of historical buildings to satisfy the load-bearing requirements prior to construction. The effectiveness of the adoption of reinforcement measures against tunnel-induced building damage is validated using a two-stage numerical simulation process, where the impact of the tunneling excavation on the deformation of surrounding soils and building foundations is simulated separately, given the reinforcement measures are implemented. A case in relating to the protection of a historical building of Roots' formal residence (RFR) adjacent to the construction of a twin tunnel, Wuhan Yangtze River Tunnel (WYRT) in China, is presented, where the tunnel in the east line passes under the foundation of RFR, and the nearest receiving shaft foundation in the west line is only 1.4 m away from the building foundation edge of RFR. Results demonstrate the feasibility of the proposed approach, as well as its application potential. The proposed approach can be used as a decision tool to provide some positive guidelines on the protection of historical buildings, and thus increase the likelihood of a successful project in tunneling environments.

Reference 152 - 0.41% Coverage

¶245: an acoustic survey was carried out. Innovative measurement tools like microphone arrays were used, allowing the identification of direction of arrival of sound reflections and, consequently, the architectural elements that play a major role on the acoustics. Then, the results of a detailed literature research are used to put the specific case study into a broader context including a large number of Orthodox churches. Results point out the existence of a very specific relationship between acoustics and architecture, supporting the idea that the first must be considered as a cultural heritage as important as the latter.

¶246: Chemical characteristics of degraded beeswax

Reference 153 - 0.03% Coverage

¶247: The chemical characteristics of degraded beeswax

Reference 154 - 0.51% Coverage

¶247: were investigated and compared with a standard beeswax sample. The oxidation index of the artificially thermally aged beeswax was similar to that of the beeswax in the waxed volumes of the annals of King Sejong. The beeswax in the waxed volumes had gradually degraded in molecular weight over about 400 years. Two low molecules free fatty acid (tetradecanoic acid and lauric acid) were detected in the beeswaxes on the Annals of King Sejong and artificially aged beeswax. These fatty acids should be generated from ester compound of the beeswax by oxidative and hydrolytic degradation. Therefore, it can be concluded that the beeswax in the waxed volume of King Sejong should be oxidized and hydrolyzed gradually for a long time progressed.

¶248: Contribution of engineering geology for the construction of a new museum gallery

Reference 155 - 0.51% Coverage

¶249: To help understand the characteristics of this foundation ground, an engineering geology study was required, strongly conditioned by the presence of heritage, reduced space and difficult accessibility caused by the extensive temporary support used to ensure stability of the walls. The engineering geology study consisted of a detailed surface mapping, complemented by non-destructive in situ tests, the soil stiffness gauge (SSG) and the surface moisture-density gauge (SMDG) and by the use of the Bieniawski rock mass rating (RMR) geomechanical classification. Three geotechnical zones were defined. The non-invasive engineering geology study performed proved suitable to provide the geotechnical information necessary to redesign and construct the steel structure over a challenging archaeological site, preserving the heritage.

Reference 156 - 0.49% Coverage

¶251: Scanning electron microscope, X-ray diffraction, Raman spectrum, X-ray fluorescence and Fourier transform-infrared spectrum analyses were employed to characterize the composition of the writing pigment, paper filler and protective layer. The results reported here proved, for the first time, that Fe2O3 and silver powder were applied in the writing pigment, red lead were used in the

paper filler and the protective layer which employed to prevent silver powder from oxidation and sulfuration was identified as mixture of lipids which may contain beeswax. In the end, suggestions for protecting and restoring the ancient Tripitaka are provided.

¶252: Towards a better comprehension of biodeterioration in earthen architecture: Study of fungi colonisation on historic wall surfaces in Brazil

Reference 157 - 0.08% Coverage

¶253: aimed to describe fungal communities found in biofilms growing on earthen walls (rammed earth, wattle-and-daub and adobe) of

Reference 158 - 0.37% Coverage

¶253: The relationship between substrates and such surface-associated microbial communities was also investigated. Fungal biodiversity was significantly higher in rammed earth with respect to the other two techniques. Granulometric analysis showed that rammed earth also contained a higher percentage of coarse soil fraction which is likely to favour the accumulation of water and organic matter. Cellulolytic activity tested positive for the majority of fungi and acidification test showed that fungi exhibit elevated acidifying capacity suggesting that biodeterioration may occur through acid metabolites.

<Internals\\JCH 2016 abstracts> - § 174 references coded [57.64% Coverage]

Reference 1 - 0.05% Coverage

¶5: Scientific methods for philological scholarship: Pigment and paper analyses in the field of manuscriptology

Reference 2 - 0.18% Coverage

¶6: members of three research teams, namely the Turfan Project of the Berlin Brandenburg Academy of Sciences and Humanities, the Berlin-based research project on pigments in Central Asian paper manuscripts, and the Hamburg-based project on the history and typology of Central Asian paper manuscripts, present some of the results of their cooperation.

Reference 3 - 0.11% Coverage

¶6: On the basis of different examples the contribution of scientific methods to philological scholarship within a multidisciplinary approach is demonstrated.

¶7: Noninvasive analyses of low-contrast images on ancient textiles

Reference 4 - 0.02% Coverage

¶8: the results of the first in-depth measurements

Reference 5 - 0.46% Coverage

¶8: In general, the optical analysis and the imaging of low-contrast stains on ancient textiles is a complex task, due to the irregular surface and the influence of spectrum, position and uniformity of the illuminating source on colour accuracy and rendition. A correct evaluation requires a multidisciplinary approach. We used noninvasive technologies, including imaging topological radar, laser induced fluorescence, absolute diffused reflectance and absorption spectra, which were previously used to study frescoes, paintings, antique papers, but were never exploited on ancient textiles. The combined results of our measurements and data elaboration allowed identifying the origins of the body impressions, of the stains simulating blood and of the other marks embedded on the linen cloth. Our results can be used to plan the proper long-term conservation of the linen cloth and of marks on it.

Reference 6 - 0.72% Coverage

¶10: Tarnishing is produced by reaction of silver with gaseous reduced sulphur compounds from atmospheric pollution. It induces the formation of Ag2S crystals which produce a dark appearance. To remove sulphur tarnishing, different mechanical, chemical and electrochemical methods have been traditionally used. To assess the effect of different cleaning treatments on tarnished silver, coupons of pure and sterling silver (92% Ag/8% Cu) were subjected to six cycles of induced tarnishing and cleaning. The cleaning methods evaluated were mechanical (soft abrasives and rubber point mounted on a rotary tool); chemical (chelating and acid solutions) and electrochemical (potentiostatic reductions). Surface morphology, composition, weight, color and luminosity were evaluated by optical microscopy, scanning electron microscopy/energy dispersive X-ray spectroscopy, atomic force microscopy, X-ray photoelectron spectroscopy and colorimetry. The cleaning impact on tarnished silver depended on the cleaning procedure and the composition of silver. Mechanical treatments restored the original visual appearance of silver although they produced a significant mass loss and a fast re-tarnishing. Chemical cleaning methods were fast; nevertheless the surface appeared completely attacked. Electrochemical cleaning did not yield good result for sterling silver, but was an effective cleaning method for pure silver coupons.

Reference 7 - 0.07% Coverage

¶11: An experimental study on earth plasters for earthen building protection: The effects of different admixtures and surface treatments

Reference 8 - 0.63% Coverage

¶12: the properties of earth plasters have been investigated considering the specific relationship with the underlying substrate. Ten typologies of earth plasters containing different admixtures and surface treatments, a cob wall and a rammed earth wall were produced in laboratory. The aim is to evaluate the effectiveness of the coatings in protecting the earthen walls against weathering. An in situ procedure consisting of a shrinkage test followed by an adhesion strength test was performed in order to identify the earth/sand ratio optimal for the plaster manufacturing. Then, a series of tests was carried out both on the plasters and the two walls: compression, water vapor permeability, surface color, wettability, water absorption and erosion. The results demonstrate that all the

plasters are physically and mechanically compatible with the earthen substrates and that the most important differences are in the specific relationship with water. The earth plaster treated with the silane–siloxane product was found to be the best one: it is fully compatible, water-repellent and highly resistant to water erosion. Hence, there is a potential for the use of earth plasters for the protection of earthen buildings against weathering.

Reference 9 - 0.03% Coverage

¶13: A multi-analytical approach for determining the origin

Reference 10 - 0.07% Coverage

¶15: The spalling decay of building bioclastic limestones of Provence (South East of France): From clay minerals swelling to hydric dilation

Reference 11 - 0.79% Coverage

¶16: Medieval historical monuments of the Provence region (South East of France) were erected with bioclastic limestones and display different sensitivities to spalling decay. The present study aims at understanding the physical processes at play as well as the internal properties governing its intensity. Limestones of contrasting sensitivity to spalling were compared to a reference type, unaffected by this decay, by means of petrography, petrophysic, mineralogy, and hydromechanics. The obtained results highlighted that the various sensitivities can be explained by the deformation recorded during water content variation (hydric dilation). A clay fraction was systematically detected within the mineralogical composition except for the reference material, and some swelling layers were identified in montmorillonite/glauconite mixed layer minerals. A specific quantification procedure based on the combination of transmission electron microscopy coupled to an energy-dispersive X-ray spectrometer (TEM–EDX) and profile modeling of X-ray diffraction patterns was applied. A strong relationship between swelling layer content and hydric dilation of limestones was evidenced and corroborated the spalling sensitivity. Further interpretation of results showed that swelling layers localization within the texture significantly influence hydric dilation kinetics. Eventually, a mechanical softening was measured after water saturation. This behavior seems unrelated to the clay mineral content and its relative influence on spalling should be examined.

¶17:

Reference 12 - 0.05% Coverage

¶17: its correlation with the environmental conditions analysed through spatial analysis techniques

Reference 13 - 0.67% Coverage

¶18: Furthermore, the article considers the influence of some of the causative factors controlling the Matera building conservation state, paying particular attention to the site microclimatic conditions such as the insolation and winds. We studied this subject through a new methodology that makes a combined use both of stone decay data gained from the extensive field assessments of the visible weathering forms catalogued in an ad hoc questionnaire and GIS advanced spatial analysis techniques such as Map Algebra and Kernel Density Estimation. The research puts into evidence that

the Sassi of Matera shows a fair state of conservation that is conditioned by the wind/rain actions and sun exposure. Besides, just the already well known facts that the surfaces facing north seem to be most influenced by the wind/rain actions; and that, on the contrary, the decay of the walls facing south seems to be guided mainly from the sun exposure, put into evidence the importance of locating the intensities of the decays in any urban tissue or any site in order to plan conservation interventions and prioritize actions and the usefulness of the spatial analysis techniques and data processing.

¶19: Investigation on the interaction between the outdoor environment and the indoor microclimate of a historical library

Reference 14 - 1.03% Coverage

¶20: The campaigns took place one in the summer period (from July 22nd to August 6th 2014) and another one in winter (from 15th December to 30th December 2014). During these measurements campaigns, we have characterized different and heterogeneous indoor environments. The internal pollutants concentrations and thermo-hygrometric data have been compared with the external ones, obtained from nearby measuring points. In this way, we have been able to determine the Indoor/Outdoor ratio (I/O ratio) of the pollutants concentrations. From these data and from the estimated air exchange rate, the pollutants deposition velocities have been calculated, too. The building has no air conditioning systems and our experimental data show that it is characterized by a relatively low rate of air exchange and a high thermal inertia. We have also compared the analysed microclimatic data with the specific values recommended by different norms and standards, in order to verify the conditions of preservation of the precious texts. Finally, we have applied a mathematical model to study the indoor pollutants concentrations, in order to confirm that the correlations between the outdoor and the indoor pollutants levels can be explained in terms of the building characteristics. The results of the model application fit well the experimental data and the consequent theoretical estimates made in this work; in fact, they are consistent with very low values of air exchange ratio of the building. These results can be used to define a specific “Performance Index” (PI) of the building, expressed as the percentage of time in which the microclimatic parameters of the library (i.e. the thermo-hygrometric values) do not match the recommended values. Furthermore, they can also provide a first step, based on experimental data, for the development, in close collaboration with the conservation scientists, of a methodology for risk assessment, specifically to be used for cultural heritage housed in museums, galleries and archives

Reference 15 - 0.05% Coverage

¶21: Variation in the sorption properties of historic parchment evaluated by dynamic water vapour sorption

Reference 16 - 0.53% Coverage

¶22: Understanding the hydration of the collagen historic parchments is of great importance to the conservation and restoration processes. In this study, modern and historic (dated 1817 and 1769) parchments were investigated using dynamic water vapour adsorption/desorption (sorption) experiments. The relationship between the equilibrium moisture content against the relative humidity at constant temperature for two consecutive sorption cycles, the hysteresis and kinetic

properties were analysed for different parchments from a historic archive. It was found that historical parchment samples exhibited higher equilibrium moisture content levels throughout most of the hygroscopic range and the hysteresis was greater than that of the contemporary sample. The samples were all found to obey parallel exponential kinetics for both adsorption and desorption. By applying the parallel exponential kinetic model, it was observed that the difference in the hysteresis is apparently mostly due to changes in the collagen matrix relaxation processes.

Reference 17 - 0.04% Coverage

¶23: A thermophysical study on the freeze drying of wooden archaeological artifacts

Reference 18 - 0.87% Coverage

¶24: The protection of unearthed waterlogged archaeological artifacts is a heavy task when large-scale construction is carried out in today's China. Freeze drying offers an efficient way for preserving wooden artifacts. In order to rationally design the freeze drying process, thermophysical studies were carried out in this paper. The measurements of water vapor diffusion coefficient and thermal conductivity were made. The impacts of cooling velocity and grain orientation on effective diffusion coefficient of water vapor, D, in dried wood were investigated. At low cooling velocity, 0.2 K/min, D was (4.8 ± 0.4) × 10−4 m2/s in parallel grain direction, or (1.9 ± 0.4) × 10−4 m2/s in perpendicular grain direction; at higher cooling velocity, 3.0 K/min, D was (4.3 ± 0.2) × 10−4 m2/s in parallel grain direction, or (1.2 ± 0.1) × 10−4 m2/s in perpendicular grain direction. The thermal conductivity of the dried sample was in the range of 0.78–1.06 W/(m·K). With the values attained, one-dimensional pseudo-steady analysis were made for the primary drying process of a cylinder and a flat slab. It was found that the process was mass-transfer controlled and the difference between surface temperature and sublimation temperature was very limited. Thus only mass transfer equation needed to be solved with assumption of constant sublimation temperature. The primary drying of a two-dimensional object was also simulated to predict the time required. Monitoring the surface temperature of each artifact and handling artifacts with similar drying time in a batch are proposed for the freeze drying of archaeological artifacts. The freeze-dried wooden artifacts by the authors yielded very small deformations.

Reference 19 - 0.06% Coverage

¶25: Monitoring archaeological wooden structures: Non-contact measurement systems and interpretation as average strain fields

Reference 20 - 0.52% Coverage

¶26: In this paper, we discuss the suitability of the different available measurement techniques to monitor the increasing deformation and the structural health of wooden structures. In particular, a monitoring system needs to be able to measure the exact same point at different times to measure displacements. For large wooden objects with limited surface texture, the best accuracy for displacement measurements is currently achieved by monitoring well-defined targets with laser-assisted total stations. Furthermore, we emphasize the relation between displacements and deformation and advocate translating the raw displacement data into more meaningful average

strain fields. A straightforward method to compute the in-plane average strain field is presented, and illustrated for the Vasa ship. The strain fields can indicate areas with localized strain, caused e.g. by weak zones in the structure with increased creep, damage or cracking. Such zones can then be more closely inspected and considered for improved support.

¶27:
Reference 21 - 0.02% Coverage

¶27: Analysis, laser cleaning and 3D documentation

¶28:
Reference 22 - 0.84% Coverage

¶28: The component material of the wooden sculpture was identified by observing the thin sections under an optical microscope; the materials layered on the surface were analyzed by optical microscopy, micro-Raman and Fourier transform infrared spectroscopy. The laser cleaning tests were carried out with a Q-switched Nd:YAG system. The surface was examined before and after the cleaning with the aid of a video-microscope, reflectance spectrophotometer and scanning electron microscopy. The steps of the work were documented on a digital tri-dimensional model of the sculpture created by a close range image system in order to carefully register scientific, technical, conservative, and material aspects. The microscopic observation of wood thin sections allows identifying it as lime tree. The analysis of the surface materials highlighted the presence of lead white applied by a siccative oil and barium sulphate. The infrared spectroscopic analysis of the brown surface layer revealed the presence of shellac. The laser cleaning proved an effective method to remove the surface dirt and to reduce the aged protective layer without affecting negatively the wood. The diagnostic analysis carried out prior and during the cleaning process was fundamental to verify the applicability of the laser to the wood surface in order to obtain an efficient cleaning action without secondary damaging effects. In addition, considering the reduced number of laser cleaning examples applied to wooden material available in literature, the documentation of the adopted working process could be a useful reference for the divulgation and sharing of the obtained data

Reference 23 - 0.04% Coverage

¶29: An aeromycological study of various wooden cultural heritages in Korea

Reference 24 - 0.20% Coverage

¶30: WCHs, however, have undergone biodeterioration because of various fungal attacks in the past centuries; this type of biodeterioration is one of the significant problems faced during preservation of WCHs. To prevent this damage, it is important to investigate the fungal diversity of the WCHs. This aim of this study was to analyze the diversity of airborne fungi at 3 WCHs in Korea

Reference 25 - 0.76% Coverage

¶30: The airborne fungi were isolated twice in spring (March) and summer (August) using the gravity settling culture plate method and were identified using morphological and molecular techniques. There were differences in fungal diversity depending on the geographical location, climatic conditions, and the open or closed status of a building. During spring, in the open and closed buildings, a total of 671 fungal isolates (20 genera and 25 species) were collected in YHD and 125

isolates (19 genera and 25 species) were isolated in JHN. In summer, 175 isolates (11 genera and 12 species) and 66 isolates (12 genera and 13 species) were collected from YHD and JHN, respectively. The number of fungal isolates was greater in the open building than in the closed WCHs, but these buildings had similar fungal diversity. In UH, 180 isolates (13 genera and 15 species) were recovered in spring season and 58 isolates (14 genera and 17 species) in summer. There was no significant difference in the number of fungal isolates, but the fungal diversity was different depending on the environmental factors. Finally, fungal diversity was richer in spring than in summer because dusty and windy weather in spring was conducive to the release and transmission of fungal spores. In summer, there were a substantial number of basidiomycetes probably because their spores germinate better at higher temperatures and humidity.

¶31: Cyclododecane as opacifier for digitalization of archaeological glass

Reference 26 - 0.69% Coverage

¶32: faces the problem of acquiring archaeological artifacts using triangulation based 3D laser scanners and focusing on reflective/refractive surfaces. This kind of artifacts are mostly made of glass or polished metal, and the properties of their surfaces violate most of the fundamental assumptions made by vision algorithms. Also, the unique and fragile nature of archaeological artifacts adds an extra constraint to the acquisition process: the use of industrial whitening sprays has to be avoided, due to the physicochemical processes required to clean the surface after scanning and because the chemical properties of these sprays may damage the original object. As an alternative to them, a new way to use a common conservation material is proposed: the use of cyclododecane as a whitening spray. Thanks to its chemical stability and to the fact that it sublimes at room temperature, together with its good film-forming capabilities, a set of evaluation tests is presented to prove that the error introduced by the opaque thin layer created on the surface of the artifact is smaller than the accuracy of the 3D scanner and, thus, no acquisition errors are introduced. A comparison with general-purpose industrial whitening sprays is also presented, and achieved results show no significant differences in the quality of the resulting 3D models.

Reference 27 - 0.25% Coverage

¶44: LiDAR technology enables us to obtain continuous points of the surfaces compared to a time consuming conventional measurement, and is applied to the digital documentation of ancient city walls. A “horizontal detection – vertical detection” method to obtain top and side points of city walls is proposed to achieve automatic extraction of point cloud information for digital documentation. We tested and verified the effectiveness and feasibility of this method through an experiment

Reference 28 - 0.02% Coverage

¶45: by X-ray photoelectron spectroscopy

¶46:
Reference 29 - 0.05% Coverage

¶48: Simulation of particulate matter ingress, dispersion and deposition in a historical building

Reference 30 - 0.68% Coverage

¶49: In this work, we use a computational fluid dynamics (CFD) model to simulate the penetration, dispersion and deposition of particulate matter (mean particle size of 2.5 μm) in a historical house. We compare the simulation results with direct measurements of deposition in several rooms and with measurements of concentration in different conditions of wind direction. The computational model, based on the drift-flux approach, provides accurate predictions of the spatial distribution of deposition and the variation of the indoor/outdoor ratio, which display a good agreement with experimental measurements. Our analysis shows that while the ingress rate of particles is controlled by wind direction and pressure, the amount of particles that reaches every surface depends ultimately on the operation of the ventilation system. Concentration indoors is relatively homogeneous, however, the spatial arrangement of the rooms and the position of air inlets and outlets results in significant gradients of deposition rates, which has direct implications for cleaning and preservation. These findings illustrate the potential of CFD to produce meaningful predictions of yearly and monthly deposition in large, multi-room environments, and to offer site-specific evidence, which can inform heritage managers and enable risk assessment.

Reference 31 - 0.06% Coverage

¶50: Expert system for predicting buildings service life under ISO 31000 standard. Application in architectural heritage

Reference 32 - 0.58% Coverage

¶51: The expert system for predicting the service life of buildings, fuzzy buildings service life (FBSL), is a computer application that contributes to the preventive conservation of architectural heritage. It establishes the process for evaluating and analysing the vulnerability and the main risks for heritage buildings, managing durability and service life according to their functionality. This paper demonstrates, after a detailed study and analysis of the two main reference standards in the field of risk management, namely the international standard ISO 31000:2009 and the European standard EN 31010:2011, that the FBSL expert system has been developed in compliance with the specifications established in these standards. This research justifies the use of this method, based on a new expert system that predicts the future service life of homogeneous heritage sites worldwide. This model manages the risk affecting these buildings and also complies with the aforementioned standards. Finally, the practical application of the FBSL expert prediction system was carried out through the study of a specific architectural heritage site.

Reference 33 - 0.04% Coverage

¶52: Incompatibility risk assessment procedure for the cleaning of built heritage

Reference 34 - 0.61% Coverage

¶53: A procedure is proposed to assess the compatibility of cleaning actions to be carried out upon built heritage. This procedure was designed as a semi-quantitative (in)compatibility risk assessment, where the vulnerability of the substrate to cleaning, the aggressiveness of the cleaning method and the substrate/method synergies are factors considered to determine the likelihood of damage occurring, whereas the impact on the significance of the object measures the consequences of

damage occurring. Rating these factors of likelihood and consequences of damage allows a cleaning risk matrix to be proposed for the evaluation of the risk levels implicated by different cleaning methods. Furthermore, planning components entirely contingent of their specific actors, and therefore inherently difficult to grade, such as operator skills or control adequacy, are included as quality components, which work as multiplying parameters of the overall risk. The procedure was conceived to assist in and frame the planning of built heritage cleaning actions. A Delphi Panel of conservation experts was convened to validate this proposal.

¶54: Diagnostics of wall paintings: A smart and reliable approach

Reference 35 - 0.39% Coverage

¶55: It was analyzed by different nondestructive testing (NDT) techniques: electronic speckle pattern interferometry (ESPI), ultraviolet (UV) imaging and infrared vision. In addition, three micro-samplings were collected on suspected areas after examination of the signal strength variations over the raw thermograms. On the latter, the images' quality was enhanced by applying advanced processing techniques. Micro-samplings were also analyzed by scanning electron microscope (SEM), energy-dispersive X-ray spectroscopy (EDS), Fourier transform infrared (FTIR) and μ-Raman spectroscopy. Splitting, subsurface cracks and under-/over-paintings were detected by this integrated method.

¶56: Understanding the transport of nanolime consolidants within Maastricht limestone

Reference 36 - 1.04% Coverage

¶57: Novel nanomaterials, such as nanosilica or nano-titanium oxide, have been developed in the last decade for the conservation of the built heritage. Among nanomaterials, nanolimes have acquired a considerable relevance due to their potentialities as consolidant product. The so-called nanolimes, colloidal dispersions of calcium hydroxide nanoparticles in alcohols, have been successfully applied as pre-consolidants on frescos and paper, and their use has later been extended to plasters, renders and stone. Nanolimes have better potentialities compared to conventional inorganic consolidants based on limewater (e.g. faster carbonation rate and higher calcium hydroxide concentration). Moreover, nanolimes are considered more compatible with CaCO3-based substrates than alkoxysilanes (e.g. TEOS), the most widely used consolidant products. Nanolimes can guarantee the recovery of the superficial cohesion of degraded materials. However, when a mass consolidation is required, like in the case of decayed stone, nanolimes show some limitations. One of the problems is caused by nanolime accumulation at or just beneath the surface of the treated material. In order to solve this problem, the transport mechanism of nanolime within porous materials, as stone or renders, should first be better understood. Commercial nanolimes were applied on Maastricht limestone, a high-porosity yellowish limestone, used in the Netherlands and Belgium as traditional building material. The absorption and drying behaviour of nanolime in this limestone was measured and nanolime deposition in the stone was studied by optical and scanning electron microscopy. The results show that nanolime transport is strictly related to the properties of the solvent. The alcoholic solvent guarantees a stable dispersion that penetrates in depth in the material, but is partially back-transported to surface. The high volatility of the solvent and the high stability of the dispersion favour the partial back-migration of lime nanoparticles to the surface during drying.

Reference 37 - 0.08% Coverage

¶58: Calcium hydroxide nanoparticles in hydroalcoholic gelatin solutions (GeolNan) for the deacidification and strengthening of papers containing iron gall ink

Reference 38 - 0.85% Coverage

¶59: A severe decay process, catalyzed by acidity and metal ions, affects cellulose in historical manuscripts and books that contain iron gall inks. The inhibition of this process can be achieved by alkaline-earth nanoparticles dispersions in alcohols, which create a neutral environment in which both oxidation and depolymerization of cellulose are hindered. As a result of the degradation process, paper in historical manuscripts and books is fragile and very difficult to handle. A reinforcement intervention with gelatin and Japanese tissue could be used for the strengthening of historical manuscripts, even if this method could not prevent paper degradation due to iron gall inks. Therefore, a new method, combining a deacidification treatment based on calcium hydroxide nanoparticles and a reinforcement process using Japanese tissue has been developed and tested on mockups containing iron gall inks. The protective action arising from the combined treatment was evaluated by performing cellulose viscosimetric degree of polymerization (DPv) and pH measurements on artificially aged systems. Scanning electron microscopy equipped with energy dispersive X-ray spectroscopy (SEM-EDX) was used for the evaluation of calcium distribution from the deacidification agent within samples cross section. Determinations of DPv clearly showed that the degradation of untreated inked paper was significantly slowed down by the combined treatment. The method was also tested on original manuscripts from 16th and 18th century. SEM-EDX maps showed that the applied treatment, which raised the pH to an appropriate value, is homogenously distributed over the treated surfaces.

Reference 39 - 0.04% Coverage

¶60: Silica nanoparticles (SiO2): Influence of relative humidity in stone consolidation

Reference 40 - 0.90% Coverage

¶61: The influence of relative humidity (RH) has been determined in SiO2 colloidal nanoparticles, to study their efficacy as a consolidating product by means of the physical changes in the hydric and mechanical properties produced in a siliceous-carbonate stone from a historic building (XVI century) with signs of degradation. Therefore, diverse analytical techniques have been used for the product characterization (TEM-EDS, ESEM-EDS, XRD, DTA-TG, spectrophotometry) together with micro-destructive (SEM, microdrilling resistance) and non-destructive petrophysical tests (hydric tests, ultrasonic velocity, adhesion and microhardness tests) for the characterization of the stone. The precursor water colloidal nanosilica, when is initially exposed to high RH environments, forms agglomerated spherical nanoparticles of amorphous silica, that holds a higher amount of adsorbed water and lower amount of silanol groups on the surface, compared to samples exposed to lower RH. This final product behaves in a similar way than a silica gel, when is exposed once again to lower and higher RH, as a reversible hydration–dehydration process of adsorbed water. Related to the efficacy as a consolidant, the results show differences both, in surface changes, decreasing the amount of released material from the substrate and increasing its surface hardness, as in the interior of the porous structure, increasing absorption and desorption water capillarity rates, ultrasonic velocities and drilling resistance, showing high efficiency and less adverse aspects at lower RH.

However, this effect and the possible decay caused by repeated cycles of hydration–dehydration of the silica gel inside the porous of the stone should be assessed in order to determine its durability.

Reference 41 - 0.05% Coverage

¶62: Morphological studies of menthol as a temporary consolidant for urgent conservation in archaeological field

Reference 42 - 0.64% Coverage

¶63: Menthol, a natural organic compound from plant extract, due to its unique aromatic smell and cooling effect, has wide applications in food, cosmetic and pharmaceutical industries. By taking advantage of its volatile ability at room temperature, this compound has the potential to be used as a temporary consolidant in the field of art conservation. In order to evaluate the effectiveness of menthol as a temporary consolidant for urgent conservation in archaeological field, in this paper, laboratory investigations, such as menthol's penetration, consolidation efficacy and morphological changes during sublimation, are carried out on two kinds of organic and inorganic materials respectively, representing four types of fragile archaeological artifacts. In particular, the morphological changes of consolidated substrates during menthol sublimation process are systematically observed. The result shows that menthol's consolidation efficacy is strongly affected by the inherent nature of substrate to be treated. Menthol whisker growth on these substrates surfaces is observed, and a weak intermolecular hydrogen bond is formed between menthol and substrate, which is confirmed by the shift of hydroxyl group stretching bond in the IR spectrum.

Reference 43 - 0.08% Coverage

¶64: Epoxy polymer Hxtal NYL-1™ used in restoration and conservation: Irradiation with short and long wavelengths and study of photo-oxidation by FT–IR spectroscopy

Reference 44 - 0.44% Coverage

¶65: Hxtal NYL-1™ is an epoxy adhesive designed especially for glass restoration and conservation, which however is used today on marble, wood, ivory and much more; it can also be colored or filled to match porcelain. This epoxy system is claimed by the manufacturers to have excellent photostability. The present study aimed at the estimation of its photostability under irradiation with light of $\lambda = 254$ nm or $\lambda > 300$ nm in the presence of oxygen (air) for a certain period of time towards samples cured at different temperatures. The changes of chemical structure caused by the irradiation of samples were studied by FT–IR spectroscopy. The general conclusion of this study is that the best temperature for curing of Hxtal NYL-1™ is that of 25 °C and that irradiation even with light $\lambda > 300$ nm must be avoided because may cause photo-oxidative reactions.

Reference 45 - 0.72% Coverage

¶67: Through the analysis of 24 historic objects of garden statuary and ornamentation, this research evaluates the use of portable X-ray fluorescence spectroscopy (pXRF), and more specifically element profiles, in identifying, and differentiating between the products of Coade, Blashfield and Doulton.

Key questions around heterogeneity and representative material analysis are addressed. Despite the inherent heterogeneity of these materials, it is shown that discrimination is nevertheless possible using pXRF, primarily due to the significant differences observed across a range of elements at both macro- and trace-level. Objects of known provenance from Coade, Blashfield and Doulton produced three distinct and statistically significant groups demonstrating that the data reflect the composition of the bulk material — rather than surface characteristics. Through identifying the main discriminators for the Coade, Blashfield and Doulton materials, a simple presumptive test is proposed that can be used in an initial evaluation of any unsigned works. Analysis of a selection of unsigned objects with a probable Coade, Blashfield or Doulton provenance was in many cases successful in confirming the documentary evidence. A few objects, however, presented anomalous element profiles. These most likely result from past conservation treatments or polychromy – the two major limitations of the technique.

Reference 46 - 0.09% Coverage

¶68: Hygroscopic properties of PEG treated archaeological wood from the rampart of the 10th century stronghold as exposed in the Archaeological Reserve Genius loci in Poznań (Poland)

Reference 47 - 0.59% Coverage

¶69: was subjected to the investigations. The material was obtained during the excavations and conservation works of the earthen and wooden relicts. The archaeological wood, both untreated and treated with polyethylene glycol (PEG), was characterized by determining adsorption and desorption isotherms, which were formed by GAB and GDW models. The anomalous increase of the equilibrium moisture content for air relative humidity values above 80% was found for the PEG treated wood. It was clearly presented that the safety of wood exposition strongly depends on the proper maintaining of air parameters. The mechanisms of the reduction of equilibrium moisture content and sorption hysteresis for the PEG treated wood were explained. It was not recommended to predict equilibrium moisture content values with the Hailwood-Horrobin model fitted to the sorption data collected by the US Forest Products Laboratory as it was not accounting for sorption hysteresis, decay of archaeological wood and the influence of the PEG treatment.

¶70: Strontium carbonate nanoparticles for the surface treatment of problematic sulfur and iron in waterlogged archaeological wood

Reference 48 - 0.50% Coverage

¶71: Stabilising waterlogged archaeological wooden artefacts for display presents a challenge for conservators and scientists. Sulfur compounds, incorporated into the wood prior to excavation, can lead to acid formation when exposed to oxygen, and in the presence of iron ions. Strontium carbonate nanoparticles have recently been shown to reduce the production of acid formation at the root by reacting with inorganic sulfur-containing compounds. Here, we show the feasibility of using this treatment on small samples where consolidating treatments have already been performed. It is found that PEG 200 does not prevent the reactivity of the nanoparticles with the sulfur compounds present in the artefacts. A surface brushing application method was found to be successful whilst retaining the visual integrity. In addition, it was found that this technique results in

the leaching of iron from the surface layers, preventing future build up of acid catalysed by iron compounds.

Reference 49 - 0.06% Coverage

¶72: An ATR-FTIR and ESEM study on magnetic tapes for the assessment of the degradation of historical audio recordings

Reference 50 - 0.09% Coverage

¶73: This article presents some approaches for chemical and physical characterization of materials (ATR-FTIR and ESEM) applied to a specific category of cultural material, magnetic tapes.

Reference 51 - 0.08% Coverage

¶73: The analyses presented in this article aim at paving the way for the establishment of a scientific protocol for the safe recovery of damaged tapes.

Reference 52 - 0.03% Coverage

¶74: 3D GIS for cultural heritage restoration: A 'white box' workflow

Reference 53 - 0.51% Coverage

¶75: In this respect, improving the effectiveness of preservation strategies becomes a crucial task. A great contribution in this direction is given by the combination of digital technologies such as laser scanning, photogrammetry and computer vision-based techniques and 3D geographic information systems (3D GIS), whose integrated use could exponentially increase the effectiveness of conservation strategies of ancient buildings. This paper presents the results of a research developed as part of the Swedish Pompeii Project, a fieldwork initiated from the Swedish Institute in Rome in 2000. Main objectives of this research were (i) to develop a set of integrated digital methods to be extensively adopted by conservation specialists in the practice of preservation management; (ii) to deal with several aspects connected to the preservation of an ancient structure in a 'fully-3D' environment; (iii) to take advantage of GIS analytic tools for investigating architectural structures in three-dimensions.

¶76:
Reference 54 - 0.08% Coverage

¶78: Using quantitative indices to evaluate the cultural importance of food and nutraceutical plants: Comparative data from the Island of Bali (Indonesia)

Reference 55 - 0.06% Coverage

¶79: Different quantitative indices were proposed to determine the cultural importance of ethnobotanically valuable plants

Reference 56 - 0.57% Coverage

¶79: These indices were applied to an ethnobotanical survey of food and nutraceutical plants traditionally consumed in Bali, Indonesia. The uses of the plants were grouped into 6 use categories. The Cultural Food Significance Index (CFSI), use value (UV), relative frequency of citation (RFC), relative importance (RI), cultural value (CVs), and informant consensus factor (ICF) were calculated for a list of plants cited by fifty informants in different traditional villages on the island. This evaluation of the cultural importance of plants through different indices produced interesting variations. Colocasia esculenta (L.) Schott came highest in the preference ranking for RFC, UV and CVs. Arenga pinnata (Wurmb) Merr. was in first place for CFSI and RI. Artocarpus heterophyllus Lam., Lablab purpureus (L.) Sweet and Cinnamomum burmanni (Nees & T. Ness) Blume were also high in the CFSI, RI, and CVs. The ICF results revealed a well-defined food tradition. The combined use of these indices, as opposed to any single index, makes it possible to quantify the role that a given plant plays within a particular culture.

¶80:

Reference 57 - 0.41% Coverage

¶87: achieved by using geometrical analysis of the rules of linear perspective. The anamorphosis abscondita was examined through the viewpoints of the garden using the ground plan and longitudinal section of the garden, photographs and a virtual 3D model. The visual impression of the phenomenon anamorphosis abscondita formed in the eye of the observer, in relation to the reality of the garden, is confirmed through the geometrical analysis. Anamorphosis abscondita introduces a compulsory perceptual path to the observer of the garden. This pattern of deformation in certain parts of the garden creates in the viewer's eye a sense of infinity in space. The 3D scene of the garden is characterised by a large amount of spatial and visual information, which is located at different distances from the observer

Reference 58 - 0.82% Coverage

¶89: Red-to-ochre patinas with diameters of 2–20 cm are found on the alabaster surface of this altarpiece. The origin of such patinas are discussed, as they are the result of degradation processes of minerals present in alabaster rocks, contrary to what happens in the formation of most patinas. The patinas consist of two differentiated layers that may occur occasionally mixed. The Lower Layer contains iron compounds, which have precipitated around the gypsum crystals of the rocky support and have provided the characteristic red-to-ochre colour to the surface of the altarpiece. The formation of this layer was driven by the (bio)oxidation of the pyrite, which is disseminated over the alabaster surface. The formation of this film of iron-rich particles was conducted by a series of destructive and penetrative processes, promoting disaggregation and crystal reduction (mechanical and/or by dissolution) of the matrix minerals (gypsum, celestite, barite, calcite-dolomite…). The Upper Layer was grown by means of constructive (agglutination of particles by accretion) and destructive (destruction of the alabaster matrix and incorporation into the Lower Layer) mixed processes. Thus, the presence of small crystals (1–10 μm) of gypsum, quartz, calcite, celestite, barite, clay minerals and pyrite in this upper patina are mainly related to the residual products of the alabaster rocks. Moreover, some of the calcite, quartz and clay particles could also be considered atmospheric dust. Oxalates (weddellite and whewellite), portlandite and coal particles are not related to the formation of iron-rich patinas.

Reference 59 - 0.12% Coverage

¶89: The entry of rainwater and presence of humidity inside the monastery would promote the pyrite oxidation processes. Currently the patinas seem to be stabilized, the pyrites are no longer in contact with water, which is needed for oxidation

Reference 60 - 0.04% Coverage

¶90: Microclimatic monitoring for the investigation of the different state of conservation

Reference 61 - 0.01% Coverage

¶91: A microclimatic monitoring

Reference 62 - 0.44% Coverage

¶91: was performed between 2011 and 2012 aimed at investigating the causes of the different damage features observed in the stucco statues located in the opposite sides of west-south-west wall. The thermo-hygrometric conditions of the air close to the statues were continuously monitored for one year and the surface temperature of the statues was investigated by means of thermography. According to the results, no remarkable differences in the current microclimatic conditions measured at the two sides of the west-south-west wall were found, hence the cause of the different state of conservation of the statues has to be ascribed to phenomena occurred in the past. Nevertheless, the thermo-hygrometric values measured close to the statues are not fully in compliance with respect to the ranges indicated in literature for the conservation of the stucco ornaments.

¶92:

Reference 63 - 0.07% Coverage

¶96: Assessing riverine threats to heritage assets posed by future climate change through a geomorphological approach and predictive modelling

Reference 64 - 0.50% Coverage

¶97: Information on geomorphological evolution of the Derwent Valley over the last 1000 years, a time period encompassing the last two periods of major climatic deterioration, the Medieval Warm Period and Little Ice Age, has been dovetailed with archaeological and geochemical records to assess how the landscape has evolved to past landscape change. However, in addition to assessing past evolution, this methodology uses national climate change scenarios to predict future river change using the CAESAR-Lisflood model. Comparison of the results of this model to the spatial distribution of World Heritage Site assets highlights zones on the valley floor where pro-active mitigation might be required. The geomorphological and environmental science communities have long used predictive computer modelling to help understand and manage landscapes and this paper highlights an approach and area of research cross-over that would be beneficial for future heritage management.

¶98:

Reference 65 - 0.04% Coverage

¶100: Integrated assessment of monumental structures through ambient vibrations and ND tests

Reference 66 - 0.15% Coverage

¶101: This research demonstrates an integrated non-invasive assessment method of monumental structures based on dynamic monitoring through ambient vibrations as well as non destructive and microdestructive testing. The investigation involves the analysis of a very complex and extraordinary case study

Reference 67 - 0.47% Coverage

¶101: Dynamic monitoring based on natural vibration sources as inputs from pedestrian traffic, wind and the waves of the Canal Grande – was exploited by dynamic identification process to determine damping coefficient, frequency and modal shapes. The non-destructive and microdestructive tests included sonic and georadar methods and the extraction of very small samples of masonry for destructive tests in laboratory. The experimental investigation on the whole was conceived to avoid any type of invasive action on the prestigious monument. The aim of this research is to propose a new integrated protocol potentially suitable and generalizable for the assessment of monumental structures. The new features in the combined method include two types of results – qualitative and quantitative types – through a flow chart to explain the methodology and generalize the different phases of the approach for historical constructions

Reference 68 - 0.05% Coverage

¶102: Gravity-induced stress as a factor reducing decay of sandstone monuments in Petra, Jordan

Reference 69 - 0.15% Coverage

¶103: Recent work has shown that gravity-induced stress within a landform due to vertical loading reduces weathering and erosion rates, contrary to commonly held hypotheses. The purpose of this investigation is to evaluate the negative feedback between stress and weathering of sandstone monuments

Reference 70 - 1.49% Coverage

¶103: via field observations, salt weathering experiments, and physical and numerical modeling. Previous studies on weathering of Petra monuments have neglected the impact of stress, but the ubiquitous presence of stress-controlled landforms in Petra suggest that it has a substantial effect on weathering and erosion processes on manmade monuments and natural surfaces. Laboratory salt weathering experiments with cubes of Umm Ishrin sandstone from Petra demonstrated the inverse relationship between stress magnitude and decay rate. Physical modeling with Střeleč locked sand from the Czech Republic was used to simulate weathering and decay of Petra monuments. Sharp forms subjected to water erosion decayed to rounded shapes strikingly similar to weathered tombs in Petra. The physical modeling results enabled visualization of the recession of monument surfaces

in high spatial and temporal resolution and indicated that the recession rate of Petra monuments was far from constant both in space and time. Numerical modeling of stress fields confirmed the physical modeling results. This novel approach to investigate weathering clearly demonstrates that increased stress decreases the decay rate of Petra monuments. To properly delineate the endangered zones of monuments, the potential damage caused by weathering agents should be combined with stress modeling and verified by documentation of a real damage.

¶104: An investigation on the efficiency of water-jet technology for graffiti cleaning

¶105: The scope of this study is to investigate the possible usage of water-jet technology for graffiti cleaning and to find out the best operational conditions of water-jet machine as cleaner. For this goal, Carrara marble was selected as a test stone. Three samples were prepared and 12 different areas were determined on them. Then, different operational conditions of water-jet were applied into these twelve pre-painted marble surfaces. These different operational conditions involve different travel speed, water pressure or inter-distance between passes of the machine to figure out the best combination. After that, image analysis methods were used in order to evaluate the conditions and find out the best one. In addition, roughness features of the marble samples were measured, because water-jet application can cause excavation, which may affect on the stone surface. Finally, it is concluded that water-jet machine can be used for graffiti cleaning with specific operational conditions, which are selected by using both image analysis and roughness test results. As a conclusion, it can be said that if the stone is painted heavily, then travel speed of the machine must be reduced. Oppositely, if the stone is slightly painted, the best solution is to increase both the inter-distance between passes and the travel speed of the jet. Economic considerations of water-jet application are also carried out.

Reference 71 - 1.11% Coverage

¶109: Canvas paintings may show significant dimensional changes and experience internal stresses with fluctuating relative humidity. The relatively high and rapid absorption and drying of moisture within the different layers makes them more vulnerable than panel or wall paintings in comparable conditions. The dynamics of the moisture response is controlled by the water vapour permeability of the different layers. This paper presents a quantitative investigation of the vapour sorption and permeability of a selection of canvas painting components and of reconstructed paintings made of them. The selection of test samples was based on a survey of the materials used by Cuno Amiet in his early work and encompasses linen canvas, collagen glue sizing, chalk-glue ground and brown umber pigmented oil paint. Dynamic Vapour Sorption (DVS) tests were performed to obtain sorption isotherms. The vapour permeability was analysed in terms of the vapour resistance of layers and measured by means of wet cup and dry cup tests as well as in double chamber tests. The principle of incremental resistances was used to discriminate between the properties of the different layers. Whereas glue and canvas are comparable in being strongly absorbent, it appears that their vapour resistance is very different: a continuous glue film has a much higher vapour resistance than a canvas. In this context, we found that the method of applying glue sizing on a canvas influences the permeability of the resulting sized canvas: a gel size forms a more continuous glue film and hence leads to higher vapour resistance of the system, as opposed to a liquid size. Chalk-glue grounds have low moisture sorption, when compared to the high absorption of the proteinaceous glue, because they consist largely of chalk particles, which are not hygroscopic. The umber oil paint stands out for its low sorption and its high resistance to vapour transfer. These results characterise the highly heterogeneous nature of the multi-layered system of a painting in a quantitative way, enabling to

better interpret damage phenomena and to make computational predictions of the influence of changing boundary conditions.

Reference 72 - 0.05% Coverage

¶110: A methodology for detecting the level of fungal contamination in the French Film Archives vaults

Reference 73 - 0.73% Coverage

¶111: This study is conducted through comprehensive microbiological testing on films, shelves and air quality for the AFF storage sites (Saint-Cyr and Bois d'Arcy), in order to understand the origin of fungal development and subsequently to suggest a suitable solution to eradicate ongoing mold growth and to combat further contamination. The air analysis shows that the amount of airborne mold on both sites is small with concentrations 3 times less than level 1 (<170 CFU m−3), which is considered as a weak threshold for indoor environment concentrations. An increase of outdoor air concentration of mold has no effect on indoor concentrations. On the other hand, on surfaces, fungal concentration can reach 4 times the limiting value (50 CFU dm−2). No direct relationship was observed between the contamination in the air and shelves. Molds that have grown on film rolls include mainly and at a high frequency two xerophilic species with a strong gelatinolytic capacity: 62.5% were identified as Penicillium corylophilum (Aw 0.80) and 18.75% as Aspergillus versicolor (Aw 0.78). Because they are scarce in the air and on surfaces, it indicates that the films were not contaminated inside the storage areas. However, unfavorable climatic conditions in the storage vaults have triggered mold development inside the plastic or metal containers.

¶112: Investigation of ammonium oxalate diffusion in carbonatic substrates by neutron tomography

Reference 74 - 0.26% Coverage

¶113: The diffusion of the organic-polymeric or inorganic-mineral products inside a decayed porous material is a key factor for the evaluation of the efficacy of a conservation treatment. Here, we present a study aimed at the evaluation of neutron imaging as a non-destructive tool for the investigation of stones treated with ammonium oxalate, an inorganic-mineral product. Neutron tomography gained an overview of products diffusion and deep insight into the interaction between product and crystalline matrix.

Reference 75 - 0.05% Coverage

¶114: Laboratory and onsite study of barium hydroxide as a consolidant for high porosity limestones

Reference 76 - 0.48% Coverage

¶115: The paper focuses on the study of barium hydroxide applied to two high porosity limestones from Portugal (Ançã stone, with 27% porosity) and Italy (Lecce stone, with 37% porosity), both in the laboratory and onsite. The results show that barium hydroxide acts both through carbonation with atmospheric CO2 and by replacing calcium for barium in the calcite lattice followed by carbonation of the released calcium hydroxide. This double mechanism proved to be particularly efficient in the

Ançã limestone, possibly due to a higher reactivity linked to its smaller grain size. The mechanism is far slower than simple carbonation and has a better outcome when the stone can be totally immersed in the solution. Onsite experiments on the Ançã stone were less striking than in the laboratory, possibly due to the insufficient amount of product made available for reaction, but a positive outcome was visible after six years of natural exposure.

Reference 77 - 0.20% Coverage

¶117: Hence with an investigation of mechanical properties of lightweight mortars based on natural hydraulic lime was carried out. A low mortar density was obtained via the use of a lightweight aggregate composed of recycled glass beads. Conservation–restoration processes included documentation, cleaning, application of the new support, retouching and reassembly of the mosaic fragments.

¶118:
Reference 78 - 0.05% Coverage

¶120: How photoluminescent wayfinding can improve occupants' evacuation with no architecture modifications

Reference 79 - 0.66% Coverage

¶121: One of the most effective ways to help them to achieve this aim seems to be the adoption of a good emergency evacuation wayfinding system, especially in smoke or black-out conditions. This paper analyses the effectiveness of a reversible, easy-to-remove and low-impact system for evacuation guidance based on photoluminescent materials (PLM). The proposed continuous wayfinding system (CWS) is composed by PLM tiles along evacuation paths (both corridors and stairs). The application to a case study, the Italian style historical theatre "Gentile da Fabriano", is then provided. Tests involve more than 100 individuals in smoke and black out conditions. CWS effectiveness was compared to a traditional punctual system in terms of motion speeds (for single pedestrians) and total evacuation time (for the whole building evacuation drill). Questionnaires filled in by involved pedestrians qualitatively evaluated the individuals' acceptance of CWS. Tests with CWS show that individual's motion speed rises up to 50% and the total evacuation time is reduced down to 25% in respect to the traditional system. Comparisons with previous studies on PLM signs are provided. CWS can be easily introduced in this kind of historical theatres so as to increase the occupants' safety level.

¶122:
Reference 80 - 0.05% Coverage

¶124: Digital restoration of ancient color manuscripts from geometrically misaligned recto-verso pairs

Reference 81 - 0.48% Coverage

¶125: We propose a fast automatic procedure for registration and restoration of images of recto-verso pairs of color manuscripts affected by bleed-through distortion. The registration algorithm assumes a rigid projective deformation of a side with respect to the other. The coefficients of the geometric transformation are computed from a large number of pairs of matching points, automatically detected by exploiting the estimates of local shifts between pairs of small patches. We

validate the efficiency of the registration algorithm through the performance of a restoration method based on a model that relates each couple of corresponding pixels in the two images, and thus requiring a very accurate alignment of the two sides. The experiments show that this combined procedure of registration plus restoration can provide an excellent removal of the bleed-through pattern, while leaving unaltered the salient features of the original manuscript.

Reference 82 - 0.05% Coverage

¶128: Modeling a virtual robotic system for automated 3D digitization of cultural heritage artifacts

Reference 83 - 0.93% Coverage

¶129: Complete and detailed 3D scanning of cultural heritage artifacts is a still time-consuming process that requires skilled operators. Automating the digitization process is necessary to deal with the growing amount of artifacts available. It poses a challenging task because of the uniqueness and variety in size, shape and texture of these artifacts. Scanning devices have usually a limited focus or measurement volume and thus require precise positioning. We propose a robotic system for automated photogrammetric 3D reconstruction. It consists of a lightweight robotic arm with a mounted camera and a turntable for the artifact. In a virtual 3D environment, all relevant parts of the system are modeled and monitored. Here, camera views in position and orientation can be planned with respect to the depth of field of the camera, the size of the object and preferred coverage density. Given a desired view, solving inverse kinematics allows for collision-free and stable optimization of joint configurations and turntable rotation. We adopt the closed-loop inverse kinematics (CLIK) algorithm to solve the inverse kinematics on the basis of a particular definition of the orientation error. The design and parameters of the solver are described involving the option to shift the weighting between different parts of the objective function, such as precision or mechanical stability. We then use these kinematic solutions to perform the actual scanning of real objects. We conduct several tests with different kinds of objects showing reliable and sufficient results in positioning and safety. We present a visual comparison involving the real robotic system with its virtual environment demonstrating how view poses for different-sized objects are successfully planned, achieved and used for 3D reconstruction.

Reference 84 - 0.03% Coverage

¶132: The sound of bronze: Virtual resurrection of a broken medieval bell

Reference 85 - 0.61% Coverage

¶133: To bring back to life the sound of this broken musical artefact, a methodology combining experimental and numerical techniques from materials science and music acoustics is described in this paper. The general approach comprises material characterisation, geometrical measurements, modal analysis and physics-based sound synthesis techniques. By coupling a physical dynamical model of a bell impacted by a clapper with the modal properties of the original bell computed by Finite Element Analysis, realistic time-domain simulations of the Coruche bell dynamics were performed and realistic synthetic sounds were produced. As the original clapper has not survived, parametric computations have been performed to illustrate the changes in bell sounds associated

with clappers of different mechanical properties. The overall approach provides insight into the tuning of this medieval bell which can be compared to the modern-type tuning, and reproduce the sound that the bell from Coruche might have had. The strategy developed can be easily adapted to other musical instruments in poor/variable states of preservation, therefore benefiting the importance of such non-renewable cultural resources.

Reference 86 - 0.04% Coverage

¶139: A methodology for timing interventions made on the polychrome decorations

Reference 87 - 0.05% Coverage

¶140: A chronostratigraphic approach was used to the study of pictorial layers from the polychrome decorations

Reference 88 - 0.52% Coverage

¶140: to identify the timeline of successive decorative interventions made over time. Stratigraphic and mineralogical studies enabled the identification of modifications made to the artwork, either due to deterioration or to the various interventions made for maintenance purposes. The study of documentary references was accompanied by painstaking fieldwork and diverse laboratory techniques to establish stratigraphic correlations between the different areas and decorative elements of the façade. Future restorations oriented to the long-term conservation of this building (both preventive or of remedial nature) should take into account that the general appearance of the façade at present is close to that of medieval and modern times with the exception of minor modifications made during the intermediate interventions as result of an erroneous interpretation of previous chromatic alteration in specific areas of the façade.

¶141: High-resolution, three-dimensional imaging of pigments and support in paper and textiles

Reference 89 - 0.65% Coverage

¶142: Non-invasive techniques such as visible microscopy, X-ray fluorescence, Raman, and reflectance spectroscopy are commonly used to determine the artist material present. Recently, nonlinear optical ultrafast pump-probe microscopy was shown to provide non-invasive, high-resolution mapping of pigments in historic paintings to investigate paint stratigraphy. In this paper, we combine our pump-probe contrast with nonlinear fluorescence and second-harmonic generation contrasts exhibited by fibrous supports composed of natural bio-materials (cellulose, collagen, or lignin). Hence, our multi-modal nonlinear microscope is able to simultaneously investigate pigments in conjunction with their support in three dimensions with micrometer-scale spatial resolution. Here we examine the utility of nonlinear pump-probe microscopy by studying a series of mock-up samples, including indigo-dyed cotton cloth, ultramarine blue painted on various types of paper, and papers painted with mixtures and layers of the two pigments. In each case we find that we can combine pump-probe pigment contrast with nonlinear optical fiber contrast to obtain spatial information that is otherwise unavailable to the conservator.

¶143: The effect of oil binders on paper supports via VOC analysis

Reference 90 - 0.54% Coverage

¶144: The effect of the presence of drying oils in paper supports on the rate of cellulose degradation is investigated in a novel manner using Solid Phase Micro-extraction (SPME), which is employed to analyse volatile organic compounds (VOCs), emitted from oiled paper. This technique is applied as a non-destructive means of analysing original works of art on paper, in order to detect volatile cellulose degradation products. It is also applied to artificially aged paper samples with and without oil, in order to investigate the extent to which the presence of drying oil accelerates the degradation of cellulose. Furfural and other volatile cellulose degradation products containing a furan ring are selected as representative cellulose degradation products to be measured for the purpose of the investigation. It is demonstrated, by the finding of increased emissions of the selected compounds, that the presence of drying oils accelerates the thermal and oxidative degradation of cellulose in cotton paper and two types of wood pulp based papers.

Reference 91 - 0.06% Coverage

¶145: Alcoholic deacidification and simultaneous deacidification-reduction of paper evaluated after artificial and natural aging

Reference 92 - 0.57% Coverage

¶146: Cellulose oxidative and hydrolytical degradation is one of the greatest problems for the conservation of paper supports. To contrast these degradation processes, both deacidification and reduction of the oxidized functions are needed. Dealing with original documents, it is often impossible to perform the two mentioned treatments in aqueous solutions and in a distinct subsequent way, because of the fragility of the artifacts. After studying, in a separate way, an effective deacidifier (calcium propionate) soluble in ethyl alcohol and many reducers (boron complexes), able to act in different non-aqueous solvents, it was decided to test a simultaneous method of deacidification and reduction in ethanol. This paper presents the chemical-physical results obtained by applying simple deacidification and simultaneous deacidification-reduction on laboratory paper samples that were artificially aged and then re-measured after 10 and 15 years of natural aging. Results show that all alcoholic treatments are very effective: papers are stable also after a long period of both artificial and natural aging.

Reference 93 - 0.05% Coverage

¶147: Determination of parameters for local electrolytic treatment of corroded lead and lead-tin alloys

Reference 94 - 0.90% Coverage

¶148: A new electrolytic pencil (composed of a pseudo-electrode and a counter electrode contained in a nozzle enclosed by a microporous sponge pad in contact with a metallic object) was tested on its capacity to reduce the lead carbonates, which develop on lead and lead-tin objects exposed to corrosive organic acid vapors. Pure lead and two lead-tin alloys (5 and 50% of tin) were considered. Treatment parameters were defined by an electrochemical study on artificially corroded samples.

Lead carbonate reduction is usually carried out at −1.3 V versus a mercury saturated sulfate electrode (SSE). In the case of lead-tin alloys, a second reaction exists in the cathodic field corresponding to tin oxide (SnO_2) reduction, which starts at −1.7 V/SSE. Thus, it is possible to realize a selective treatment, reducing only lead carbonates. The potential value depends on the reference electrode and the ohmic drop induced by the configuration of the electrolytic pencil, the Pleco. The pseudo-reference electrode can be a glassy carbon electrode (GC) or a tungsten electrode (W). Treatment parameters were determined with the Pleco using the two above-mentioned reference electrodes: lead carbonate reduction is at −1.5 V/GC or −1.4 V/W. Reduction of lead carbonates was done successfully with Pleco: overall thickness of lead carbonates was reduced without affecting their original shape, thereby ensuring the preservation of surface details and decorations. This local treatment was also tested on the interface between the metal and cord parts of seals attached to parchment: the cords are better protected while the other parts of the seals will undergo electrolytic treatment by immersion. Corrosion products were reduced without degrading the threads

Reference 95 - 0.04% Coverage

¶149: An acoustical measurement used for the understanding of historical wind instruments

Reference 96 - 0.18% Coverage

¶150: Input impedance measurements show that, despite the geometry evolution and/or the holes number, a common acoustical behaviour can be pointed out for all the family members. The results show that serpents are difficult to play in tune and that all their evolutions (change of shape, addition of keys…) did not bring any improvement in the ease of playing.

Reference 97 - 0.05% Coverage

¶151: Comparative evaluation of acoustic techniques for detection of damages in historical wood

Reference 98 - 0.59% Coverage

¶152: This study assesses the suitability and sensitivity of select acoustic devices (Arborsonic Decay Detector, Fakopp Ultrasonic Timer with two types of sensors–TD45 and US10, and Fakopp 2D) for identification of damage in seven approximately 315 year old fir joining beams acquired during the reconstruction of the Baroque truss in the St. Mary of the Assumption Church in Vranov nad Dyjí, Czech Republic. The particular acoustic devices did not always provide similar results. However, brown rot and other inner damages in fir beams, located closer to their endings situated on masonry and connected with rafters, were determined with all acoustic devices. The possibility of indirect prediction of the strength, elasticity and hardness of the historical wood by means of the acoustic method was verified by correlation analyses, however, not seldom without higher significance. Generally, the results obtained indicate that it is not possible to fully rely on in situ acoustic methods for inspection of defects in wooden elements of historical structures, and therefore they should be combined with visual inspection and some other instrumental method(s).

Reference 99 - 0.01% Coverage

¶153: Dynamic response of

Reference 100 - 0.02% Coverage

¶153: , based on ambient vibration test

Reference 101 - 0.69% Coverage

¶154: is evaluated using ambient vibration normally induced by wind, traffic, micro-seismic, and other human activities. We show how modal parameters of historical buildings can be estimated by the Enhanced Frequency Domain Decomposition (EFDD) in terms of natural frequency, damping ratio and modal shapes. We developed an automatic procedure to detect in real-time the modal parameters using three-component seismic stations. We show that displacement of the Baptistery can be automatically quantified for each single mode and we found that the first mode induces a displacement of ∼0.7 μm, 7 times larger than those produced by the 6th mode. We also show that after the vehicular traffic was blocked around the historical center, the daily urban activity in the rest of the city has enough energy to excite the first six modes of eigenmovements of this historical building and the daytime amplitudes of the eigenmotions are six times larger than those at night. Modal parameters are directly related to the mechanical characteristic and thus the ability of the presented methodology to automatically detect their evolution can be used to monitor in real-time the health of historical structures without affecting their functionality and making the method fast and cheap.

¶155: Experimental modal analysis and seismic mitigation of statue-pedestal systems

Reference 102 - 0.89% Coverage

¶156: Recent research has explored analysis techniques and methodologies for predicting the seismic response of statues; however, these studies typically assume the statue to be either freestanding or rigidly attached. The seismic response of statues with these different boundary conditions varies widely and therefore accurate characterization is critical. While modern mounting techniques aim to rigidly attach a statue to the floor or to a pedestal, the degree of rigidity of the as-built system may vary greatly, particularly for large and heavy statues, which are difficult to mount. To this end, experimental modal analysis and system identification were conducted on six statues while in their installed condition at the Asian Art Museum in San Francisco, California. The tested statues were large, typically stone, and restrained with different mechanisms for comparison. The statue-pedestal-restraint systems were observed to be quite flexible with natural frequencies as low as 3 Hz. However, certain systems, which incorporated an embedded base of the statue, were much stiffer with frequencies around 14 Hz. It is noted that this type of testing requires significant contact and excitation of the statue. This rare opportunity to work directly with the statues resulted in a valuable dataset summarizing their dynamic characteristics for museum engineers and curators. In cases where rigidity is not attained, there is concern that the statue's natural frequency may be too close to that of the anticipated floor motions. For this reason, a simple and non-intrusive base isolation system is detailed. This system was further verified through shake table testing and is shown to sufficiently reduce earthquake demands to the statue.

¶157:

Reference 103 - 0.22% Coverage

¶158: A total of 24 aging reinforced-concrete structures in the Basque Country (northern Spain) and their behavior over time are analyzed in this paper. Reference is made to pathological reports, categorized for the purposes of this study, which characterize their concrete and steel components. This contribution greatly enhances our knowledge of each structure for future studies and for the improvement of their conservation strategies

Reference 104 - 0.08% Coverage

¶168: This paper seeks to attest, through computer modeling, a new light on the impact of buildings architectural proportions upon their behavior during earthquakes.

¶169:
Reference 105 - 0.04% Coverage

¶171: A framework for the simplified risk analysis of cultural heritage assets

Reference 106 - 0.58% Coverage

¶172: A simplified risk assessment framework specifically developed for built immovable cultural heritage assets is proposed. The framework addresses all the components in a risk analysis and can be used as a screening procedure for the preliminary assessment of a large number of assets with limited resources. Furthermore, the framework can also be used to identify cultural heritage assets that require a more refined and resource demanding risk evaluation. The proposed risk analysis framework falls into the category of qualitative methods and is based on an existing approach developed for the vulnerability assessment of critical infrastructures. The qualitative risk analysis of the proposed methodology is based on a set of structured assessment flowcharts that address the main components of a risk analysis: the likelihood of the hazard, the vulnerability of the asset to the hazard, the consequences of the hazard, the loss of value of the asset and the capacity to recover from the event. To illustrate the applicability of the proposed methodology, an application example is also presented for the case of seismic risk.

Reference 107 - 0.04% Coverage

¶179: Experimental campaign of wall base ventilation and interface effect analysis

Reference 108 - 0.36% Coverage

¶180: Furthermore, another important aspect was to better understand the difference in absorption behaviour between walls with and without joints when the rising damp treatment is conducted. It also presented an experimental campaign and a critical analysis of water absorption in samples of clay brick with and without joints and joints with different contact configurations (perfect contact, hydraulic continuity and air space between layers). The results showed that when the moisture reaches the interface, the wetting process gets slower due to the interfaces hygric resistance. This resistance was more pronounced for joints with air space between layers and less for joints with hydraulic continuity.

Reference 109 - 0.45% Coverage

¶182: In the view of the abovementioned, and in the scope of a research project carried out, a new urban fire risk assessment methodology was developed and applied to the old city centre of Seixal. This simplified methodology is based on a preestablished method designated ARICA. Over 500 buildings were assessed using this methodology, and the results were spatially analysed using an integrated geographical information system tool (GIS). It is worth noting that the integration of the risk results into a GIS platform is a valuable step towards the risk mitigation at a urban scale, allowing city councils or regional authorities to plan interventions on the basis of a global spatial view of the site under analysis leading to more accurate and comprehensive risk mitigation strategies that support the requirements of safety and emergency planning in case of urban fire.

¶183:
Reference 110 - 0.06% Coverage

¶186: Microwave and radio wave supported drying as new options in flood mitigation of imbued decorated historic masonry

Reference 111 - 0.58% Coverage

¶187: After a heavy flooding event damaging the monastery Marienthal in Germany demonstration studies were proceeded to evaluate heritage-adequate treatment strategies for the drying of a decorated chapel. To respect and preserve the original gypsum stucco interior drying in certain temperature limits had to be respected. Particularly, direct volumetric heating methods were employed working with electromagnetic waves in the frequency ranges of either microwaves or radio waves. The studies comprised heating tests on site and experiments on a heritage-representative masonry specimen. It could be shown that the removal of water could be significantly enhanced by both techniques. Radio wave heating was demonstrated to allow a more homogeneous and better controlled treatment in comparison to microwave application, which is especially relevant in case of sensitive materials such as gypsum. With respecting that limits the techniques can be applied in combination with efficient removal of moisture from the ambient air by ventilation in order to reduce the drying time thus limiting subsequent damage of the heritage building.

¶188:
Reference 112 - 0.73% Coverage

¶189: The numerical approach using finite element analysis (FEA) provided virtual assessment of the truss with a prediction of its behavior after simulated restoration using joints at locations of possible failure. The historical truss was subsequently analyzed by both beam truss structure and detailed 3D solid lap scarf joint modeled by reduction technique using substructuring. Static analyses were carried out using the finite element method (FEM) in order to establish a reliable numerical model and assess the static risks. The finite element models in ANSYS software assume fully orthotropic material properties of wood (Norway spruce and European beech) with elastic behavior. Results portrayed very good design of the assessed truss in the global mechanical behavior despite the rigidity of joints varied in longitudinal and transverse directions of the frames. Changes in global truss behavior were observed, but the changes in objective vertical displacement were not high. The differences based on rigidity level were not more than 7% of maximum vertical displacement of beams. The minor differences were recognized in the global truss behavior owing to new positions of implemented joints in the truss. Analyses showed each member in the truss contributes to global

truss rigidity and stability to different degree. Further, analyses showed areas in the truss where it was necessary to correct joints orientation

Reference 113 - 0.05% Coverage

¶190: A science-based contribution to its dating by dendrochronology, wood anatomy and pigment analysis

Reference 114 - 0.40% Coverage

¶191: This paper discusses the results of scientific investigations on a panel painting whose past attribution to Michelangelo has been recently taken again into account. The panel was investigated by means of dendrochronology, wood anatomy and pigment analysis. The wooden support is made of spruce and its last tree ring was dendrochronologically dated to 1497. Taking the time for wood working and seasoning into account, the terminus post quem for the creation of the painting is between 1525 and 1535. According to chemical analysis, the paint's binder is mainly egg tempera with some parts in fat tempera and finishings on the sky with azurite in glue tempera over a layer of smalt bound in fat tempera. These pigments are coherent with the expected period and help to date this panel

Reference 115 - 0.04% Coverage

¶194: ATR-FTIR characterization of old pressure sensitive adhesive tapes in historic papers

Reference 116 - 0.48% Coverage

¶195: In this study, several deteriorated pressure sensitive adhesive tapes (PSATs) applied in the past for repairing ripped paper documents of 19th century and books of 20th century were analyzed by attenuated total reflectance-Fourier transform infrared (ATR-FTIR) spectroscopy technique. The comparison of FTIR spectra of the old tapes with those of some commercially available tapes subjected to accelerated aging allowed us to identify, in a fast and nondestructive way, the main classes of old tapes on the basis of their backing (cellophane, cellulose acetate, polyvinyl chloride and polypropylene) and adhesive (natural rubber, synthetic rubber and acrylic polymer) compositions. This procedure's results were very useful to the paper restorers and conservators, who will have the possibility of choosing the most appropriate conservation treatment for the removal of pressure sensitive adhesive tapes that can be found on many paper documents.

Reference 117 - 0.04% Coverage

¶196: A preliminary study on using linseed oil emulsion in dressing archaeological leather

Reference 118 - 0.08% Coverage

¶197: The main goal of this study was to study and evaluate the effect of linseed oil and glycerine emulsion a surface treatment on appearance and chemical composition of

Reference 119 - 0.34% Coverage

¶197: have been treated with linseed emulsion then a visual assessment, pH measurements, thermal analysis methods (TGA), infrared spectroscopy (FTIR) study and mechanical properties determination were undertaken, to see if any significant structural or chemical differences could be detected between “untreated” and “treated” leather. No dramatic changes in functional groups on the leather surface, as monitored by infrared spectroscopy, occurred in the samples before and after treatment; pH values, however, show that emulation may give good results in decreasing the acidity of the treated leather. The emulsion enhanced thermal & mechanical properties of treated samples.

Reference 120 - 0.05% Coverage

¶198: The research of burning ancient Chinese lead-barium glass by using mineral raw materials

Reference 121 - 0.50% Coverage

¶199: In order to clarify the raw material adopted in glass-making process, a series of simulation experiments was conducted to produce lead-barium glass under varying mineral conditions. According to the results of the experiments and comparative analysis of archaeological samples and natural mineral raw materials, such as barite and witherite, it is possible to come to the conclusion that ancient Chinese craftsmen could only use witherite as barium-containing material to make the lead-barium glass. Moreover, the existence of barium carbonate ore in China was the most fundamental internal factor of the origin of lead-barium glass from the viewpoint of mineral resources. A better understanding of raw material of this ancient glass and improved identification of the product of lead-barium glass in the Chinese ancient society will aid in the recovery and analysis of glass artifacts and further efforts to reconstruct this mysterious technology.

¶200: Pigment characterization

Reference 122 - 0.04% Coverage

¶201: The results of a multi-analytical investigation on preparatory drawings

Reference 123 - 0.65% Coverage

¶201: Examinations were made on two sinopiae in mosaic substrates detached from the apse of the basilica of St. Apollinare in Classe and on the undercoloring characterizing some finds of wall mosaics coming from the basilicas of St. Agata Maggiore and St. Croce. Due to the historic and archaeological relevance of the finds, the research was carried out mainly through noninvasive techniques, such as fiber optics reflectance spectroscopy (FORS) and energy dispersive X-ray fluorescence spectrometry (EDXRF). Analyses by Fourier transform infrared spectroscopy (FTIR) and Raman micro-spectroscopy (μRaman) were only performed on incoherent material and small loss particles in the interstices among the tesserae. In some selected painted area, visible-induced infrared luminescence (VIL) was employed to verify if Egyptian blue was used and how was distributed, if present. By comparing the results obtained with the different techniques, a proposal about the nature of the pigments was formulated: the pigments employed to make the sinopiae from St. Apollinare in Classe are iron-

based pigments, while the analyses of the undercoloring show a more complex character, where the use of a broader palette of pigments was recognized (red ochre, green earth, Egyptian blue)

Reference 124 - 0.06% Coverage

¶202: Composition of Byzantine glasses from Umm el-Jimal, northeast Jordan: Insights into glass origins and recycling

Reference 125 - 0.63% Coverage

¶203: were analysed using the electron probe microanalysis (EPMA). Except one ash-soda-lime-silica glass, all were natron soda-lime-silica glasses of Levantine origin. Most of the glasses compositionally resemble glass from the Byzantine tank furnaces at Apollonia-Arsuf (Arsuf), but four with lower lime are closer to Umayyad period production at Bet Eli'ezer (Hadera). The paper presents diagnostic information indicating recycling in a diagnostic recycling table (DRT) in which the analyses are ranked in a descending order of K2O, a key contaminant in the recycling process. This allows the comparison of a range of contaminant elements and it is observed that in general glass contaminated with fuel ash components K2O, P2O5 and CaO are also richer in transition metal oxides CuO, PbO, FeO and MnO, confirming that both sets of elements are important in identifying recycled glass. Chlorine is also identified as a component modified by recycling. The results ascertain that Umm el-Jimal was part of a major system of glass recycling in the Byzantine period, and emphasise the importance of recycled glass in its supply, in spite of its relative proximity to the location of raw glass production on the Syro-Palestinian coast.

Reference 126 - 0.04% Coverage

¶204: Liesegang rings in differential deterioration patterns of lime mortars

Reference 127 - 0.46% Coverage

¶205: Differential erosion is a deterioration pattern common in stone and mortars exposed to environmental agents. The differential morphology is usually determined by specific intrinsic characteristics. The case analysed here corresponds to a peculiar situation of rhythmic precipitation inside lime mortars following a physical process designated as Liesegang phenomenon. The rhythmic reaction occurs between calcium hydroxide and carbon dioxide in the early steps of the carbonation process, and when appropriate boundary conditions are met, a more or less "perfect" sequence of higher and lower concentration of the carbonated lime (calcite) is formed. This sequence is called a series of Liesegang rings. The rings have distinct hardness and, when exposed to erosion agents, a differential pattern may be formed. In certain regions, this differential erosion pattern was given the name of Flos tectorii.

Reference 128 - 0.21% Coverage

¶209: A relevant step of the assessment is represented by the comparison of the obtained scores with calculated reference scores that do not correspond to the absolute maximum values. This approach helps to individuate the fields in which higher global scores can be reached by planning smart

renovation actions. The results allow also to highlight some aspects of the procedure application that can be improved

Reference 129 - 0.06% Coverage

¶214: Detection of geometric changes for an historic theatre by comparing surveying data of different chronological periods

Reference 130 - 0.42% Coverage

¶215: presents results from a study where identification and documentation of geometric changes are examined from a weathered ancient theatre using map regression methods. Specifically, a comparison is made between a topographic map created in the 1960s by the German Archaeological Institute and a new map of the same area using state-of-the-art geodetic and terrestrial laser scanning (TLS) techniques. The work scale of the maps is 1:100 and can reveal changes and deformations of relevant size to the scale of the map (over 1.5 cm). The process, described in detail, entails georeferencing, planimetric and vertical comparison and assessment of the changes. The study demonstrates the importance of detecting topographic changes in cultural heritage sites and can be applicable to similar analyses over a range of time periods.

Reference 131 - 0.04% Coverage

¶220: Characterization and analysis of sandstone substrate, mortar layers, gold foils

Reference 132 - 0.15% Coverage

¶221: This paper presents comprehensive and detailed materials characterization and analysis for the Avalokitesvara Statues using X-ray detection, X-ray fluorescence, X-ray diffraction, Fourier transform infrared spectroscopy, Raman spectroscopy, metallographic microscopy, and scanning electron microscopy.

Reference 133 - 0.54% Coverage

¶223: A Chinese Qin-Han dynasty lacquerware was analyzed by cross-section, field emission scanning electron microscope with energy dispersive X-ray spectrometry (EDX), strontium isotope ratios (87Sr/86Sr), carbon-14 age determination, and pyrolysis-gas chromatography–mass spectrometry. The carbon-14 analysis results showed that the wood base was from a Zelkova schneideriana tree grown in the Yangtze River area about 2300 years ago, and the film was sap collected from lacquer tree about 2200–2250 years ago. The 87Sr/86Sr isotope ratio was 0.71146 consistent with that of the Chinese mainland (> 0.71). Pyrolysis GC–MS detected 3-heptylphenol and 3-pentadecylphenol in the mass chromatograms at m/z = 108, and palmitic acid and stearic acid were detected at m/z = 60, suggesting that the sap collected from Toxicodendron vernicifluum tree and that many additives had been added. The cross-section and EDX revealed the coating technique and pigment species of lacquerware. Based on these results, the Chinese Qin-Han Dynasty lacquer culture is discussed.

Reference 134 - 0.42% Coverage

¶225: The complex surface structure in the ancient reliefs surfaces, caused by the damages that are sustained over time, makes it difficult to perform graphical documentation; therefore, separate researchers may obtain graphical documentations of different spatial accuracies for the same artifact. In this paper, a dense image matching and spline curves based method is proposed, which can be used for the graphical documentation of complex surfaced reliefs. In the experiments that were conducted, the method that was proposed for two separate Hittites reliefs graphical documentation and the results obtained by separate researchers have been compared graphically. The graphical and numerical results that were obtained indicate that the proposed method can be used for graphical documentation of complex surfaced reliefs.

Reference 135 - 0.04% Coverage

¶226: Crowdsource and web-published videos for 3D documentation of cultural heritage objects

Reference 136 - 0.54% Coverage

¶227: Presently, the techniques of automated image-based modelling and camera technology are an efficient tool for cultural heritage documentation and preservation. One option is to use high-resolution video imaging to have 3D models of architectures, statues and monuments. Video imaging is a preferred choice when compared to still image shooting in modeling techniques because the latter needs expertise and a thorough planning. For cultural heritage documentation, crowdsourcing stock photos and images was investigated and showed some promising results. On the other hand, there is a limited number of tries to use the publicly published video imaging for the same purpose of 3D documentation. This limitation is caused by the low resolution of the published video images, the need to process a large number of video images and the effects of blur on a significant number of images. An efficient procedure is demonstrated in this case study paper to use the documentary web-published video images for 3D documentation of cultural heritage objects

Reference 137 - 0.05% Coverage

¶227: Three different web-published videos with a high definition HD resolution are used to create 3D models of

Reference 138 - 0.03% Coverage

¶228: Perceptual enhancement of degraded Etruscan wall paintings

Reference 139 - 0.37% Coverage

¶229: In this paper, we present a method for unsupervised digital image enhancement, finalized to the visual analysis of degraded Etruscan wall paintings. In many cases, original Etruscan wall paintings are not well-preserved and the simple photographic acquisition does not allow a successful visual investigation. The use of commercial softwares as image enhancers generally do not lead to satisfactory results. Here, we propose an algorithm based on a computational model of human vision, called Automatic Color Equalization (ACE). ACE allows an unsupervised filtering of the

degraded wall paintings; it is able to equalize automatically color and contrast, allowing in this way an easier and more successful visual investigation.

Reference 140 - 0.04% Coverage

¶230: RFID applied to the cataloguing of a collection of historical plaster moulds

Reference 141 - 0.44% Coverage

¶231: A methodology for the cataloguing of the moulds was developed and a system to support such a process was designed. This system exploits radio frequency identification (RFID) technologies for the identification of the historical moulds stored on shelves of a huge warehouse at the factory. These moulds, made of plaster, are frail and need to be handled with care: therefore, the identification of their content has to be carried out without moving or opening them. The use of passive RFID transponders (RFID tags) has allowed to solve the problem in a simple and low cost way through a hand-held RFID reader, which is able to communicate with a data system where the information about each mould is stored. Besides that, since the shelves where the historical moulds are stored are difficult to reach, the system is able to find where the moulds are situated

Reference 142 - 0.34% Coverage

¶234: Unfortunately, the technical literature on acoustics in the restoration process consists of reports on case histories and provides only limited generalisations. This review develops a comprehensive approach to the topic, covering the most sensitive acoustical issues and their potential impact on the outcome. Together with previous results, fresh data have been added to support the discussion. Moreover, basic and special procedures have been presented to deal with acoustics in the restoration process and, finally, the most important aspects to-be-researched are addressed with special regard to the role of re-radiation from lightweight structures.

¶235:

Reference 143 - 0.04% Coverage

¶238: Spectral damage model for lighted museum paintings: Oil, acrylic and gouache

Reference 144 - 0.52% Coverage

¶239: A spectral aging test was developed to estimate the photochemical damage of oil, acrylic and gouache paints exposed to permanent lighting. The paints were irradiated at seven different wavelengths in the optical range to control and evaluate their spectral behaviour. To reach this objective, boxes with isolated aging cells were made. In each of box, one LED of a different wavelength and one photodiode were installed. Inside the boxes, the temperature of an exhibit area was recreated through a thermocouple sensor that controlled the temperature using a fan. The heat produced by the LED was dissipated by a thermal radiator. Moreover, to evaluate the exposure time dependence of the irradiation level, the test was performed using two different irradiation levels in ten exposure series. After each series, the spectral reflectance was measured, and the data collected for each paint and wavelength were used to develop a model of damage produced by the interaction between the spectral radiant exposure and the paint.

Reference 145 - 0.05% Coverage

¶240: Assessment of plasma torches as innovative tool for cleaning of historical stone materials

Reference 146 - 1.24% Coverage

¶241: Cleaning of historical stone surfaces has always been a challenging task, moreover in the last decades arose new restorations issues such as the need to remove aged conservation polymeric materials to avoid further damage. Different cleaning methodologies flourished in the past, mostly based on chemical, mechanical methods and on laser technology too. Nevertheless, these methodologies could not be so efficient in the removal of epoxy resins, acrylic polymers and hydrophobic siloxanes, because of their low solubility in solvents when aged or their high adhesion with the substrate. More recently, atmospheric plasma has been tested for such application even if it is not yet widely applied due to the lack of knowledge about possible side-effects on the artefacts. In the present work, assessment of three commercial atmospheric plasma devices (plasma torches) illustrated the potentialities and drawbacks of polymers' removal from stone surface. Commercial epoxy resins, acrylic polymers and hydrophobic siloxanes were chosen for the removal test by plasma devices. Physical and chemical effects on the stone surface and the process efficiency were investigated by means of macro- and microscopic observations, preferring, when possible, non-invasive techniques and consolidated methodologies in the field of Stone Conservation Science. An introductory experimentation on coated Si specimen has allowed to find the proper working parameters, i.e. working distance, exposure time, to have an effective removal. The experimentation conducted on different lithic substrate, coated with the commercial protective, has showed that commercial devices are effective in the removal of epoxy and acrylic coatings via chemical and physical interactions. On the contrary, the removal of siloxane products is incomplete, because of the high stability of the bond Si–O in the back bone, which is not affected by the plasma. In general, the present trials highlighted that DBD apparatus used does not promote any macroscopic effects on the polymeric coating, while arc discharge ones guarantee satisfactory results. According to these preliminary trials, it was clearly evidenced that plasma is a potential cleaning tool, despite DBD systems need higher power or arc discharge needs treatment temperature mitigation and to avoid the deposition of metallic drops on the surface of the object due to electrode deterioration

Reference 147 - 0.04% Coverage

¶242: A new interpretation methodology for microdrilling data from soft mortars

Reference 148 - 0.64% Coverage

¶243: Drilling resistance measurements made on soft mortars or other soft and very heterogeneous materials are difficult to interpret due to the extreme irregularity of values caused by the high contrast of strength between the binding matrix and the hard aggregates. Direct comparison of drilling graphs is usually difficult and even impossible. To overcome this difficulty, a methodology was developed using an algorithm to identify the values characteristic of the binding matrix, avoiding the interference of the aggregates. The methodology consists in sorting data at defined depth segments and, for each segment, taking the average of a given percentile of the lowest values. When the consolidation action of any treatment on a soft mortar is sought, the comparison of the

averaged values for homologous segments before and after treatment gives a direct value for this consolidation. The methodology was tested with a soft 2-layer lime mortar treated with nanolime. Drilling data for consecutive segments of 2 and 5 mm in depth were used to show how the methodology works. The consolidation action was clearly depicted and the hidden layer could also be identified and characterized. The methodology is simple to operate using a spreadsheet file.

Reference 149 - 0.87% Coverage

¶245: We suggest a method to identify the suitability of a chosen indoor environment for paper material conservation in historical libraries. Our approach is based on two steps: numerical simulation for solving the air velocity, moisture and temperature fields, and then post-processing indexes evaluation to assess how the indoor microclimatic conditions can be favourable or not to the growth and development of microorganisms responsible for paper deterioration. A real case study was analysed in two different conditions: one the present situation and the other proposed by the authors with a HVAC system assuring controlled air temperature and RH levels. Numerical models, validated by experimental data published in previous works, were used to carry out microclimatic results. Starting from these results, some indexes suggested by the scientific literature were computed to check the suitability of the indoor environment for preserving a library heritage. Boolean parameters were also deduced from the combination of microclimatic factors favouring the growth of microorganisms responsible for paper material deterioration. Our research can provide a methodological approach that predictively allows one to know when, where and how the processes responsible for indoor microorganism activity can find the microclimatic conditions for their kick-off and triggering, and then their areas of potential growth. The proposed method highlights the main causes of the deterioration processes connected to building thermo-physics. Simulation results turned out to be a fundamental approach to identify the risky zones and potential areas of triggering deterioration processes of all the materials present.

Reference 150 - 0.03% Coverage

¶246: Automatic identification of varnish wear on historical instruments

Reference 151 - 0.75% Coverage

¶247: In the field of cultural heritage, UV-induced fluorescence (UVIFL) photography is extensively applied to the study of artworks. In the case of historical musical instruments (e.g. violins), this technique allows seeing important details that usually cannot be detected under visible light, such as retouching, different paint and varnish coats or worn areas of the superficial varnishes. The interpretation of UVIFL images, even when performed by expert people, may be very complex, taking into account the chemical and physical modifications undergone by the analyzed instruments during the centuries. The aim of this work is the development of a new tool able to help experts by automatically detecting the presence of worn areas on the surface of violins. The proposed algorithm is based on a specific combination of thresholding and mathematical morphology designed to detect some characteristic fluorescence colors. The system discriminates different wear levels, finds their position on the surface and computes their percentage respect to the total area. To validate our approach a collection of UVIFL images of Stradivari's violins held in the “Museo del Violino” in Cremona (Italy) was considered. The analyses of the UVIFL images taken on the back plates of the instruments provide results that are in agreement with the naked eye segmentation

and classification performed by expert people (e.g. violin makers, restorers and the curator of the museum).

Reference 152 - 0.03% Coverage

¶248: Indigo dyeing and microorganism–polymer interaction

Reference 153 - 0.48% Coverage

¶249: Given the prevalence of the use of natural indigo in textile dyeing over the centuries and today this study was taken to determine the impact of natural indigo dyeing on microbial deterioration of a woollen textile. In order to understand the influence of the dye and the dyeing process on the textile biodeterioration a discussion on the impact of fungal species on the undyed woollen fabric is provided. Although both textiles, i.e., undyed and dyed with indigo, incurred serious damage after being subjected to the activity of microorganisms it was found that the dyeing of a woollen textile with indigo decreased the susceptibility of the dyed textile to microbial deterioration. Moreover, the undertaken studies revealed an unprecedented phenomenon, i.e., an unusual interaction between fungal strain and keratin fibres consisting of penetration of its spores into the fibre interior and subsequent formation of characteristic bulges

Reference 154 - 0.26% Coverage

¶251: The evolving technologies of the game engines and the Web have reached a level of maturity that enables them to contribute significantly to the long-celebrated blending of culture and education with gaming. In this work, we present DynaMus, an innovative fully dynamic Web-based virtual museum framework that relies entirely on users' creativity and on the exploitation of the rich content in distributed Web resources. DynaMus is able to connect to popular repositories, such as Europeana and Google

Reference 155 - 0.31% Coverage

¶251: It exploits modern Web technologies such as open linked data in an attempt to move towards the semantic Web by exploiting the abundance in data availability. DynaMus provides a complete authoring interface, in which anyone can easily create customised virtual exhibitions, while guaranteeing an engaging experience by relying on modern game engine technologies. The concept easily connects to educational settings as has been illustrated by case studies, one of which is presented in this paper.

¶252: 4-MUF-NAG for fungal biomass determination: Scope and limitations in the context of biodeterioration studies

Reference 156 - 0.53% Coverage

¶253: In the field of biodeterioration of cultural heritage by fungi, quantification of fungal growth is a regularly required procedure. Recently, a fluorometric method for detection and estimation of fungal growth using 4-methylumbelliferyl-N-acetyl-β-D-glucosaminide (4-MUF-NAG) was proposed. In order to evaluate the potentials and limitations of this method for fungal biomass quantification,

different experimental conditions to develop calibration curves were tested, using Aspergillus niger, Cladosporium cladosporioides, Chaetomium globosum and Penicillium chrysogenum fungal strains. The results showed that the correlation between fluorescence and biomass differs according to fungal species and stage of growth. Therefore, a measurement of fluorescence may not be indicative of a specific value of biomass. Also, false positive and negative results for fungal growth can be obtained. C. globosum was the fungal species that showed the most constant correlation between biomass and fluorescence throughout the different incubation periods.

Reference 157 - 0.03% Coverage

¶254: Investigation of the recent microbial degradation

Reference 158 - 0.12% Coverage

¶255: This study was designed to provide a broad analysis of the skin microbiota of Chinchorro mummies and, investigate the relationship between the presence of microbes and the recent discoloration and biodegradation of the Chinchorro mummies' skin

Reference 159 - 0.45% Coverage

¶255: Microorganisms isolated from degraded Chinchorro mummy skin samples were similar, based on ribosomal RNA analysis, to bacteria found in the human skin microbiome (predominantly, Bacillus, Staphylococcus, and Methylococcus spp.) and commonly occurring fungi (predominantly, Penicillium and Aspergillus spp.). Some of these microorganisms were able to utilize collagen and/or keratin as the sole carbon source in vitro. We determined the activity of the collagenase/gelatinase enzymes produced by these microorganisms when grown on pig skin, which was used as a surrogate for human skin. The concentration of hydroxyproline, a measure of collagenous protein degradation by the microorganisms, increased with increasing relative humidity. We demonstrated that keratinolytic and collagenolytic opportunistic microorganisms were likely responsible for the recent degradation phenomenon.

¶256:
Reference 160 - 1.17% Coverage

¶257: "Intelligent Evacuation Guidance Systems" (IEGS) could monitor human behaviours (how people move) and related criticisms in the evacuation process (e.g. slowing down along paths, paths blockage). Then, they could elaborate these data through smart inducing algorithm so as to suggest dynamic evacuation paths to occupants. In this way, IEGS can effectively suggest the "best" evacuation path to occupants depending on the effective human behaviours. In this paper, an IEGS is firstly defined by introducing suggested low impact environmental components and their related requirements. In particular, occupants' behaviours are associated to evacuees' density along egress paths, doors and exits, by using indoor individuals' tracking systems (e.g. RFID, Wireless localization). A density-based algorithm based on Level-of-Service conditions is adopted for evaluating possible overcrowding phenomena and identify the best evacuation paths. Directional electrically-illumined signs are used so as to indicate the proper direction to occupants. Wireless communication between the system elements is required. Each element is provided with backup power supply. Then, the proposed IEGS is evaluated by applying it to a significant case study (the "Gentile da Fabriano theatre" in Fabriano, AN). Interactions between occupants and IEGS are reproduced within a

validated fire evacuation simulator (FDS + EVAC), and the system effectiveness is evaluated by performing evacuation simulation for the whole building. Comparisons of evacuation times between the original scenario and the IEGS-related one are proposed. Total maximum egress time is reduced down to 26% in the IEGS scenario (40% for levels with 3 or more different possible paths). The number of people using secondary paths (that are also the less crowded ones) raises to 88%. IEGS elements correctly and fully interact with people by understanding their evacuation behaviour and suggesting them the most appropriate (clearest) path: hence, the overall evacuation efficiency can be so increased by virtue of this "behavioural design" approach. Besides, it is strongly important to underline how IEGS elements provide no architectural modifications.

¶258: State-of-the-art technology on conservation of ancient roofs with timber structure

Reference 161 - 0.07% Coverage

¶260: An innovative combination of non-invasive UV–Visible-FORS, XRD and XRF techniques to study Roman wall paintings from Seville, Spain

Reference 162 - 0.64% Coverage

¶261: This study attempts to establish the advantages and limitations of the combined use of portable UV–Vis-FORS and XRF-XRD portable equipment for the non-invasive characterisation of pigments from Roman wall paintings from Seville, Spain, dated to the first and second century AD. XRD revealed the presence of calcite, dolomite and aragonite, indicating the colour white. Egyptian blue was identified using FORS and XRF, and additional information was obtained with XRD. For the colour green, FORS and mainly FTIR and colorimetry enabled the distinction between glauconite and celadonite, although other techniques were necessary to classify all components of the green areas by determining the presence of cuprorivaite, chlorite and chromium. For the colours yellow and red, the presence of goethite, yellow ochre, cinnabar and haematite was confirmed using FORS and XRF in some cases; the results were corroborated by XRD. Chromatic characterisation and the values of inflection points of FORS spectra enabled a better differentiation between reddish colours (orange, brown, purple and pink). The XRD and XRF techniques revealed that violet was created by mixing red haematite and Egyptian blue and slight variations in FORS spectra confirmed this.

Reference 163 - 0.03% Coverage

¶262: Dynamic characteristics and seismic responses of painted sculptures

Reference 164 - 0.53% Coverage

¶263: To study the painted sculpture's seismic safety, experimental specimens and numerical models were established on the basis of original geometry and internal constitutions. These specimens and models were made of wooden frame, reed-padded layer, coarse clay layer, and fine clay layer from internal to external. The dynamic characteristics of the painted sculptures were obtained by sweep frequency experiments. The numerical model can reflect dynamic performance of experimental specimens by comparing the results of sweep frequency experiment with numerical modal analysis. Based on the numerical results, the responses of the painted sculptures were analyzed from the perspectives of stress, displacement, and acceleration, evaluating the painted sculptures' responses

to seismic activity at three levels expected for the Dunhuang area, and finding the regions of easily damaged. The results show that there is a risk of damage to painted sculptures, though the displacement responses are small under the earthquakes with PGA = 0.20 g.

¶264:

Reference 165 - 0.46% Coverage

¶265: is examined with experimental and numerical methods. The operational modal analysis technique is used to illustrate the dynamic characteristics of the bastion experimentally. Finite element model is developed by ANSYS software and dynamic characteristics of the bastion, such as natural frequencies and mode shapes are calculated numerically. Furthermore, time history seismic analysis is carried out. The results show that the ambient vibration measurements are enough to identify the structural response of the bastion. Maximum differences between the natural frequencies are attained as 26%. To minimize these differences, finite element model of the bastion should be updated by using some uncertain parameters. The principal stresses are satisfied in general, but the maximum tensile and compression stresses values exceed the allowable code limits at some points of the masonry components.

Reference 166 - 0.06% Coverage

¶266: Hidden colours in stuccowork damaged by fire: A multi-analytical investigation for revealing the original decorative pattern

Reference 167 - 0.26% Coverage

¶267: The finishes applied on stuccoworks deserves in-depth analytical investigations. A complete chemical and morphological survey is very useful in reconstructing the artist's technique, the history of the artworks through the sequence of the applied layers, and is needed as a basis for any conservation approach. Microscopic observations, both optical and electronic (SEM), and spectroscopic analyses (μRaman, μFTIR and EDS) of gilded and polychrome finishes on plaster relieves, were carried out on 17 samples from

Reference 168 - 0.30% Coverage

¶267:). The original decorative pattern had been damaged during a bomb-induced fire in the Second World War. Most of the surfaces have been fatally compromised and blackened by the effects of the fire. The survey presented here analysed the materials constituting the stucco surfaces and the damage induced by the fire. Green pigments were individuated and mapped, although no green surfaces were visible to the naked eye. It was therefore possible to reconstruct a decorative pattern painted in green, gold and white, similar to traditions of decoration in Austria and southern Germany.

Reference 169 - 0.02% Coverage

¶268: Raman analysis of Gothic wall paintings

Reference 170 - 0.06% Coverage

¶269: In order to determine the mineral species used as pigments, an in situ non-destructive Raman spectroscopy study

Reference 171 - 0.38% Coverage

¶269: been performed. Establishing the paint palette was challenged by the fact that these murals had undergone a restoration process in the 1980s. Bearing this in mind, the use of in situ Raman analysis was considered preferable to more aggressive conventional sampling techniques. The observed Raman spectra have been assigned to cinnabar, red lead, quartz, bone black, calcite and aragonite. Two variants of cinnabar with different crystallinities were alternatively used for the relevant figures and the decorative elements. Mixtures of cinnabar and red lead were used to obtain different orange tonalities. No spectral features from the pigments or the protective coatings that were used for the restoration process have been detected.

¶270:
Reference 172 - 0.03% Coverage

¶272: An archaeometrical approach for the study of masonry

¶273:
Reference 173 - 0.15% Coverage

¶273: For the development of this study, a multidisciplinary protocol with an archaeometrical approach was adopted. Through cataloguing and the realisation of a GIS, it was possible to establish a dynamic comparison at several levels from the results obtained and then to arrive at a critical synthesis.

¶274:
Reference 174 - 0.37% Coverage

¶275: The methodology has been structured in four levels of investigation: (i) “screening” for assessing the museum performance; (ii) “observation” for detecting causative factors, present and potential risks; (iii) “analysis” for quantifying the environmental and energy risks with detailed investigations and long-term measurements; and (vi) “expertize” to provide guidelines for implementing and prioritizing appropriate solutions to solve specific problems related to prevention, human comfort, and energy efficiency. This methodology neither meant to be exhaustive or definitive, but simply aims to serve as a reference for technicians and conservators, who require clear and easy procedures and applicable solutions.

<Internals\\JCH 2017 abstracts> - § 199 references coded [53.53% Coverage]

Reference 1 - 0.10% Coverage

¶15: Furthermore, this study aims at forecasting the development of urban settlements through the application of the cellular automata model SLEUTH; the case study concerns the Municipality of Altamura (Apulia region, Italy).

Reference 2 - 0.35% Coverage

¶25: In order to enhance the use and the spreading of technologies for the microclimate monitoring, a research activity within PRO_CULT (Advanced Methodological approaches and technologies for Protection and Security of Cultural Heritage) and Smart Basilicata projects was performed. The projects' aim was to test low cost technologies to monitor and manage cultural heritage trying to significantly reduce the acquisition and maintenance costs so as to facilitate wider use of the monitoring systems to safeguard "minor" heritage. Starting from this point of view, an equipment prototype to monitor the indoor microclimate environment of confined environment was planned, taking into account the low cost (LC) approach as the basic assumption. In order to evaluate the LC performance

Reference 3 - 0.32% Coverage

¶25: the survey data were compared with those recorded by a standard commercial system (CS). All this in mind, the article discusses the comparative analysis of the two microclimate monitoring systems in relationship with the decay problems of frescoes hosted in the crypt of St. Francesco d'Assisi. The system comparison shows a quite complete matching of the thermo-hygrometric values. Furthermore, the survey puts into evidence as the microclimate conditions in the crypt are not suitable for the conservation of the frescoes. The studies based on the microclimate analyses together with other in situ surveys allowed to propose possible technical solutions to mitigate the decay risk related to the artistic heritage.

¶26:

Reference 4 - 0.17% Coverage

¶28: This article uses an ordered logistic regression (logit) model to assess the vulnerability of ancient burial mounds to human activity in the Kazanlak Valley, Bulgaria. This model yields probabilities of damage to burial mounds subject to changing conditions, based on the present condition and situation of a large dataset of mounds (n = 773), as estimated through direct visual assessment.

Reference 5 - 0.17% Coverage

¶28: Unlike typical predictive modelling for cultural heritage management, use of a logit regression on a large dataset quantifies the probable impact of changing circumstances on monuments without relying on site location models, prior knowledge of specific hazards, or forecasts of future development. This approach can be applied widely, wherever sufficient observational data are available.

Reference 6 - 0.04% Coverage

¶29: Application of predictive models to assess failure of museum artifacts under seismic loads

Reference 7 - 0.39% Coverage

¶30: In this work, emphasis is placed on efforts for mitigating seismic risk of museum artifacts elucidating the necessity to identify artifact failure not only based on code design spectra that mainly account for far-fault conditions but also considering near-source phenomena. A general methodology is proposed and demonstrated with representative examples. The methodology

considers the detailed geometry of the artifacts, its support conditions, relative distance from the soil surface, the fundamental frequency of the housing structure as well as relevant seismological data, such as vicinity with active faults and soil type, and provides the critical distance from an active fault within which the artifact could fail. The proposed methodology can serve as an easy-to-apply analytical means to assess the seismic risk of museum exhibits for preserving cultural heritage.

¶31:
Reference 8 - 0.19% Coverage

¶32: In addition, although it is a relative risk assessment methodology, NICHE takes explicitly into account the effects of microclimatic conditions on the works of art, based on the current scientific knowledge and requirements reported in international norms. Here the NICHE approach is applied to the results of two measurement campaigns carried out in 2014 over two different periods, considered “extreme” from the climatic point of view

Reference 9 - 0.40% Coverage

¶32: In these measurement campaigns, various indoor environments were characterized. Even though we focus our attention mainly on the risks related to effects of the microclimatic environment on the works of art, future extensions to other classes of risks, such as structural, related to usage, arising from natural phenomena (earthquakes, floods, storms…), infesting agents (pests, insects, moulds…), technical malfunctions, etc., can be easily performed. In fact, all situations where the effects of the sources of risk on the targets of interest can be described with an S shaped function (for example, a Dose-Response Curve, a Probit or a Logit models) can be treated with the NICHE approach, grounded in the comparison with threshold reference values reported in the technical/scientific literature and norms.

¶33: Normals and texture fusion for enhancing orthogonal projections of 3D models

Reference 10 - 0.03% Coverage

¶35: Access to complex reality-based 3D models using virtual reality solutions

Reference 11 - 0.54% Coverage

¶36: The creation of digital 3D representation of monuments and sites have been demonstrated to be a reliable method for preservation and historical purposes. In order to preserve a high level of detail, the reconstructed point cloud will typically contain millions of points, which could result in several GB of data when stored on disk. For these reasons, a challenge for the scientific community is to find new ways to visualize and disclose 3D digital contents, obtaining a better access and communication of the Cultural Heritage information. In this paper, Virtual Reality (VR) devices are employed to provide not only a simple visualization but also an immersive experience for digitally reconstructed heritage scenarios. Oculus Rift (VR visualization headset) and Kinect (depth sensor for user interaction) are integrated in order to interact and navigate in a complex 3D or 4D (temporal) archaeological scene as well as to have access to digital media contents of several MB of size. In this way, archaeological sites or fragile environments with forbidden access due the preservation policies can also be virtually visited and inspected.

¶37: A complete 3D information system for cultural heritage documentation

Reference 12 - 0.50% Coverage

¶38: Cultural heritage (CH) documentation tasks usually involve professionals from different knowledge areas, which implies not only a huge amount of information and requirements, but also a very heterogeneous set of sources, data structures, content and formats. Geographic information systems (GIS) have been used extensively by cultural heritage specialists, but this is just working around the real problem: there is no specialized software for CH professionals to document their work in 3D. In this paper, we present software named Agata that allows specialists to interact in real time with high resolution polygonal models, and to annotate different raster and vectorial information directly onto them that might be useful for current or future research. Moreover, these annotations can be exported in a standard format that allows researchers from other disciplines that might be interested in the dataset to access such information easily. The system is able to manage and annotate not only on buildings or archaeological sites, but also sculptures or paintings directly into the 3D dataset of any CH physical element.

Reference 13 - 0.18% Coverage

¶40: An accurate geometric survey is carried out with Terrestrial Laser Scanning in order to detect the complex three-dimensional geometry of the structure and crack patterns. Finally, a three-dimensional finite element model of the entire structure is developed and a comparison between the numerical results and the damage survey is performed.

¶41: Geomatics science applied to cartographic heritage and archive sources

Reference 14 - 0.16% Coverage

¶41: an ante-litteram 3D GIS

¶42: Regeneration of cartographic heritage in a digital form offers a new opportunity of preserving and studying historical cartography. Modern digital techniques coming from Geomatics science help in metric analysis of ancient maps and, when integrated with the contribution from other disciplines, can allow specific studies otherwise unachievable.

Reference 15 - 0.44% Coverage

¶42: In the study, digital tools deriving from the integration of geomatic techniques (in particular georeferencing, GIS, 3D modelling) and archive skills are used to deeply analyze this peculiar cadastre, once converted in a digital form and metrically processed. For some test areas, a comparative consultation of the graphical information stored in the georeferenced maps, and the written one in the related cadastral registers is performed; this allows rigorous 3D digital reconstructions of the cadastral properties, and a new thematic visualization. This modern kind of representation turns to be a powerful and expressive tool to deeply analyze the complex nineteenth century arrangement of the city, highlighting some interesting aspects which otherwise would remain invisible. Furthermore, the tool allows users to get information about the Gregorian Cadastre in a simpler way than searching the original documents; this way, moreover, avoiding any damage of the delicate ancient maps.

Reference 16 - 0.03% Coverage

¶43: A multianalytical study of oil binding media and pigments

Reference 17 - 0.22% Coverage

¶44: Extensive laboratory examinations of the micro-samples were executed by means of optical microscopy (OM), scanning electron microscopy with an energy-dispersing detector (SEM/EDS), micro-Raman spectroscopy (MRS), histochemical staining (HS) and gas chromatography/mass spectrometry (GC/MS). The data obtained by the multianalytical approach pointed out that the oil binding medium was used as the principal medium within colour paint layers in the Bohemian panel paintings as early as around 1340–1350.

Reference 18 - 0.04% Coverage

¶45: A multi-technique approach to the chemical characterization of colored inks in contemporary art:

Reference 19 - 0.07% Coverage

¶46: In particular, several analytical techniques were employed to determine the chemical composition of thirteen inks found in Fontana's studio in Milan.

Reference 20 - 0.62% Coverage

¶46: Synthetic dyes responsible for the different shades of the inks were identified mainly by means of conventional Raman and surface-enhanced Raman spectroscopy as well as by high-performance liquid chromatography. Indeed, rhodamine-based dyes, often in mixture with yellow colorants such as metanil and acridine yellow, or monoazo dyes were detected in red and ochre inks. Triarylmethane and phthalocyanine molecules were identified in green and blue inks, while the azine compound nigrosine was found in a black ink. The presence of binders, such as gum Arabic and shellac, was instead detected in ink formulations by means of Fourier transform infrared spectroscopy. Moreover, an evaluation of the possibility to perform non-invasive analyses for the characterization of such materials was carried out by means of micro-Raman and reflection FTIR spectroscopies, resulting successful only for selected dyes. On the contrary, non-destructive analyses by reflectance spectroscopy and spectrofluorimetry allowed to start building a spectral database of such materials, potentially useful also for field investigations. More generally, the entire study allowed to obtain important information for future analytical work both on Fontana's paintings and on colored inks used in 20th century art.

¶47: Time resolved laser induced fluorescence for characterization of binders in contemporary artworks

Reference 21 - 0.50% Coverage

¶48: Contemporary artworks are often realized with multi-component mixtures with unknown compositions, which may be subjected to an unforeseeable degradation. A detailed characterization of these materials provides relevant information both to plan proper restoration strategies and to prevent damages. In particular, binders identification represents one of the major problems in the conservation of the contemporary works of art. In this paper, five binders routinely employed in contemporary paintings, i.e. acrylic resins, ethylene vinyl acetate, dammar varnish and linseed oil, were studied by Time Resolved Laser Induced Fluorescence Spectroscopy (TR-LIF). Experimental results confirm the TR-LIF analysis capability to isolate specific contributions from the investigated constituents. The spectral features of ten commercial paints containing the above mentioned binders were analyzed as well. In this latter case, additional diagnostic techniques, such as X-Ray Fluorescence Spectroscopy and Fiber Optics Reflectance Spectroscopy, were demonstrated to provide useful complementary information to integrate TR-LIF results.

Reference 22 - 0.49% Coverage

¶50: Melamine resins are extensively used as chemical consolidate agents in the preservation of different waterlogged archaeological wood artifacts. For successful consolidation, it is essential to control the rate of melamine polymerization. Currently, the understanding of melamine polymerization in waterlogged archaeological wood is qualitative, and is based on the experiences and skills of the conservators-restorers. In this study, we have tested different environmental conditions and additives that influence the rate of Kauramin 800 polymerization in waterlogged archaeological wood by Fourier transform infrared (FTIR) spectroscopy. The results show a fast polymerization reaction of Kauramin 800 at pH values below 7. The polymerization rate of Kauramin 800 increased in the presence of glycine and archaeological wood. On the other hand, slower polymerization was observed with the addition of Kraft lignin. The results indicate that FTIR spectroscopy is a powerful tool in monitoring the process of Kauramin 800 polymerization during the preservation of archaeological waterlogged wood.

Reference 23 - 0.04% Coverage

¶51: Characterization by thermogravimetric analysis of the wood used in Canary architectural heritage

Reference 24 - 0.46% Coverage

¶52: The aim of this work it is to check the usefulness of thermogravimetric analysis (TGA) as a test for the preliminary diagnosis of the presence of Pitch wood in traditional Canarian building. For this purpose, a study of the thermogravimetric behavior on wood samples taken from six buildings constructed between the 16th and 19th century was performed. TGA curves of these wood samples are compared with those obtained by analyzing the heartwood and sapwood of P. canariensis and samples of commercial wood. TGA results indicate that the Pitch wood has a singular behavior the first derivative of the thermogravimetric curve (DTG) with two peaks corresponding to the maximum rate of decomposition of hemicellulose and cellulose respectively. The first peak appears at a temperature of between 269 °C and 289 °C and the second peak of between 342 °C and 362 °C with a confidence interval of 95%. Pitch wood also has an effective density which differs by less than 10% of the value of the determined density using helium pycnometry.

Reference 25 - 0.04% Coverage

¶53: Study on dimensional stabilization of 12,500-year-old waterlogged subfossil Scots pine wood

Reference 26 - 0.08% Coverage

¶54: examines the efficiency of selected conservation treatments proposed for dimensional stabilization of 12,500-year-old waterlogged subfossil Scots pine (Pinus sylvestris L.) tree trunks

Reference 27 - 0.58% Coverage

¶54: The research was done on 198 samples drawn from various parts of the same trunk. Experimental material was characterized on the basis of annual ring width, percentage of latewood, maximum moisture content, density at maximum moisture content, basic density, and wood porosity. Waterlogged wood samples were pre-treated with aqueous solutions of polyethylene glycol (PEG) 300, mixtures of PEG 300 and PEG 4000, a mixture of lactitol and trehalose or a mixture of mannitol and trehalose (nine variants of impregnation) and then freeze-dried or air-dried. Dimensional changes in the wood samples were measured after seasoning to reach equilibrium moisture content at 50% relative humidity and 20 °C. In the majority of the tested conservation treatments, tangential and radial shrinkages or tangential and radial swelling of wood did not exceed 1%. However, differences in dimensional changes depended on the conservation method used and sampling location. Regardless of the state of wood preservation and macroscopic structure features, the best dimensional stability, evaluated on the basis of average anti-shrink efficiency indices, was observed in wood pre-treated with aqueous solutions of 10% PEG 300 + 5% PEG 4000, 10% PEG 300 + 10% PEG 4000 or 10% lactitol/trehalose mixture, and then freeze-dried

Reference 28 - 0.07% Coverage

¶55: Preliminary investigation on the use of the Q-switched Nd:YAG laser to clean corrosion products on museum embroidered textiles with metallic yarns

Reference 29 - 0.19% Coverage

¶56: The classic methods of cleaning old-fashioned textile museum objects with metallic yarns do not often yield expected results. The use of laser in the conservation of these objects plays an important role as a very efficient and ecologically friendly technique. Conservation and restoration of historical exhibits with metal-textile combinations is becoming ever more complex due to a huge variety of damaging factors.

Reference 30 - 0.26% Coverage

¶56: presents the results of the corrosion laser cleaning effects on ethnographic textile with silver coated copper yarns from the holdings of the Ethnographic Museum in Belgrade, using Nd:YAG laser. The testing of the cleaning effects was performed by optical and scanning electron microscopy. The

chemical analysis of yarns was done by the EDX and XRD analyses. The parameters for successful and safe cleaning of corrosion products on metallic yarns were determined.

¶57: Microbial diversity of pre-Columbian archaeological textiles and the effect of silver nanoparticles misting disinfection

Reference 31 - 0.54% Coverage

¶58: Biodeterioration of archaeological materials contribute to significant economic losses and the destruction of invaluable pieces of cultural heritage. The study materials were 5 pre-Columbian fibres (1250–1450 A.D., Argentina). The microscopic analyses (SEM-EDS) showed that they were made of cotton, sisal and wool, as well as they were contaminated by mineral impurities and dust. So far, no research has been conducted on determining the effectiveness of disinfection with silver nanoparticles (AgNPs) misting of historical textiles. The studies showed that the reduction of microorganism number was between 30.8–99.9%, which depended on the qualitative microbial contamination and its amount. Different AgNPs sensitivity of microorganisms was noted, with the least susceptible being endospore-forming bacteria Bacillus, more easily inhibited were bacterial genus Oceanobacillus, Kocuria, Paracoccus and moulds Cladosporium, Penicillium. AgNPs misting does not adversely influence the pH and chemistry textiles. The presented in this paper disinfection method with AgNPs misting can be used for disinfection of archaeological textiles made of wool, cotton and sisal, as an alternative to the currently available methods.

Reference 32 - 0.04% Coverage

¶59: Evaluation of vibrational spectroscopic techniques for consolidants' penetration depth determination

Reference 33 - 0.64% Coverage

¶60: The penetration depth of consolidants applied to cultural heritage objects plays a crucial role in a successful conservation and protection of them. In the frame of HEROMAT FP7 project new consolidants for carbonate and silicate based materials were developed. Among many other investigated properties, the penetration depth was defined by Raman and FTIR spectroscopies, for which their ability was also evaluated. Due to the formation of calcium carbonate in the consolidation process of carbonate forming consolidants, the addition of sodium nitroprusside indicator supported Raman differentiation of treated and non-treated areas in the calcium carbonate based substrate. Furthermore, the combination of the indicator reaction and Raman results gave much more precise penetration depth estimation than the visual assessment alone. For following the penetration depth of modified TEOS based consolidants for silicate based substrates, FTIR spectroscopy turned out to be very successful without any indicator application or pre-treatment of samples. Furthermore, the penetration depth related to different application methods, such as brush, cellulose pulp, airless spray and roller, was also studied. The deepest penetration was achieved by 8 h of application of consolidants in cellulose pulp, while in comparing one application by roller, airless spray and brush within the same substrate, the deepest penetration can be achieved by brush.

Reference 34 - 0.13% Coverage

¶62: A multianalitical approach based on optical microscopy (OM), scanning electron microscopy (SEM), X-ray diffraction, grain size distribution and microbiological methods has been applied to characterize pink discoloration on the surface of both original painting and lime-mortar infillings

Reference 35 - 0.33% Coverage

¶62: Polarized microscopy, the study of the cross-sections, X-ray diffraction and grain size distribution pointed out the characteristics of materials and led to a better analysis of composition and the availability to be colonized. Thick layers of bacteria developed around and into enlarged pores led to the alteration of substrate pore sizes and changes of moisture circulation. Acting simultaneously with efflorescences, disaggregation and fragmentation of the mortar and pictorial layer take place. Microbial origin of pink discoloration detected by OM and SEM was confirmed by culture based methods. The present study points out the analytical methods for identification of pink aesthetical damage of mural painting and its biological origin.

¶63:
Reference 36 - 0.08% Coverage

¶64: In total 116 pigment samples were examined by SEM/EDX, and six lead pigments were also analyzed with a MC-ICP-MS mass spectrometer to determine the isotopic composition.

Reference 37 - 0.05% Coverage

¶65: Cellulose nanocrystal-based composite for restoration of lacunae on damaged documents and artworks on paper

Reference 38 - 0.40% Coverage

¶66: Cellulose nanocrystals are a potentially useful material for filling lacunae of documents and artworks on paper due to their high chemical stability and specific physical properties. A composite of cellulose nanocrystals with propylene glycol, methylcellulose and CaCO3 was obtained. Chemical and physical properties of the cellulose nanocrystal-based were compared with properties of conventional papers. Samples were tested by pH measurements, infrared spectroscopy, stress–strain testing, and scanning electron microscopy. Crystallinity index of the cellulose nanocrystal-based composite paper was about three times higher than that of the reference conventional paper. Nanocrystal-based composite and conventional papers presented similarity in stress–strain behavior. The results make nanocrystal-based composite a candidate for reintegration of lacunae of documents and artworks on paper.

Reference 39 - 0.05% Coverage

¶72: Synergistic effect of the consolidant and the photocatalytic coating on antifungal activity of porous mineral substrates

Reference 40 - 0.49% Coverage

¶73: The goal of the paper is the investigation of synergistic action of newly developed consolidants and LDH_TiO2 photocatalytic suspension on the characteristics (antifungal efficiency and surface properties) of the selected mineral substrates: brick and render. There were two different application protocols employed: protocol (1) the fresh photocatalytic suspension was applied on already consolidated substrates aged for 1, 2, 4 and 7 months, and protocol (2) only once on all specimens aged 1 month after the consolidant application. This study provides an insight into the synergistic effect of the applied materials on the antifungal activity, hydrophilicity and performances of the substrates' surface during UV irradiation. The decrease of OH− ions on the surface, revealed from the photocatalytic suspension, showed a positive effect on the surface stability and antifungal properties of the mineral surface. Based on the obtained results, the most suitable protocol for the application of the photocatalytic suspension on the already consolidated and aged porous substrates has been adopted.

Reference 41 - 0.05% Coverage

¶74: Durability of traditional and new nanoparticle based consolidating products for the treatment of archaeological stone tools

Reference 42 - 0.98% Coverage

¶75: The increase of durability to slowdown damage of chert artifacts is assessed after their treatment with traditional consolidating products (acrylic resin and ethyl silicate) and new products based on SiO2 and Ca(OH)2 nanoparticles. The stability of the treatments is analyzed submitting the samples to wetting-drying cycles and UV light exposure accelerated aging tests. Non-destructive techniques are used to compare the superficial consolidating efficacy, the chromatic changes and the modifications in the hydric behavior after one month from the application of the products and after the aging tests. Regarding to slowing down damage of the artifacts and the stability of the products facing aging, the mixture of nanoparticles is a non-suitable product, especially in the case of relative humidity variations, which cause the loss of the consolidating product surface layer. Color changes are also produced as a result of light exposure. This mixture could be a possible product to be used in volumetric re-integrations if its drawbacks are solved. The three other products slow down damage by enhancing the superficial cohesion of the samples. However, some differences in their efficacy and undesirable results are observed. In spite of the acrylic resin is the most frequently used by restorers, is the less stable product with the lowest consolidating efficiency and inappropriate chromatic changes after wetting-drying cycles. The ethyl silicate, even though its consolidation efficacy is kept after aging, being more stable than the resin, also suffers chromatic modifications and produces significant changes in the hydric behavior. SiO2 nanoparticles are the most stable product, remaining effective after the accelerated aging tests, producing low color changes despite the modifications in the hydric behavior of the treated samples. Results show that lightning gives rise to surface damage, producing superficial decohesion that can trigger higher color changes and a rise in water vapor absorption rates due to surface disaggregation. Whereas wetting-drying cycles give rise to more internal damage leading to porous system and hydric behavior modifications of all the treated samples.

Reference 43 - 0.05% Coverage

¶76: Estimation of salt mixture damage on built cultural heritage from environmental conditions using ECOS-RUNSALT model

Reference 44 - 0.41% Coverage

¶77: presents a methodology to estimate salt weathering from complex solution composition and meteorological data, temperature and relative humidity. The proposed method uses a thermodynamic model (ECOS-RUNSALT) to predict the variation of salt volume with changing environmental conditions. To illustrate how the developed method can be applied, two examples are presented. Firstly, the model has been applied to real measurements on a repairing mortar sample sampled from a building in the center of Paris. Secondly, the model has been applied to estimate salt damage produced by a theoretical salt composition in different locations of France. Possible applications in cultural heritage conservation are (i) the prediction of future behavior of cultural heritage building materials taking advantage of climatic models and (ii) a help to determine the optimal conditions to avoid, as much as possible, salt damage.

Reference 45 - 0.05% Coverage

¶78: Study of the cleaning effectiveness of limestone and lime-based mortar substrates protected with anti-graffiti products

Reference 46 - 0.34% Coverage

¶79: This paper presents a comparative study of four commercial anti-graffiti products (two sacrificial and two permanent) applied on three types of substrates (limestone and lime-based mortar with or without a finishing paint layer), in order to evaluate the effectiveness of anti-graffiti protected surfaces cleaning with various graffiti paints (two alkyl resin spray paints and one felt-tip marker). To evaluate the facility of graffiti removal, various cleaning techniques were used, such as high-pressure water washing and commercial chemical graffiti removers. Then, the cleaning effectiveness of substrates protected with anti-graffiti products was investigated by visual inspection (with a scale of evaluation), colorimetric tests and by FTIR analysis.

Reference 47 - 0.05% Coverage

¶80: Clotrimazole and calcium hydroxide nanoparticles: A low toxicity antifungal alternative for paper conservation

Reference 48 - 0.61% Coverage

¶81: Clotrimazole is a well-known antimycotic agent, listed in the World Health Organization List of essential medicines, with minimal health side effects acknowledged throughout a long certification period. In this study, clotrimazole in isopropanol was tested as a potential antifungal treatment for paper objects. The antifungal properties of this azole compound were evaluated against five of the most common fungal species affecting paper collections. The addition of a deacidifying agent, calcium hydroxide nanoparticles, resulted in a multipurpose formulation also aimed at neutralizing the deleterious effects of acids excreted by fungi. Clotrimazole showed antifungal activity against all

tested fungal species and its effectiveness followed the ascending order: Chaetomium globosum < Cladosporium cladosporioides < Penicillium chrysogenum < Aspergillus niger < Penicillium corylophilum. The best relationship between minimal concentration and fungal inhibition was achieved for 0.05% clotrimazole. The impact of the tested formulation on paper preservation was evaluated in terms of pH, colour and folding endurance, using moist heat artificial ageing. Clotrimazole and calcium hydroxide nanoparticles protected the paper from acidification and loss of folding endurance in the long term, thus representing a non-aqueous alternative treatment for paper affected by fungi.

Reference 49 - 0.04% Coverage

¶82: Identification of cellulose ethers in cultural heritage by means of MALDI-TOF-MS

Reference 50 - 0.46% Coverage

¶83: Cellulose ethers used as adhesives in heritage conservation treatments have been successfully identified by means of MALDI-TOF-MS, a technique non-previously applied for this purpose in cultural assets. This is of relevant importance for long-term conservation, as discrimination among the diverse types of cellulose ethers that may have been applied to an asset during conservation treatments is essential in order to guarantee stability of artworks. The proposed method also allows discrimination among these adhesives spread on paper-based artworks, where cellulose ethers have been extensively utilized for many years, overcoming interferences usually occurred due to the cellulosic nature of both adhesive and support. Successful results have been obtained from mock-ups and small samples of paper-based original artworks with usual low concentrations of adhesive. FTIR and NMR have been used as complementary analytical techniques.

¶84: Light-ageing characteristics of Māori textiles: Colour, strength and molecular change

Reference 51 - 0.63% Coverage

¶85: Consequently, these textiles are managed as ‘sensitive category’ artefacts when exhibited, despite a lack of information regarding their specific response to light. This project used multiple techniques to assess the influence of light exposure on colour, tensile properties and molecular structure of dyed muka [fibre commonly found in Māori textile artefacts; non-dyed, tanekaha (red/tan dye), paru (black dye)]. A combination of accelerated light-ageing (conventional mercury vapour and microfading), tensile testing, attenuated total reflectance infrared (ATR-IR) and Raman spectroscopy techniques were applied. Tanekaha-dyed muka was the least light fast in comparison to other dye types (tanekaha/non-dyed/paru: fading rate equivalent to ISO Blue Wool standard 1-2/3-4/3-4, one just noticeable fade at 0.4/3.6/10 Mlux hours, respectively). Light exposure (10 Mlux hours) decreased the tensile properties (tenacity, extensibility and toughness) of paru-dyed muka only, with this dye type also demonstrating lesser tensile properties compared to other dye types prior to light exposure. ATR-IR spectra combined with partial lest squares regression (PLSR) indicated tanekaha-dyed muka had some detectable chemical changes correlated with light aging (PLSR model slope = 0.69, RMSE = 1.7 and R2 = 0.68). No correlation was found for non- and paru-dyed muka spectra (PLSR model slopes ≤ 0.45, RMSE > 2.5 and R2 ≤ 0.4)

Reference 52 - 0.05% Coverage

¶86: Disinfection of archival documents using thyme essential oil, silver nanoparticles misting and low temperature plasma

Reference 53 - 0.67% Coverage

¶87: The research aim was to determine the effectiveness of disinfection methods: thyme essential oil microatmosphere (TEO), silver nanoparticles misting (AgNPs), and low temperature plasma (LTP) by culture-dependent method and RNA analysis. In addition, we examined the influence of disinfection on mechanical and optical properties of paper from historical books with different levels of microbial contamination. All disinfection methods were generally bacteriostatic and fungistatic. The AgNPs misting method was more effective for bacterial inhibition (R = 60–100%), than LTP (R = 25–100%) and TEO (R = 12–100%); all tested methods were less effective for fungi (R = 0–99.8%). TEO exhibits a broader spectrum of fungicidal activity compared to AgNPs and LTP. The antimicrobial effectiveness depended on the area from where the microorganisms were isolated and their sensitivity to the active agent. A higher disinfection effectiveness was observed for books with higher levels of microbial contamination. RNA concentration was a good marker of antimicrobial activity of disinfection. RNA amount decreased by 95–100% after disinfection with LTP and TEO, and by 29–89% after AgNPs disinfection. Disinfection of paper from historical books with LTP, AgNPs and TEO did not significantly influence or have a positive effect on the mechanical and optical properties of paper from tested historical books. We show that LTP, TEO, and AgNPs can be used as microbiostatics, alternatively to the currently available methods.

Reference 54 - 0.04% Coverage

¶88: Influence of disinfection methods on the stability of black and white silver gelatin prints

Reference 55 - 0.42% Coverage

¶89: Disinfection methods commonly used in paper conservation are employed to disinfect silver gelatin prints, but their influence on individual photographic layers is little understood. In this paper, we examine the effect of disinfection methods on the optical properties of the two layers of black and white silver gelatin prints: an image layer with a photosensitive substance dispersed in gelatin and a paper support layer with baryta coating. Three methods of disinfection were used: disinfection by γ-radiation, by ethylene oxide and by butanol vapors. Optical properties (total colour difference, UV-VIS reflectance) were measured after disinfection and again after subsequent artificial aging by moist heat and by light. The optical properties of the photographic image and paper support remained unchanged after disinfection in butanol vapors, which suggests that this is a promising disinfection method for silver gelatin photographic prints.

Reference 56 - 0.02% Coverage

¶90: Influence of metal cations on leather degradation

Reference 57 - 0.42% Coverage

¶91: In the presence of ions of transition metals, mainly iron and copper, there occurs a heavy damage in historical leathers: loss of firmness, fragility and even powdering. Ions of transition metals are contained in pigments used for leather dying or they come from chemicals used for leather marbling or from direct contact of leather with metal clips etc. After accelerated ageing of samples the influence of transition metal cations was evaluated by determination of changes in mechanical properties, pH values and shrinkage temperatures. Structural changes in leather were examined by means of scanning electron microscope, SDS-PAGE electrophoresis and spectroscopy of electron paramagnetic resonance. In leather samples a semiquinone radical has been detected, which initiates their oxidation. Transition metal cations catalyse this oxidation process thus increasing the damage extent when compared to leathers not containing these ions.

Reference 58 - 0.02% Coverage

¶92: An EIS study of the conservation treatment

Reference 59 - 0.14% Coverage

¶93: In the field of metallic cultural heritage, electrochemical techniques such as electrochemical impedance spectroscopy (EIS) can be used to evaluate patinas and protective coatings performance. Widely used in industrial applications, the use of these techniques in conservation science is much more recent and limited.

¶94:
Reference 60 - 0.32% Coverage

¶94: collaboration with conservators has been established to test the performance of a recently developed gel-electrolyte cell for the electrochemical evaluation of metal cultural heritage. Electrochemical measurements (EIS and Rp) of the patinas have been carried out before, during and after the conservation treatments, on two different areas of the sculpture. This has provided information on how the protective coatings have improved corrosion resistance by 3 orders of magnitude, and how this protection is starting to decrease with time; periodic measurements will allow verifying the performance of the treatment over time and detecting the failure of the protection treatment before its effects are visible on the surface.

Reference 61 - 0.29% Coverage

¶96: To evaluate the efficacy of our boxing and cleaning programmes, The National Archives' Collection Care Department developed a method that used UV-fluorescing powder to mimic the movement and dispersal of dust during experimental cleaning and handling scenarios. Visual evaluation of dust dispersal enabled a qualitative assessment of the efficacy of existing collection cleaning techniques. Photographs and videos confirmed the value of vacuuming as the most efficient method of removing dust in comparison to other methods, and validated the usefulness of folders and boxes in limiting dust deposition and transfer onto archival documents.

Reference 62 - 0.04% Coverage

¶97: A simulation study of dust transport on an ancient amphitheatre: The Delphi example

Reference 63 - 0.67% Coverage

¶98: This study explores, through architectural and fluid mechanical modelling, the connection between layout, natural topography, the amphitheatre's orientation, and the prevalent climatic conditions and relates these factors to their contribution to the erosion of the theatre by chemical breakdown. A study on the phenomenon of natural dust transport and saltation mechanisms, and eventually the weathering of the fabric of the theatre was realized through the simulation of PM2.5 and PM10 concentrations, carried out using sophisticated environmental fluid mechanical software ENVI-met, for the very first time. Thereafter, a relationship is drawn between the concentration of dust simulated in the region to that deposited on the boundary walls of the theatre in a brief discourse. The simulation also quantitatively compiles the effect of scattering random trees of a specific height, akin to the ones found around the theatre. Moreover, the study gives a qualitative description on the mechanism of dust accumulation over a period of time and draws a limit on their accretion for building spaces. The paper further considers how the presence of strategically placed trees around the site of heritage is a simple and yet effectively quantified means to decrease the deposition of dust and hence diminish the effects of weathering, significantly. The basic chemistry of the degradation due to SO2 and NO2 has been examined in order to depict the successive mechanisms involved in the chemical breakdown.

Reference 64 - 0.28% Coverage

¶101: Through the use of statistical methods (multivariate analysis, discriminant function analysis, neural analysis) and through the study of minarets' dimensions, we have obtained important relations and proportions from an archaeological point of view and within the context of the architecture of the old Islamic minarets in Al-Andalus. Our research is based on the prediction and classification of minarets according to their dimensions and their inner disposition; the results obtained have been highly successful, enabling archaeologist to date and/or virtually reconstruct the minarets knowing just a few of their dimensions.

Reference 65 - 0.56% Coverage

¶103: In order to deal with the complexity of representing historical architecture, and its conservation process, this proposed model defines four main knowledge domains (artefact – lifecycle – architectural heritage investigation process – actors), in which all the knowledge related to each artefact is formalized through semantic networks, in terms of entities, properties and relationships. Specific reasoning and inference rules allow checking of the model for coherence, in order to reduce information discrepancies, inconsistencies and errors. The proposed model offers a high level of accuracy in its capacity for description and, at the same time, a broad versatility within representation modelling, allowing such a reliable representation of multiple issues that eventually it may be required for every historical building, depending on its features and state of conservation. Moreover, the versatility of the model provides a suitable representation even for the different nature of the investigation activities results – whether analytical or hermeneutical. Finally, the knowledgebase has been connected with a building information modelling environment, providing an effective integration between geometrical and non-geometrical information.

Reference 66 - 0.08% Coverage

¶107: Here, a digital restoring of the hands' region of the Turin Shroud image has allowed to visualize anatomic details never seen before: the scrotum and part of the right hand's thumb

Reference 67 - 0.03% Coverage

¶107: These results shed new light on the long-lasting scientific debate

Reference 68 - 0.01% Coverage

¶120: from 3D laser scanning

Reference 69 - 0.17% Coverage

¶121: This way, in this paper, a fast, low cost and safe methodology from 3D-laser scanner is provided for this issue. Following it, it is possible to easily assess if some activated mechanisms can be found in some macro-elements of the historical building. Furthermore, from the superposition of photographic data previous interventions can be recognized, as well as, degraded areas.

Reference 70 - 0.19% Coverage

¶121: It was also possible to assess the typical physiologic deformation of the inner vaults subject to their own weight. A high number of areas largely restored by previous works were then found, probably due to a diffused and continuous degradation of the materials caused by the sea exposure. This method works well especially after, i.e. an earthquake, whereas it is possible to accurately evaluate the building safety far from it.

¶122:
Reference 71 - 0.09% Coverage

¶125: These studies laid the foundation for the understanding of glucuronidation, a fundamental drug metabolism pathway, and strongly support the theory that Indian yellow is indeed a urinary sediment.

¶126:
Reference 72 - 0.35% Coverage

¶131: an area of about 50 km2, including Petra Archaeological Park and its surroundings, was analysed with the SqueeSAR technique, an advanced Interferometric Synthetic Aperture Radar (InSAR) algorithm. The analysis of 38 satellite radar images, acquired between 2003 and 2010, allowed the identification of about 62,000 Measurement Points (MPs) for which it was possible to estimate the displacement time series along the satellite Line Of Sight (LOS). A close up to relevant monuments and comparison with ground-based geotechnical monitoring was implemented, revealing a major stability against medium-large potential rock falls, detectable with present method.

¶132: Semiautomatic detection and classification of materials in historic buildings with low-cost photogrammetric equipment

Reference 73 - 0.46% Coverage

¶133: The detection of materials and damage in building facades by means of near-infrared digital images is not a widely explored field in architectural research, especially in rehabilitation and historic building surveys. The aim of this work is to study whether spectral classification image methods, which are frequently used in remote sensing land applications (non-contact geophysical techniques), could be applied in the architectural field to detect various construction materials in historic building facades by means of low-cost photogrammetric equipment. Several classification methodologies were applied to different image band combinations, which led to the conclusion that the highest accuracy is obtained with a multiband image composed of visible and near-infrared bands. We also performed a derived measurement of the real surface of the facing material, demonstrating that low-cost instrumentation could be useful in architectural interventions in cultural heritage to identify construction materials in a non-destructive way.

Reference 74 - 0.45% Coverage

¶135: This paper shows new possibilities of using novel, open-source, low-cost platforms for the structural health monitoring of heritage structures. The objective of the study is to present an assessment of increasingly available open-source digital modeling and fabrication technologies in order to identify the suitable counterparts of the typical components of a continuous static monitoring system for a historical construction. The results of the research include a simple case study, which is presented with low-cost, open-source, calibrated components, as well as an assessment of different alternatives for deploying basic structural health monitoring arrangements. The results of the research show the great potential of these existing technologies that may help to promote a widespread and cost-efficient monitoring of the built cultural heritage. Such scenario may contribute to the onset of commonplace digital records of historical constructions in an open-source, versatile and reliable fashion

Reference 75 - 0.05% Coverage

¶136: Application of fuzzy inference system for determining weathering degree of some monument stones in Iran

Reference 76 - 0.12% Coverage

¶137: This paper presents a comparative evaluation of efficiencies of different accelerated ageing tests (freeze-thaw, thermal shock, salt crystallization, dissolution and wetting-drying) and fuzzy inference system in predicting weathering degrees of some monument stones from

Reference 77 - 0.37% Coverage

¶137: . The combined effects of natural weathering processes (heating and cooling, wetting and drying, and freezing and thawing) and climatic information were used for assessing the natural weathering degrees. Finally, the natural weathering degrees were multiplied by time effect coefficients to obtain more realistic natural weathering degrees of the monuments. The predicted natural weathering degrees for Anahita Temple, Anobanini reliefs and Eshkaft-e Salman reliefs are

56%, 61%, and 47%, respectively. These predicted values reasonably support the weathering degrees defined by progressive decay indices (calculated equal to 2.77, 3.42 and 2.66 for Anahita Temple, Anobanini reliefs and Eshkaft-e Salman reliefs, respectively), which means the fuzzy model potentially could accurately predict the weathering of stones.

Reference 78 - 0.07% Coverage

¶138: Determination of the geometric shape which best fits an architectural arch within each of the conical curve types and hyperbolic-cosine curve types:

Reference 79 - 0.23% Coverage

¶139: We provide a method to objectively determine which is the geometric shape which best fits an arch of a heritage building within each of the conical curve types – ellipse, hyperbola, parabola – and hyperbolic-cosine curve types – catenary, hyperbolic cosine, Rankine –, and we also provide an objective measurement of that fit. This method does not involve mechanical, constructive or structural processes; it only involves standard geometric processes, numerical processes, computing, statistics and 3D data acquisition.

Reference 80 - 0.02% Coverage

¶140: Geometric rosette patterns analysis and generation

Reference 81 - 0.18% Coverage

¶141: To understand and reveal this structure, we propose first to detect and characterize its basic geometric rosettes by using techniques of computer vision and image analysis. Then, the analysis of the spatial arrangement of the detected rosettes, characterized by their respective orders, will reveal the underlying tiling and the mesh grid, together with the harmonious proportions of the design elements

Reference 82 - 0.27% Coverage

¶141: These results are used in turn to generate new innovative and authentic rosette patterns, by using the extracted geometric rosettes and new tile motifs constructed in the basis of an adaptation of the well-known polygonal technique. The performances of the proposed method to reveal the spatial composition of a rosette pattern are tested by the ability to extract its geometric rosettes and by the exact extraction of its underlying composition structure. Finally, the innovative character of the proposed generative method is shown through the creation of new periodic and quasi-periodic patterns

Reference 83 - 0.05% Coverage

¶142: Analysis of sand-loaded air flow erosion in heritage sites by Computational Fluid Dynamics: Method and damage prediction

Reference 84 - 0.13% Coverage

¶143: This work presents a method for the analysis of sand-loaded air flow erosion in heritage sites by means of Computational Fluid Dynamics (CFD). This is intended for cases where particle loaded air flow represents a significant contribution to the erosion process. An investigation of the wind erosion

Reference 85 - 0.44% Coverage

¶143: In this study, a CFD model of the “Cardo of the Columns” area, including the terrain features has been developed. The wind has been modelled according to the statistics available of wind velocity and direction for the site, and sand particles have been included in the simulation by means of the Lagrangian Particle Tracking model. The effect of the sand particles over the columns has been modelled with the erosion model from Finnie. Based on simple in situ measurements and assumptions, an erosion rate of 3.55 kg/year has been calculated, which represents a 30% of the total initial mass of the columns. The constants of the CFD erosion model have been calibrated so that results match the theoretical predictions of the erosion rate. In addition, the erosion-caused damage prediction is predicted for evaluating the state of the columns in the next 50 and 100 years, and potential remedial measures such as the installation of wind baffle are evaluated with the aid of the CFD model.

¶144:
Reference 86 - 0.05% Coverage

¶146: One pilot application of mobile Raman spectroscopy and information technologies for cultural heritage inventory studies

Reference 87 - 0.37% Coverage

¶147: On the other hand, Raman spectroscopy is extensively used in analysis of the cultural heritage artefacts. In order to protect heritage materials by “spectroscopic cryptology techniques” (Infrared and Raman spectroscopy) play a crucial role in understanding and differentiating the fake/artificial materials from each other. The aim of this study is to bring spectroscopic methods and other visual documentation methods together and produce a cultural heritage inventory. In this study, by formation of a written, visual and spectroscopic database for rare books at Recai Mehmet Efendi Library, documentation study regarding dye pigments of leather binder of the book, paper quality, definition of both paper and leather original materials, definition of deterioration level and restoration proposal of the books were studied.

¶148:
Reference 88 - 0.64% Coverage

¶153: Unfortunately, the cultural heritage linked to these objects is endangered by Sitophilus granarius (L.), a tiny insect that causes irreparable damage, such as ruptures and galleries through an intense boring action. In this work, we have evaluated the potential for the coating technology to protect bread-made artifacts from entomatic attack. Within this scope, a nanocomposite coating and an active coating were prepared, and the coated objects were characterized in terms of optical, mechanical, and insect-resistant properties. Overall, the deposition of the coating did not negatively

impact the appearance of the objects, although some differences were detected instrumentally in terms of color and gloss. In addition, both coating formulations decreased the Young's modulus of the samples subjected to a flexural test, which was attributed to the plasticizing effect of the poly-methyl methacrylate and deltamethrin. The entomatic tests revealed that the nanocomposite coating was the most effective for preventing the wheat weevil attack, with no damages detected on the samples and high mortality of the insects due to hunger. The approach proposed here could be successfully extended to other art objects (e.g., museum collections) susceptible to insect attacks.

¶154: Evaluation of the oxalic and tartaric acids as an alternative to citric acid in aqueous cleaning systems for the conservation of contemporary acrylic paintings

Reference 89 - 0.51% Coverage

¶155: This phenomenon creates a conservation problem, because the usual cleaning methods are hindered by the acrylic film soft morphology and its high sensitivity to organic solvents. To date, few aqueous solutions based cleaning systems have been investigated as alternatives to the traditional methods. This paper proposes the use of oxalic and tartaric acid solutions for acrylic paints cleaning as alternatives to citric acid. A series of titanium white acrylic paint films were subjected to immersion tests in different aqueous solutions and their weight change was monitored to determine the effects produced by the solutions according to pH (3.5, 5 and 8.5) and conductivity (4, 6 and 12 mS cm−1). Fourier transform infrared spectroscopy with attenuated total reflectance (FTIR-ATR), X-ray diffraction (XRD), and scanning electron microscopy (SEM-EDX) techniques were used to evaluate the acids effects on the films before and after the tests. The results obtained showed that oxalic and tartaric acids exhibit similar properties to citric acid, resulting as a valid alternative for aqueous cleaning treatments on acrylic paintings.

¶156:
Reference 90 - 0.62% Coverage

¶157: reports significant results about the effects of repeated treatments to protect a mediaeval Italian mortar from capillarity-absorbed water, by using for the treatments, our no-commercial hydro-alcoholic suspensions of calcium hydroxide nanoparticles (nanolime). The mortars samples came from the historical site, where preliminary thermographic inspection were performed to detect the damp zones. Before treatments, the samples were analyzed from a mineralogical and chemical point of view, by means of several techniques, as optical microscopy (OM), thin section observations (PFM), porosimetric investigations, X-ray fluorescence (XRF), X-ray diffraction (XRD), infrared spectroscopy (FT-IR) and thermal analysis (TG-DTA). The size-grading curve of the aggregate and the binder/aggregate ratio were examined too. Then, the efficacy of nanolime protective treatments on this mortar versus the nanolime concentrations was investigated. For this aim, capillarity tests as well as porosimetric investigations, before and after the treatments, were performed. The obtained results were remarkably promising both in terms of the reduction of water absorbed by capillarity (up to 60%) together with an adequate decrease of porosity (up to 23%), fixing the protective effect of such eco-friendly and very compatible approach.

¶158: Preventive protection of paper works by using nanocomposite coating of zinc oxide

Reference 91 - 0.42% Coverage

¶159: we investigate the role of zinc oxide nanoparticles in the inherent protection of paper works against damaging effects of ultraviolet radiation, pollutant gasses, mold, and bacteria. For this purpose, the cellulosic nanocomposite of ZnO was used as protective coating on the surface of the paper. This nanocomposite can act as a consolidant as well. To determine the protective potential of this coating, the chemical and physical properties of treated papers after light and heat accelerated aging were measured. Results showed good stability of papers with nanocomposite coating. Also, a good light stability was shown in the colored paper that was treated with this nanocomposite. Furthermore, to demonstrate the degree of antifungal and antibacterial properties of coated papers, sample papers were treated with two common fungi and bacteria, and the positive preventive effect of coated paper against fungi and bacteria was observed.

Reference 92 - 0.04% Coverage

¶160: Application of methyltrimethoxysilane to increase dimensional stability of waterlogged wood

Reference 93 - 0.33% Coverage

¶161: Therefore, the first stage of maintenance of waterlogged wooden objects is to replace the water filling cell lumina and cell walls with an appropriate consolidation agent that will protect wood against shrinkage, collapse and loss of shape. Silanes have so far been used mainly as additives for wood preservatives and coatings, increasing wood hydrophobicity or decreasing its hygroscopicity. Some silanes show resistance to biotic degradation. As confirmed in scientific reports, their ability to improve dimensional stability of contemporary wood makes them a potential agent for stabilisation of archaeological wood. The aim of the research was to determine the influence of methyltrimethoxysilane (MTMOS) treatment on the dimensional stability

Reference 94 - 0.44% Coverage

¶161: Freshly taken from the lake and still completely saturated with water, elm wood samples were treated with ethanol solution of 50% MTMOS by the vacuum-pressure impregnation method. Pre- and post-treatment dimensions of wood samples were measured and anti-shrink efficiency (ASE) was calculated. ASE values of elm wood treated with MTMOS varied from 69.4% to 94.5%, depending on the state of wood degradation. In case of reference wood samples treated with polyethylene glycol, ASE ranged between 96.1% and 100%. Taking into account the improvement of wood dimensional stability obtained, the aesthetic end result of the treatment and its properties of hydrophobicity and antifungal activity, the silane MTMOS can be considered as a potential agent for conservation of waterlogged wood and seems to be worth further study.

¶162: Moisture gradients in wood subjected to relative humidity and temperatures simulating indoor climate variations as found in museums and historic buildings

Reference 95 - 0.36% Coverage

¶163: The objective of this study was to use a method to monitor relative humidity and temperature at three different depths inside samples of Scots pine (Pinus sylvestris L.), subjected to relative humidity and temperature fluctuations in a climate chamber. This approach is important because mechanical stress is related to the moisture content of the material. However, the knowledge on

how moisture gradients in wood progress before reaching equilibrium has not been studied in depth in cultural heritage science. The monitored relative humidity and temperature data in the wooden samples were converted to moisture content using a method that took both temperature and the hysteresis effect into account. The samples were subjected to step changes and daily relative humidity fluctuations at different temperatures.

Reference 96 - 0.38% Coverage

¶163: Low temperatures reduced the moisture diffusion rate, resulting in moisture content fluctuations of smaller amplitudes. A response delay was noted which gradually increased with depth in the wood and with low temperatures. A combination of a step-change and daily fluctuations increased the time to reach equilibrium due to the slower desorption process compared to adsorption process. Occasionally, the moisture content could also exceed equilibrium at some depths. The moisture content levels in wood during intermittent heating stayed stable overall. The conclusion is that moisture transport in wood is complex and is influenced by the moisture history of wood, as well as duration and amplitude of the combined fluctuations in relative humidity and temperature.

¶164: Strains in gesso on painted wood panels during humidity changes and cupping

Reference 97 - 0.53% Coverage

¶165: Strain gauges were attached to both faces of 10 mm thick Poplar wood panels before applying a traditional gesso-based ground layer and varnish on only one face. The application and setting of the ground layer left high strains on both faces of the wood panels. Later measurements, followed by geometrical calculations, showed that for step-humidity changes the strains in the outer surface of the gesso ground layers were small. These results were followed by numerical calculations to indicate the behaviour of thicker panels and with different stiffnesses. These indicated that the strain levels in the ground layer are strongly dependent on the ratio of the thicknesses of the ground layer to the wood, and also weakly dependent on their stiffness ratios. Further calculations showed that the prevention of cupping by mechanical restraint can increase by many times the strains in the ground layer surface, but this also is dependent on the panel thickness. In this paper, the authors have tried to provide some background information about the strains that can result either from moisture changes or from external restraints; to help the conservators make a decision in any specific case.

Reference 98 - 0.01% Coverage

¶168: multiple analytical techniques

¶169:
Reference 99 - 0.14% Coverage

¶169: presents some approaches for chemical and physical characterization of materials applied to a specific category of cultural material, historical textiles. The investigation and characterization of historical objects by non-destructive methods are important since they are important sources of reference for cultural studies

Reference 100 - 0.39% Coverage

¶169: analyzed using Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR), Energy Dispersive X-ray Fluorescence (EDXRF) and Scanning Electron Microscopy (SEM) techniques, for the purpose of material identification. The results showed that the investigated samples were linen fabric. EDXRF results revealed that in the original part of the textile, metallic gold was used for gilding. No gold gilding was observed in the repaired part of the textile. In the paint layers of the original part of the textile, both lead white {2PbCO3.Pb(OH)2}, and gypsum {CaSO4.2H2O} were used as white pigment, but in the repaired part, the white pigment was mainly gypsum, and contained only a small amount of the lead white. The FTIR analysis was successfully used in quantifying the degradation of historic textiles in terms of the crystalline structure of cellulosic fibers.

Reference 101 - 0.01% Coverage

¶170: Mass spectrometry analysis

Reference 102 - 0.05% Coverage

¶174: Hyperspectral imaging combined with data classification techniques as an aid for artwork authentication

Reference 103 - 0.42% Coverage

¶175: In recent years various scientific practices have been adapted to the artwork analysis process. Although a set of techniques is available for art historians and scientists, there is a constant need for rapid and non-destructive methods to empower the art authentication process. In this paper hyperspectral imaging combined with signal processing and classification techniques are proposed as a tool to enhance the process for identification of art forgeries. Using bespoke paintings designed for this work, a spectral library of selected pigments was established and the viability of training and the application of classification techniques based on this data was demonstrated. Using these techniques for the analysis of actual forged paintings resulted in the identification of anachronistic paint, confirming the falsity of the artwork. This paper demonstrates the applicability of infrared (IR) hyperspectral imaging for artwork authentication.

Reference 104 - 0.03% Coverage

¶176: Stability of natural dyes under light emitting diode lamps

Reference 105 - 0.44% Coverage

¶177: In the last decade, light emitting diodes (LEDs) have been extensively replacing other light sources; nevertheless, a few studies on the influence of LEDs on degradation of natural dyes are available. In this work, the colour fading of silk samples dyed with several natural dyes (containing flavonoids and anthraquinones) and exposed to three different white LEDs is considered. The fading at the end of the exposure experiment was evaluated by measuring the variations induced by the LEDs on the colour coordinates of the samples and by investigating the variation of the

concentration of the dyes by high-performance liquid chromatography coupled with photo-diode array and mass spectrometric detectors. The information obtained gives an in-depth picture of the fading by considering the actual damage potential of LEDs on natural dyes, which is relevant for selecting the most suitable lamps for display cases.

¶178: Monitoring the natural aging degradation of paper by fluorescence

Reference 106 - 0.29% Coverage

¶179: deals on the natural degradation of paper monitored by using laser induced fluorescence. Samples of aged paper dated from 1730 to 2009 were analyzed in the spectral region from 540 to 750 nm. A structural evolution of the paper has been detected through variations of the fluorescence spectra characteristics. Results indicate that changes ascribed to the paper fibers as cellulose, hemicellulose and lignin, can be monitored in function of their natural aging time. Therefore, fluorescence spectroscopy is an appropriate technique to investigate the degree of paper deterioration. Furthermore, the emission spectrum allows to estimate their manufacture date.

Reference 107 - 0.06% Coverage

¶180: Identification of chromogenic colour photographic print brand by fiber optical reflectance spectroscopy and statistical analysis

Reference 108 - 0.09% Coverage

¶181: With this aim, this paper investigates the possibility of using near-infrared spectral signatures of chromogenic colour photographs combined with statistical analysis to identify photographic paper manufacturers.

Reference 109 - 0.27% Coverage

¶181: Non-invasive fiber optical reflectance spectroscopy (FORS) in the range of 1000–2500 nm was performed on those images in order to implement a reflectance spectra database. Then statistical data treatments were tested to evaluate the possibility of retrieving a print manufacturer with the lowest error possible. The use of linear discriminant analysis (LDA) combined with principal component analysis (PCA) allows reaching from 82 to 96% of correct identification depending on the paper type. This shows a possibility of implementing automated attribution procedures for chromogenic colour photographic prints.

¶182:
Reference 110 - 0.04% Coverage

¶184: A stabilizer-free non-polar dispersion for the deacidification of contemporary art on paper

Reference 111 - 0.78% Coverage

¶185: The preservation of cellulose-based works of art is threatened by the presence of acidity within the substrates, native, i.e., due to the papermaking process, or developed upon aging. The

depolymerization of cellulose catalyzed by acidic compounds leads to a decrease in the mechanical properties of the artworks. Many strategies for hampering the acid-catalyzed degradation of cellulosic substrates have been developed in the past; unfortunately, few of them can be safely used on contemporary artworks, drawings or archival materials. In this paper, a new method for the pH control of paper, potentially compatible with most of ballpoint pen drawings and manuscripts, and also safely usable on folded or creased paper, is proposed. A deacidifying dispersion of calcium hydroxide in cyclohexane has been prepared starting from alkaline nanoparticles obtained via a solvothermal reaction. The most interesting feature of this formulation is that a stabilizer is not required for the preparation of a stable dispersion, differently from other commercial non-polar products. Cyclohexane is a colorless, non-polar, and volatile liquid that allows fast and simple applications by spraying. In order to evaluate the efficacy of this Ca(OH)2 nanoparticles dispersion in cyclohexane, mockups were prepared on acidic paper using a ballpoint pen. The protective action arising from the applied treatment was evaluated upon artificial aging, measuring cellulose viscosimetric polymerization degree (DPv), cellulose pyrolysis temperature, samples pH, and colorimetric coordinates. The interesting results obtained on mockups led to the application of this new formulation on a series of creased, perforated and burnt drawings from a private collection.

Reference 112 - 0.06% Coverage

¶186: Supporting the selection of a variant of the adaptation of a historical building with the use of fuzzy modelling and structural analysis

Reference 113 - 0.39% Coverage

¶187: The proper approach to these kinds of decision-making problems is making an attempt at deconstructing the problem and expressing it in a synthetic manner in the form of a model, followed by performing its analysis. The literature on the subjects provides a number of multi-criteria methods that can be used to support making decisions of this type. However, most of these methods do not take into account the relationships between the selection criteria, while none of them is suited to processing the imprecise and uncertain character of the initial data, which is a typical feature of decision-making problem at hand. Wishing to address these issues, the authors of this article propose a complex, multi-criteria approach that incorporates the above elements. Finally, the authors provide a practical example of the practical implementation of the aforementioned approach as a tool

Reference 114 - 0.18% Coverage

¶189: Nowadays, thanks to the available technology used in the field of architectural surveying, laser scanning and digital photogrammetry, it is possible to define the exact geometry of any case study. The main aim of the research is to highlight the relationship between the architectural survey, performed using 3D laser scanner methodology, and the structural analysis based on the finite element method (FEM).

Reference 115 - 0.29% Coverage

¶189: After data acquisition, developed by using optical 3D measurement techniques, the proposed procedure sought to generate a NURBS model starting from very dense outlines obtained by point cloud slices. Subsequently, the analysis was developed in a nonlinear framework, in which the behavior of the structure under seismic loads is investigated. In particular, the modal characteristics of the structure allow the use of a nonlinear analysis based on the pushover methodology. In addition, structural behavior has been analyzed by means of a nonlinear response history analysis, in which consistent ground motions were adopted to reproduce seismic loads.

Reference 116 - 0.24% Coverage

¶193: We have exploited four perceptual visual attributes related to color to index the images: colorfulness, dominant colors, color moods and color harmony. These attributes are also used to display images in a 2D Map visualization to facilitate browsing of the retrieved results. In order to investigate the effectiveness of the implemented functionalities, we considered four different image collections of cultural heritage artworks, and, using the specifically designed MIDB portal, administered usability tests on a panel of subjects.

Reference 117 - 0.07% Coverage

¶207: Additionally, enhancement was used to reveal the presence of new motifs in poorly preserved sectors of the studied panels aiming at their conservation.

Reference 118 - 0.02% Coverage

¶210: 3D printing: State of the art and future perspectives

Reference 119 - 0.12% Coverage

¶211: In particular, we experienced many interdisciplinary projects in which, thanks to the cooperation of different fields of research, incredible results have been obtained, through the technological collaboration of computer graphics and documentation, of industrial engineering

Reference 120 - 0.65% Coverage

¶211: aims at drawing attention to the actual technologies in use for solid printing (digital fabrication) used for the realization of material copies, therefore tangible, of three-dimensional digital virtual models. Even though ulterior developments to these technologies are possibilities to be expected, the process of 3D printing has gradually gained levels of accuracy, which can nowadays be deemed as satisfying. This is even more true in the industrial field (from the manufacturing industry to the design industry), but also in other fields, such as the medical one, for example, for the realization of artificial limbs, and the CH field, which can benefit from new instruments for the restoration and preservation of cultural assets in museums. The metric characteristics of precision and accuracy of the model printed with 3D technology are the fundaments for everything concerning Geomatics, and have to be related with the same characteristics of the digital model obtained through the survey analysis. In other terms, the precision of the printed product must be evaluated in relation to the precision of the instruments used in the analysis. Thus, in the CH field there is the possibility of new

systems of access, cataloguing and study, where the models, both virtual and tangible, represent the fundament of visualization and analysis of the form (also from the metric point of view) of each artefact of artistic and historical interest.

¶212:

Reference 121 - 0.08% Coverage

¶217: but more sophisticated technical methods as X-ray were applied from the late 1970s on, and scientific methods from chemistry and physics are employed on a broader base since the mid-1990s.

Reference 122 - 0.06% Coverage

¶222: Reconstructing historical recipes of linseed oil/colophony varnishes: Influence of preparation processes on application properties

Reference 123 - 0.90% Coverage

¶223: In this work, varnishes containing linseed oil and colophony in different proportions were recreated. Heat treatment is necessary to mix the two components; time and temperature of heating have to be carefully chosen, in accordance with proportions, in order to obtain homogeneous and translucent mixtures. The effects of heat treatment on the mixtures' properties were evaluated for five temperatures and three durations fitting these requirements, and various proportions were prepared. The application properties of the various reconstitutions, including a varnish prepared by a violin-maker, were studied through rheological measurements. These data were used to discuss the varnishes' brushing, leveling and sagging properties, by comparing them to industrial criterions. Intensifying the heat treatment by increasing its temperature and length was shown to exponentially increase the mixtures' viscosity. Size exclusion chromatography was used to evidence the polymerization reactions responsible for this behavior. The effect of colophony proportions was also investigated: colophony acts as a thickener increasing the mixtures' viscosity. All the varnishes exhibited thixotropic behavior. The higher the colophony proportion, the lowest is the shear rate at which shear-thinning behavior occurs, and the longer it takes to regain the initial viscosity. The easiest mixtures to apply as a coating were the ones with intermediate colophony proportions (33 to 58 wt%). Also, varnishes containing lower colophony proportions (20 wt%) could conveniently be coated if they were prepared using a strong heat treatment (long time and/or a high temperature). In the same way, higher colophony proportions (66 wt%) could be used if the mixture was heated at a lower temperature. These selected mixtures have a low viscosity at high shear rates, allowing brushing them easily. The time for viscosity recovering is long enough to allow good leveling and they have a quite high zero-shear rate viscosity, acting against sagging.

Reference 124 - 0.03% Coverage

¶224: Dating of violins – The interpretation of dendrochronological reports

Reference 125 - 0.20% Coverage

¶225: We dendrochronologically analyzed the bellies of 10 violins differing in age, origin, number and width of tree rings, state of preservation as well as fabrication. All the bellies were made of Norway

spruce (Picea abies). The dating of each violin was given as a calendar year (end date), as is usual in dendrochronological reports. We demonstrate how to interpret such reports in terms of age, origin, producer and authenticity of the instrument.

Reference 126 - 0.50% Coverage

¶225: The dendrochronologically determined end dates varied from 1988 to 2005 and hence deviated by 5–22 years from the documented date of tree felling in 2010 and by 10–27 years from the years of the instrument fabrication (2014–2015). This explains why the end year (i.e., the dating of a violin) should always be considered as terminus post quem. The violins had relatively few tree rings (51–72) but it was possible to date them with local tree-ring chronologies, showing that adequate reference chronologies are essential for successful dating. An end date of 1929 was determined for violin of unknown provenance (violin 7). This date was repeatedly confirmed by numerous local chronologies and by various tree-ring sequences of instruments. The most significant statistical parameters of dating, obtained with German local chronologies and instruments, supported the opinion of experts that this instrument was probably made in a German workshop. Another violin (violin 14), privately owned in Slovenia, was dated with very high statistical values using several chronologies from the wider region of the Bohemian Forest.

Reference 127 - 0.27% Coverage

¶225: Violin 13, of unknown age and origin, remained undated, although the treble side of the belly contained a very high number of tree rings (193), which usually increases the likelihood for dendrochronological dating. Its undatability is ascribed to possible measuring errors due to extremely narrow rings and a dark opaque varnish. Even the application of various equipment and methods (lenses, stereo microscope, high-quality digital image analysis) did not help to exactly identify the tree rings. This case demonstrates one of the limitations of dendrochronology.

¶226: Dendrochronological investigation

Reference 128 - 0.06% Coverage

¶227: Dendrochronological analysis afforded the terminus post quem of 17 out of 23 bellies with significant statistical parameters

Reference 129 - 0.25% Coverage

¶227: was constructed. MST correlates with numerous reference chronologies validated for Norway spruce and silver fir in the Alps and Central Europe. We exploited the width of the growth rings and the statistically most potent cross-matchings with reference chronologies for drawing hypotheses on dendroprovenance coming to the conclusion that the resonance wood of the instruments at the Schmidl-Museum mainly originated from Central Europe and the Eastern Alps.

¶228: Effects of natural and artificial ageing on the physical and acoustic properties of wood in musical instruments

Reference 130 - 0.37% Coverage

¶229: The reversible and irreversible effects of natural and artificial hydrothermal ageing are reviewed with respect to the hygroscopicity and acoustic properties relevant to the practical quality of wooden musical instruments. Long-term natural ageing reduces the hygroscopicity of wood while improving its acoustic quality, but these changes are partly reversible by exposure to high humidity. Similar reversible changes are observed in hydrothermally treated wood, especially when the wood is heated at an intermediate relative humidity. These reversible changes are attributed to the annealing-like rearrangement of amorphous wood polymers or the temporary closure of micropores, but further investigation is necessary. Color change resulting from natural ageing is shown to be successfully reproducible by oven-heating.

Reference 131 - 0.04% Coverage

¶230: A non-invasive approach to identifying wood species in historical musical instruments

Reference 132 - 0.10% Coverage

¶231: The purpose of this study was to evaluate the feasibility and reliability of identifying the wood of historical artefacts using microscopes with high magnification and reflected light together with polarized light filters

Reference 133 - 0.33% Coverage

¶231: The collected data here presented demonstrate that many anatomical features of the wood can be observed in situ, thanks to the portability of the instruments, and that identifying can be done indeed (in almost 6000 observations, only 8% gave no results). In cases where identifying was not possible, the problems involved: the presence of very thick coats of clear varnish, which makes it virtually impossible to see the structure of the underlying wood; the presence of a patina that conceals the wooden surface; and poor surface quality of the wood, which can falsify the appearance and size of wood cells.

¶232: Nondestructive research on wooden musical instruments: From macro- to microscale imaging with lab-based X-ray CT systems

Reference 134 - 0.60% Coverage

¶233: X-ray CT scanning is an invaluable technique in many research domains. Different commercial scanner types are developed, tailored to different needs, yet the Centre for X-ray Tomography of the Ghent University (UGCT) develops its own in-house open modular scanners with significant experimental freedom, both for applied research in various fields as for research on tomography itself. The maturity of the technique opens up possibilities in cultural heritage, more specifically the field of wooden musical instruments. Here, we present the possibilities and opportunities of two particular scanners at UGCT: Nanowood and HECTOR. Instruments of different size and shape can be scanned either entirely either one can focus on a specific region of the instrument, resulting in qualitative and quantitative mapping of a range of features at different spatial scales. A cello, acoustic guitar, violin and bow, pipa and standard recorder are scanned using different acquisition modes, and qualitative and quantitative assessment of different features such as general structure

assessment, glue line integrity, thickness distribution mapping, volume calculations, growth ring analysis are illustrated. These examples demonstrate the flexible and powerful use of lab-based CT scanners for nondestructive research of wooden musical instruments.

Reference 135 - 0.04% Coverage

¶234: Comparison of different experimental approaches in the tomographic analysis of ancient violins

Reference 136 - 0.51% Coverage

¶235: X-ray computed tomography (CT) is now a common technique for the non-destructive structural analysis of ancient manufacts of cultural and historical relevance, providing luthiers, art historians, conservators and restorators with a unique tool for the characterization of musical instruments. The experimental set-up to choose is obviously related to the kind and accuracy of the information to be extracted. Some applications of the technique require to examine extremely small details in selected parts of a violin, as in the evaluation of small cracks and thin patches, or in the characterization of larvae and eggs of wood-destroying insects. Other approaches, on the other hand, require less precise measurements of the size of the violin and its main components. Sometimes the presence of metal parts, such as strings and keys, requires a high dynamic range X-ray detector. Other parameters to be taken into account are related to the general organization of the experiment, such as the time required for the measurement, the distance of the laboratory from the instrument owner, its availability and, of course, the cost of the service.

Reference 137 - 0.02% Coverage

¶236: Numerical modelling of wooden structures

Reference 138 - 0.55% Coverage

¶237: Wooden structures are quite complex with respect to their material properties as well as to their structural response and, therefore, need to be simulated appropriately by means of numerical methods. This review provides an overview of current simulation techniques in static and dynamic analysis with respect to wood material models and their numerical realisation in their comprehensive complexity. The basic orthotropic elastic formulation of wood, a possible extension to a viscoelastic, viscoplastic formulation and the consideration of brittle failure are presented in terms of the finite element method, which is proposed as the preferred tool for the analysis of complex structures with highly nonlinear behaviour. Furthermore, models describing the dependency on climate conditions, long-term treatment and ageing are introduced. Since there is still a lack of understanding and a lack of data, it is adverted to further research effort in these domains. In the wide field of dynamic analysis of wooden structures, examples and approaches are presented. Subsequently, theories for taking into account the uncertain nature of wood in its micro- and macro-structure and a numerical example will round this review off.

Reference 139 - 0.04% Coverage

¶238: Experimental assessment of the effect of an eventual non-invasive intervention on

Reference 140 - 0.01% Coverage

¶238: through vibration testing

Reference 141 - 0.39% Coverage

¶239: Although subjective evaluations and claims abound, no quantitative data is available to determine the effect of this modification. This paper provides the results of an experimental campaign aimed at assessing the effect upon the vibration response of this eventual non-invasive intervention. Vibration testing was performed on the top and back plates before and after adhering strips of masking tape along the cracks. The influence of tensioning the strings is also examined. Correlations were done in both modal and frequency domains. The results allow conclusions to be drawn regarding the influence of this simple non-invasive intervention that can lead to audible changes, proving the feasibility of using vibration-based NDT methods for damage or structural modification assessment of musical instruments.

¶240: 18th and 19th French harp classification using vibration analysis

Reference 142 - 0.37% Coverage

¶241: intends to apply a global vibrational analysis on the harp corpus of the Musée de la musique to understand the consequences on the potential acoustical behaviour of the different construction techniques used by two famous harp makers, Erard and Cousineau. The idea is to survey the whole corpus, using the least invasive techniques which are still effective when applied to instruments in a conservation state and to define a vibrational descriptor able to represent different making strategies from the acoustical point of view. Whereas usual descriptive measurements do not discriminate Erard and Cousineau harps' acoustical behaviours, vibrational measurements, which are strongly influenced by construction techniques, do give this possibility.

¶242: Historical and dynamical study of piano actions: A multibody modelling approach

Reference 143 - 0.72% Coverage

¶243: For this reason, many modern studies on the piano take advantage of engineering tools in order to measure the exact behaviour of their actions in terms of time response, involved forces and displacement values. A complementary approach to study piano actions consists in modelling them, giving us a virtual mechanism to work with. In this case, the above-mentioned motion and behaviour are computed instead of being measured. The modelling technique used and described in this paper, called multibody dynamics, consists in computing the motion and the forces acting upon each component of the action. Subsequently, the response of the mechanism to a certain keystroke can be computed and a slow-motion animation can be produced. The aim of this paper is to give an overview of an ongoing research project in which two distinctive piano actions are modelled. Each of them is studied with a different objective in mind. Starting with the most modern, well-known but also most complex, the model of a double escapement action found in grand pianos is used to explain its functioning. This pedagogical goal is achieved with three progressive models; the first one is a simplified version of the action to which components of the complete action have been (virtually) removed. The stepwise progression leads to a single escapement action for the second

model, and finally to the full double escapement action for the third. Timing of the action events and response to different types of touch are studied and compared with literature. The results show that our model is able to reproduce the same behaviour as real actions.

Reference 144 - 0.13% Coverage

¶243: In this context, a model has been achieved to evaluate the influence of the so-called “escapement height” (a regulation parameter of the action) on the playing characteristics of the action. As with the grand piano action, timing analysis and touch comparison are performed with the model.

¶244:
Reference 145 - 0.05% Coverage

¶249: Multiple linear regression and fuzzy logic models applied to the functional service life prediction of cultural heritage

Reference 146 - 0.20% Coverage

¶250: In this research, a proposal for the assessment of the functional service life of built heritage applying statistical tools is described. A fuzzy inference system is applied in order to establish a ranking in terms of functional service life for the built heritage, thus allowing prioritizing the maintenance and preventive conservation actions in homogeneous groups of buildings, and optimizing the costs involved in maintenance operations.

Reference 147 - 0.08% Coverage

¶250: Therefore, a multiple linear regression analysis is applied in order to rank the variables in terms of influence in the serviceability estimation of heritage buildings.

Reference 148 - 0.35% Coverage

¶252: An extensive experimental campaign, including geometric survey, visual inspections, damage diagnosis, monitoring and control, is carried out to support and evaluate the actions undertaken to re-establish the structural strength. The paper focuses on the analysis of case-specific static and dynamic parameters deemed representative of the structural behaviour and highlights the benefits associated with the implementation of a monitoring-weighed methodology in terms of diagnostics of the system's vulnerabilities as well as control of the effectiveness of the adopted consolidation measures. The results demonstrate the feasibility and suitability of this systematic experimental approach for the non-invasive assessment of the structural fitness of built cultural heritage.

Reference 149 - 0.04% Coverage

¶253: Simplified procedure for structural integrity's evaluation of monuments in constrained context

Reference 150 - 0.17% Coverage

¶254: The research focuses exclusively on a simplified non-destructive testing procedure for first estimating structural integrity of monuments in constrained frame determined by emergency switchboard, need of rapidity, absence of economic support and complexity of the site and environment. The survey was inspired by the experimental outcomes obtained through easy-bring devices applied

Reference 151 - 0.36% Coverage

¶254: The ductile devices used for the investigation are the rebound hammer, the endoscopy and the ultra-sonic test. The procedure has been applied locally in the more significant masonry bearing parts of the temple. Particularly attention has been paid on the evaluation of the compression strength of brick and on the brick-mortar joints efficiency. The survey's approach is rapid, strictly in the frame of a preliminary and limited characterization, but significant for a first understanding of the masonry's integrity in absence of dedicated and elevated resources. The study outlines the reliability/limitations of the simplified and poor investigation's procedure in constrained boundary conditions, which is a very common situation in the anamnesis and diagnosis phases of monuments before restoration.

¶255:
Reference 152 - 0.45% Coverage

¶256: so the inpainting of these carvings is desired. In order to reduce the inpainting risk and keep the carvings' original appearance, it is necessary to introduce digital image processing techniques to perform virtual inpainting initially. The key step in exemplar-based inpainting algorithm is to search for the most similar patch. Efficient modeling style recognition is therefore the basis of the carvings' inpainting. Focusing on Bodhisattva head images, this paper proposes a two-step recognition method for their modeling style: feature extraction utilizing VGGNet1 and clustering with K-means algorithm. The proposed method obtains promising results compared with 5 classical feature extraction algorithms. According to experiment results, combining both art archaeology and image analysis, we conclude: (1) the modeling style is similar for the statues in the same cave or region; and the modeling style of the statues on the same subject is also similar, even though they are in different caves or regions;

Reference 153 - 0.03% Coverage

¶257: Effects of temperature and relative humidity on permanence of Buyid silk

Reference 154 - 0.54% Coverage

¶258: Identifying, assessing, and prioritizing risks of improper temperature (T) and relative humidity (RH) and their degrading effects on objects is a major issue for museum researchers. Methods that quantify deteriorating characteristics of temperature and RH provide useful information and lead to effective preventive solutions. Time-Weighted Preservation Index (TWPI) is a measure that estimates permanence of the organic materials based on a set of T and RH data for a specific period. In this research, we have used TWPI to assess chemical deteriorations of a Buyid silk stored in a museum storage. Furthermore, with the intention to examine effects of parameter fluctuations, a sensitivity analysis is applied to investigate permanence of the object in diverse sets of temperature and RH. Results of this research show that activation energy of the aforementioned Buyid silk is

approximately 96.03 kJ/mol and its permanence is converging to a determined amount that can be interpreted as its remainder useful life. Considering the climate of the textile storage, sensitivity analysis shows that lowering the average temperature to the standard range would result in a remarkable increase on the object's permanence.

Reference 155 - 0.13% Coverage

¶260: Hyperspectral imaging can capture pictures of spectral range from visible to near infrared light, which render visual enhancement of faded tomb murals. This paper presents a method that can extract faded mural pattern from the hyperspectral images of mural, taking the leaf-like mural patterns

Reference 156 - 0.18% Coverage

¶260: In the method, the faded leaf-like patterns are highlighted through normalization of sensitive spectral bands and extracted by density slice and masking on image space. The result shows that the method can extract the target pattern efficiently with the simple operations.

¶261: Assessing surface weathering by revision and implementation of the peeling-test: In situ sampling and integrated analyses

Reference 157 - 0.39% Coverage

¶262: Weathering diagnostics is mainly focused on the characterization of deterioration patterns in a mostly descriptive and non-quantitative way. Several authors tried to numerically evaluate rate and extent of the decay features highlighted in case studies. Among others, the peeling-test method was developed to recast reliable data in describing decohesion of surfaces. Such methodology is affected by high operator dependency, due to manual application of the tape on the surface and high variability in the patch area and tape typology. Our study was aimed at improving the methodology by the implementation of a device able to warrant a well-defined pressure during the application, a constant strapping angle along with the standardization of the scotch tape area and typology, obtaining reliable semi-quantitative and qualitative analyses. The revised methodology was then tested on

Reference 158 - 0.27% Coverage

¶262: The site was addressed by multi-scale analysis (i.e., weathering maps sketched from macro-scale observation, surfaces analyses and micro-sampling through peeling). The application of the methodology allowed highlighting the presence of capillary rise up to 1–1.5 meters height and a more weathered central area. On the whole, our protocol allowed reproducible factual sampling, and, on statistically significant population, the categorisation of decay intensity.

¶263: Conservation of calcareous stone monuments: Screening different diammonium phosphate based formulations for countering phototrophic colonization

Reference 159 - 0.61% Coverage

¶264: Stone degradation is a complex process induced by chemical, physical and/or biological factors. This process was accelerated in the last 50 years, by the worsening of the air quality, which caused acidic rains and an increasing of particulate deposition associated to contamination by soluble salts. Consolidation of degraded stone monuments is among the most important and at the same critical conservation goals. It is aimed at assuring higher physical stability, and therefore durability, to the monument. The inorganic consolidants have a good chemical-physical-mineralogical affinity with the stone material, and di-ammonium phosphate (DAP) is one of the last generation water-soluble agent for the consolidation of the carbonate-calcareous stones. Nevertheless, because of its content in phosphor and nitrogen, DAP could favor biological growth in very special humid contexts. In order to counter this potential drawback different formulates based on DAP, used in conjunction with washing procedures with water or biocides, or by adding biocides directly to the DAP solution were tested in this experimental work. Two types of calcareous stones with different porosity were chosen for the experiments (Gioia marble and Gottardo stone). The best results were obtained when a mixture of diammonium phosphate and benzalkonium chloride (BAC) water solutions was applied.

Reference 160 - 0.05% Coverage

¶265: The decay of the polysiloxane resin Sogesil XR893 applied in the past century for consolidating monumental marble surfaces

Reference 161 - 0.60% Coverage

¶266: A study of the deterioration micromorphologies and a chemical investigation of the alteration products of an experimental polysiloxane resin used for consolidating marble sculptures in Venice was undertaken several decades after the initial treatments. A multianalytical study was carried out on a number of microfragments sampled from four Venetian monuments treated in the 1960s and ‘70s. The Fourier Transform InfraRed spectroscopic analysis (FTIR and µFTIR) was used to identify the conservative treatment applied, to confirm its chemical nature (whose formulation has never been confirmed) by comparing the results with the literature, and to investigate both its behaviour under a very aggressive environment and the possible related deterioration products. Microscopic observations of cross-sectioned samples (mainly through SEM-EDX analysis) were conducted to investigate the resin morphology and distribution into the pores, and to identify the possible residual presence of other conservative products previously or subsequently applied. In addition, water absorption by means of the sponge contact method was used to verify the present water repellency of the treated surfaces. The methodology adopted proved to be adequate to the aim of the research and gave useful information about the performance of the resin examined over time.

Reference 162 - 0.04% Coverage

¶269: Nanotechnology on wood: The effect of photocatalytic nanocoatings against Aspergillus niger

Reference 163 - 0.46% Coverage

¶270: Fungi play a primary role in wood decay, including building and historical surfaces. Over the last years, nanotechnology has been used to preserve different type of surfaces from biodeterioration caused by the development of biological contaminants. In this study, photocatalytic titanium dioxide

(TiO2) based nanocompounds (also containing silver and copper) were brushed on wood surfaces to evaluate biocidal ability against the development of soft-rot fungus Aspergillus niger. Five different nanotreatments were applied on two types of wood (softwood and hardwood). Compatibility with wooden substrates has been assessed using colorimetry. Antifungal capability of metallic nanotreatments was quantitatively evaluated considering different parameters: microscopic observation, chromatic variation, reflectance change and mould extent. Even though photocatalytic nanotreatments inhibited A. niger development only partially, they seem to be a promising tool to reduce harmful mould development and to better preserve wooden artefacts.

Reference 164 - 0.06% Coverage

¶271: Identification of iron-gall inks in historical drawings by Fibre Optics Reflection Spectroscopy – Extension to the NIR spectral range

Reference 165 - 0.22% Coverage

¶272: Previously developed chemometric tool for identification of corrosive iron-gall inks in historical drawings based on the target factor analysis of visible–near infrared fibre optics reflection spectra (Vis–NIR FORS) in the range of 500–1050 nm was extended to the NIR range of 1200–2300 nm. The extended method was found to be capable to distinguish sepia and bistre inks from iron-gall inks. Particularly the resolution of bistre inks is more reliable comparing to the previous method.

Reference 166 - 0.08% Coverage

¶272: The results of analysis based on this tool were confirmed by XRF spot analysis.

¶273: Conservation of ethnographic artefacts: Selective laser ablation of deposits from doum palm fibers

Reference 167 - 0.17% Coverage

¶274: This work approaches the challenging cleaning problem of fragile ancient ethnographic artefact crafted using lignocellulosic fibers, which undergo different and concomitant degrading reactions (oxidation, hydrolysis, depolymerization) over time. Here, the fundamental wavelength and second harmonic of Q-Switched Nd:YAG laser were comparatively tested for the removal of deposits

Reference 168 - 0.50% Coverage

¶274: After a careful fiber identification, laser-induced effects were assessed on `angarêb fibers and fresh, naturally and artificially aged doum palm (Hyphanae Thebaica) reference samples by means of stratigraphic examination, UV-induced Vis fluorescence emission, Raman spectroscopy, ESEM-EDX analysis and optical microscopy. Irradiation at 532 nm affected the color appearance and structural integrity of the fibers. Bond-breaking/depolymerization and bleaching occured at this wavelength, due to the significant absorption of lignin/phenolic-carbohydrate and lignin-quinonoid complexes. In contrast, laser irradiation at 1064 nm did not induce any detectable discoloration or structural alteration, either in the short- or long-term diagnostic assessments. The results achieved highlight

the possibility of using the latter wavelength for recovering the original surface of soiled ethnographic artefacts made of fragile vegetable fibers, which are otherwise untreatable.

¶275: Corrosion rate evaluation by gravimetric and electrochemical techniques applied to the metallic reinforcing structures of a historic building

Reference 169 - 0.42% Coverage

¶276: In order to obtain a representative sample set, a preliminary inspection of the macroscopic architectonic structure was applied at selected zones that exhibited the metallic backbone. Gravimetric and electrochemical techniques have demonstrated that some UPN profiles presented high corrosion rate. This was mainly due to the presence of water pipes installed beside the metallic structure, which was a source of humidity, and also to the presence of calcium carbonate, calcium silicate hydrate, and calcium chloride substances inside the cement in direct contact with the metallic structures, which were responsible for the steel depassivation. The work shows a practical example of how a suitable combination of chemical, physical and electrochemical techniques can be applied together to characterize a corrosion process, the obtained results validating and corroborating the prediction of the corrosion rate in metallic structures.

¶277:
Reference 170 - 0.12% Coverage

¶278: The method consists of precipitating white lead from aqueous solutions of lead nitrate and sodium carbonate. The procedure is simple, quick, and without unpleasant materials or handling, and the resulting pigment is of great purity and similar to traditional white lead.

¶279:
Reference 171 - 0.08% Coverage

¶282: The results of a comparative study performed by complementary contact-less, non-invasive spectroscopic methods applied to two orthodox wooden icons are presented and discussed.

Reference 172 - 0.14% Coverage

¶282: were investigated by digital radiography, UV photography, X-ray fluorescence, Fourier Transform–Infrared and Raman spectroscopy. The experimental results were used to identify the mineral pigments, the type of primer, the binder, as well as various other details pertaining to the structure or to subsequent interventions.

Reference 173 - 0.05% Coverage

¶285: In-situ study of the consolidation of wall paintings using commercial and newly developed consolidants

Reference 174 - 0.11% Coverage

¶286: presents a comparison of consolidant effectiveness for a newly developed consolidant based on soluble calcium compound calcium acetoacetate and two nano-lime-based consolidants available on the market, i.e., CaLoSiL® E15 and Nanorestore®

Reference 175 - 0.46% Coverage

¶286: In order to monitor the colour differences and consolidation effectiveness before, and a few months after, the application of the consolidants, different non-destructive and micro-destructive methods were used. The colour differences were assessed visually and using spectrophotometry, while the consolidation effectiveness was monitored using three methods: the ultrasound velocity method, the surface hardness method and the DRMS method. We demonstrated the best recovery in terms of mechanical properties and with a negligible effect on the wall paintings' appearances after the treatment with the new consolidant. Both nano-lime-based consolidants show a less pronounced reinforcement in the mechanical strength – smaller increase in the drilling-resistance and the surface hardness. The formation of a white haze with the nano-lime consolidants led to a considerable change in the colours of the wall paintings.

¶287: Non-invasive analytical technique to address water uptake on stone surfaces: The implemented Contact Sponge Method (i-CSM)

Reference 176 - 0.67% Coverage

¶288: The assessment of capillary rise rate is a recommended test in Cultural Heritage diagnostics to evaluate the evolution of stone textural properties and decay, and performances of conservation treatments. Beside laboratory tests, diverse non-invasive and non-destructive, in-situ methods were developed in order to establish the monitoring for monumental structures and decorative apparatus: Karsten tube, Mirowsky pipe and contact sponge methods (CSM). The comparison between the diverse techniques demonstrated high comparability between the datasets obtained with the CSM (UNI 11432:2011) and those recast with capillary absorption. However, the dataset collected with the conventional method is affected by high standard deviation due to several variables, mainly operator-dependent. The adoption of a pocket penetrometer, coupled with the use of a thicker sponge, aimed at parameterizing the load upon the surface. The implementations allowed a higher reproducibility of the measures, as well as the possibility of applying increasing pressures. In this study the i(mplemented)-CSM was adopted to test the adsorption behaviour of a set of ornamental stones (Macigno Sandstone, Breccia Aurora, Rosso Verona and Vicenza Stone) both un-weathered and weathered by freeze-thaw ageing and salt weathering. A correlation between the maximum open pore radius and an increase in water absorbance at higher loads was established. The preliminary promising results wait to be further validated on larger datasets.

¶289:
Reference 177 - 0.46% Coverage

¶296: using a novel analytical technique that allows for the simultaneous characterization of organic and inorganic materials in works of art. ToF-SIMS was successfully used to obtain high-resolution spatial maps of cross-sectional paint samples and served as a complimentary technique to Raman spectroscopy and scanning electron microscopy-energy dispersive X-ray spectroscopy. Analysis of Cresti's wall paintings using imaging ToF-SIMS revealed the presence of specific amino, acids as well as fatty acids, fragments that were mapped to discrete paint and ground layers. ToF-SIMS was also used to characterize proteinaceous materials that were presumably used during a previous restoration campaign. These analytical results allowed for direct comparison between Cresti's wall painting technique to those described primary sources, specifically those cited by Giorgio Vasari and Filippo Baldinucci.

¶297: Reclaiming the image of daguerreotypes: Characterization of the corroded surface before and after atmospheric plasma treatment

Reference 178 - 0.40% Coverage

¶298: Technological developments such as atmospheric plasma jets for industry can be adapted for the conservation of cultural heritage. This application might offer a potential method for the removal or transformation of the corrosion on historical photographs. We focus on daguerreotypes and present an in-depth study of the induced changes by a multi-analytical approach using optical microscopy, scanning electron microscopy, different types of transmission electron microscopy and X-ray absorption fine structure. The H2-He afterglow removes S from an Ag2S or Cu2S layer which results in a nano-layer of metallic Ag or Cu on top of the deteriorated microstructure. In case the corrosion layer is composed of Cu-Ag-S compounds, our proposed setup can be used to partially remove the corrosion. These alterations of the corrosion results in an improvement in the readability of the photographic image.

Reference 179 - 0.06% Coverage

¶301: The importance of cellulose content and wood density for attack of waterlogged archaeological wood by the shipworm, Teredo navalis

Reference 180 - 0.55% Coverage

¶302: Archaeological wooden remains are at risk of rapid degradation by the shipworm, Teredo navalis, when exposed to open seawater. An earlier study has shown a difference in the extent of attack based on the state of preservation of the wood. The current study aims to examine in more detail how shipworm attack correlates to the state of preservation, as measured by density, and the amount of residual cellulose, and if it is thereby possible to estimate when attacks will occur based on the level of deterioration. This knowledge would have practical implications for in situ preservation of wooden natural and cultural heritage underwater as it may be able to predict whether a wooden object is in danger of being attacked. The results confirm that there is a significant correlation between the extent of deterioration of the wood and the shipworm attacks. Samples with low density (< 100 kg/m3) and a low cellulose content (≤ 24% weight/dry weight) showed no attacks (rating 0). Attacks (rating 1–2) were first observed when the density of the wood was ≥ 134 kg/m3, with concomitant cellulose contents of ≥ 29%. Severe attack (rating 3–4) was observed on samples where the density was ≥ 292 kg/m3 and cellulose contents of ≥ 48%.

Reference 181 - 0.05% Coverage

¶303: Chinese handmade mulberry paper: Generation of reactive oxygen species and sensitivity to photodegradation

Reference 182 - 1.01% Coverage

¶304: In the present study, samples of modern Chinese mulberry paper from different traditional manufacturers were artificially aged by exposure to UVA radiation. Their degradation patterns and

associated generation of superoxide anions and hydrogen peroxides were determined by means of various spectroscopic techniques following our previous approach. Furthermore, electron spin resonance (ESR) spectroscopy using 5,5-dimethyl-1-pyrroline-N-oxide (DMPO) as a spin-trapping agent was employed to detect hydroxyl radicals in irradiated paper as well as to provide additional information for the photodegradation mechanism. Like Xuan paper, Chinese handmade mulberry paper exhibited blue fluorescence (λex = 340 − 400 nm; λem = 450 − 480 nm) consistent with it originating from a number of naturally-occurring hydroxylcoumarins. UVA irradiation of papers of different origins resulted in varying changes to the fluorescent species, which, together with the hydrolysis or formation of chromophores absorbing in the visible region, leads to the photobleaching or photoyellowing of paper. The extent of photodiscolouration of different papers correlate with their relative rates of the production of reactive oxygen species (ROS), including hydrogen peroxides, superoxide anions and hydroxyl radicals. SEM-EDS analyses revealed that the Chinese mulberry paper studied in the work had high levels of calcium and phosphorous, together with a much lesser amount of potassium, iron and copper, which probably originate from details in their manufacturing methods. Papers containing high concentrations of these metal ions also exhibited higher yields of ROS, which contribute to a higher level of oxidative stress and thereby affects their photostability. The main mechanism for the photodegradation of Chinese mulberry paper is proposed to be a sensitised oxidation via the formation of activated ROS, catalysed by the presence of transition metal ions, particularly ferric and cupric, and was accelerated by other factors such as moisture. This study has provided detailed knowledge for the photodegradation process of Chinese mulberry paper, which aims to assist the development of effective treatments for the restoration of important paper cultural heritage objects.

¶305:

Reference 183 - 0.38% Coverage

¶306: At the request of the Israel Antiquities Authority's (IAA) DSS conservation staff, we analyzed the powdery material with multiple methods: FTIR-ATR, Raman microscopy, XRD, ICP, and GC/MS. In addition to salt and minerals, our analysis found fatty acids (FA), but no gelatin, disproving that particular theory. By artificially aging modern parchment the phenomenon was recreated and the parchment samples were analyzed with destructive methods (electron microprobe, GC/MS) that could not be applied to the DSS in order to learn more about the process. The FAs are an important discovery not only for understanding the degradation process, but also as a source of information on the scrolls' production and treatment history – a source that can be analyzed even more accurately through destructive methods, without needing to touch the scrolls themselves.

Reference 184 - 0.09% Coverage

¶308: A new data-gathering procedure was used to define the vaults' components. This new system, together with key aspects of comparative analysis, helped us to establish how these structures developed.

Reference 185 - 0.05% Coverage

¶309: A complete methodology for the mechanical diagnosis of statue provided by innovative uses of 3D model

Reference 186 - 0.44% Coverage

¶310: A multidisciplinary methodology is presented to assess the mechanical behaviour of a marble statue with complex fracture plans and localized cracks. First, a 3D model is generated by photogrammetry. Its underlying geometrical data provide valuable insight for the physical characterisation and the numerical analysis. Indeed, the ultrasound analysis, which is usually impossible on such a complex shape, is achieved thanks to the accurate measures of distance between transmitter and receiver obtained from the 3D geometrical model. Finally, an innovative use of FEM/DEM analysis is proposed to evaluate the mechanical relevance of a non-destructive basing system. Reflecting the advances of this collective work, the resulting pedestal solution is non-conventional since it is safe, not invasive and totally reversible. A particular attention is paid to use mainly open-source numerical tools from 3D acquisition through mechanical analysis in order to enable the reproducibility of the process.

Reference 187 - 0.04% Coverage

¶313: Knowledge-based data enrichment for HBIM: Exploring high-quality models using the semantic-web

Reference 188 - 1.08% Coverage

¶314: In the last decade, the paradigm Historical Building Information Modeling (HBIM) was investigated to exploit the possibilities offered by the application of BIM to historical buildings. In the Cultural Heritage domain, the BIM-oriented approach can produce 3D models that are data collector populated by both geometrical and non-geometrical information related to various themes: historical documents, monitoring data, structural information, conservation or restoration state and so on. The realization of a 3D model fully interoperable and rich in its informative content could represent a very important change towards a more efficient management of the historical real estate. The work presented in these pages outlines a novel approach to solve this interoperability issue, by developing and testing a workflow that exploits the advantages of BIM platforms and Semantic-Web technologies, enabling the user to query a repository composed of semantically structured and rich HBIM data. The presented pipeline follows four main steps: (i) the first step consists on modeling an ontology with the main information needs for the domain of interest, providing a data structure that can be leveraged to inform the data-enrichment phase and, later, to meaningfully query the data. (ii) Afterwards, the data enrichment was performed, by creating a set of shared parameters reflecting the properties in our domain ontology. (iii) To structure data in a machine-readable format, a data conversion was needed to represent the domain (ontology) and analyze data of specific buildings respectively; this step is mandatory to reuse the analysis data together with the 3D model, providing the end-user with a querying tool. (iv) As a final step in our workflow, we developed a demonstrative data exploration web application based on the faceted browsing paradigm and allowing to exploit both structured metadata and 3D visualization. This research demonstrates how is possible to represent a huge amount of specialized information models with appropriate LOD and Grade in BIM environment and then guarantee a complete interoperability with IFC/RDF format. Relying on semantically structured data (ontologies) and on the Linked Data stack appears a valid approach for addressing existing information system issues in the CH domain and constitutes a step forward in the management of repositories and web libraries devoted to historical buildings.

Reference 189 - 0.20% Coverage

¶316: For the analysed area, a set of seven earthquake records is specified, and using different structures modelled as single-degree-of-freedom systems, Damage index spectral functions are determined. Thus, by knowing the proposed parameters of a single-degree-of-freedom system representing an unreinforced masonry building, a response of the structure to a given earthquake can be determined using the graph of Damage index spectral functions.

Reference 190 - 0.32% Coverage

¶318: Furthermore, the analysis of 41 selected sites, based on real hazardous events, demonstrated that 38 out of 41 (92.7%) geohazard events were identified by one or the other dataset. The quality of the geohazard detection is less significant when both datasets are considered: only 22 out of 41 (53.7%) disaster cases were correctly estimated by both GRPD-GVP and PR-II databases. This difference could be due to the actual vulnerability of the sites, associated to their physical and social characteristics, and their environment, as well as coarse resolution of the open-access data, or to a lack of awareness – on the part of site managers – of the actual disaster risks associated with the hazard(s) affecting their properties

Reference 191 - 0.37% Coverage

¶320: The X-ray and luminescence studies revealed some interventions performed in different time periods. The materials of original painting as well as the materials of interventions were successfully characterized by spectroscopic techniques. Layer-by-layer Laser induced breakdown spectroscopy (LIBS) was used for elemental composition study of art materials. Fourier-transform infrared microspectroscopy (micro-FTIR) was used to indicate the types of binding media in the grounds and paint layers as well as to identify the art pigments. A low concentration of cerulean and cadmium yellow in the upper paint layers (interventions) were identified by Surface enhanced Raman scattering (SERS). Since cerulean and cadmium yellow are known to come into use in XIX cent., the SERS results played the crucial role for dating of some intervention.

¶321:
Reference 192 - 0.01% Coverage

¶321: by LC-DAD-MS (triple quadrupole)

Reference 193 - 0.48% Coverage

¶322: were investigated by liquid chromatography with UV-Vis (DAD) and mass spectrometric (MS) detection. Lac dye (Kerria lacca Kerr), redwood type (Caesalpinia spp.) and madder (Rubia sp.), as individual dyes or in combinations, were responsible for the colour in all the dyed yarns while tannins were present in more than half of the total number of samples. The presence of major dyes, such as alizarin, purpurin, laccaic acid A and soluble redwood — a marker compound for Caesalpinia species were observed by both DAD and MS detectors while minor compounds (rubiadin, anthragallol, xanthopurpurin, munjistin, flavokermesic acid etc.) were only detected by mass spectrometry. Single stage MS detection was used in the Full Scan mode followed by data processing through Ion Extraction according to the molecular ions of compounds in the database. Tandem MS detection (MS2) was also achieved, through using the Product Ion Scan operating mode.

Identification of dyes was made according to retention time, UV-Vis and MS data, based on information collected on standards — dyes and dyed fibers

Reference 194 - 0.04% Coverage

¶322: The biological sources detected are discussed as compared with those identified

Reference 195 - 0.05% Coverage

¶323: Frequency ratio and GIS-based evaluation of landslide susceptibility applied to cultural heritage assessment

Reference 196 - 0.53% Coverage

¶324: This study aims to produce landslide susceptibility maps using frequency ratio (FR) model with the help of GIS to be used in cultural heritage (CH) mitigation and assessment for a catchment from northeastern Romania. In total, seven conditioning factors were used to assess the landslide susceptibility index (LSI): elevation, slope angle, curvature, normalised difference vegetation index (NDVI), roughness, distance to rivers and landforms. The landslide susceptibility maps were prepared with the help of GIS software and classified into four susceptibility areas: low, medium, high, and very high. The more conditioning factors were added to the susceptibility, the better validation results were obtained (from an AUC = 0.51 corresponding for five factors, to an AUC = 0.75 for the seven factors). The model validation has shown that the maps made using FR model has a success rate of 75.24%. The landslide susceptibility maps have a high accuracy and will be helpful not only for CH protection and preservation, also for land-use planning, hazard mitigation, and risk reduction. Out of the 47 CH sites, more than a half are located in areas with high and very high susceptibility to landslides.

Reference 197 - 0.02% Coverage

¶325: Pulse thermography identification of service insignia in

Reference 198 - 0.32% Coverage

¶326: using infrared pulse thermography, a nondestructive IR technique based on the application of a short heat pulse, obtained by a flash lamp. While in most cases, IR thermography allowed to detect the insignia under the paint, in other cases sand, sawdust or woodchip added to the camouflage paint, in order to give it a rough and less reflecting texture, showed to be capable of preventing their detection. In 28.57% of the cases, the one or more layers of camouflage paint showed to be semi-transparent in the infrared waveband 3–5 μm, thus allowing to see not only the decal shape, but also the drawing inside the decal contour.

¶327: Accelerated ageing of cotton canvas as a model for further consolidation practices

Reference 199 - 0.42% Coverage

¶328: In order to assess the effectiveness of various practices for canvas consolidation, model substrates are needed. In this work, a method of rapid ageing of cotton canvas is described. The method consists of treatment of the canvas with a mixture of hydrogen peroxide and sulfuric acid at 40 °C during 72 hours to mimic to some extent the natural processes of oxidation and acid-catalysed hydrolysis of cellulose. Two protocols for canvas degradation were developed, which reduced the degree of polymerization of cellulose from ca. 6250 to ca. 1350 and 450. The reduction of the mechanical properties and the increase of the negative charge were also quantified. These samples were compared with a canvas degraded using a state-of-the-art method that takes up to 20 days. The results show that the developed method can provide a rapid procedure for preparing small samples for testing various consolidation strategies by conservators.

¶329:
<Internals\\JCH 2018 abstracts> - § 203 references coded [55.04% Coverage]

Reference 1 - 0.02% Coverage

¶3: Hygro-mechanical numerical investigations

Reference 2 - 0.06% Coverage

¶4: Hygro-mechanical phenomena induced by moisture loading of a historical wooden panel painting from the 16th century are investigated in this study.

Reference 3 - 0.30% Coverage

¶4: A two-phase multi-Fickian diffusion model for moisture transport in wood and a consistently coupled hygro-mechanical simulation are applied to explore the influence of different realistic scenarios of climatic change on the panel painting itself and its supporting frame. The hereby gained results can be used to predict the general mechanical behaviour, and help to identify critical parts of the structure and risky climatic situations, which could increase damage. New methods of conservation in terms of innovative stabilising wood frames and adjusted climatic conditions can efficiently be evaluated with the help of the presented approach.

¶5: A method for the registration of spectral images of paintings and its evaluation

Reference 4 - 0.36% Coverage

¶6: This work concerns the automatic registration of spectral images of paintings upon planar, or approximately planar, surfaces. An approach that capitalizes upon this planarity is proposed, which estimates homography transforms that register the spectral images into an aligned spectral cube. Homography estimation methods are comparatively evaluated for this purpose. A non-linear, robust estimation method that is based on keypoint features is adopted, as the most accurate. A marker-based, quantitative evaluation method is proposed for the measurement of multispectral image registration accuracy and, in turn, utilized for the comparison of the proposed registration method to the state of the art. For the same purpose, characteristic for this application domain, benchmark datasets that are annotated with correctly corresponding points have been compiled and are publicly availed.

Reference 5 - 0.06% Coverage

¶7: X-ray fluorescence investigation on yellow pigments based on lead, tin and antimony through the comparison between laboratory and portable instruments

Reference 6 - 0.69% Coverage

¶8: This paper presents an investigation of yellow pigments based on lead, tin and antimony through X-ray fluorescence spectroscopy with the aim of comparing portable and laboratory instruments and discussing the potential application on artworks. Artificial yellow pigments, based on Pb-Sb-Sn, and produced in our laboratory, were chosen in order to have a well-known and already characterized sample set. The differentiation in artworks of these pigments is still a challenge if non-invasive portable X-ray spectrometers are used, as commonly occurs in practice. The analysis was performed by using the Bruker M4 Tornado laboratory equipment and the Assing Surface Monitor II portable apparatus. Scanning electron microscopy with energy dispersive spectroscopy was also applied for a semi-quantitative analysis of the chosen pigments. In order to perform a significant statistical comparison of acquired and processed data, all the analyses have been carried out by using the same sample, the same acquisition set-up and, at the same time, operative conditions for both instruments. A chemometric approach, based on the principal component analysis and multivariate analytical tools, was applied in order to verify the spectral differences, and related informative content, between the different produced yellow pigments. The multivariate approach revealed instrumental differences between the two systems and allowed the comparison of the common characteristics of the analyzed pigments set. The potential of this new approach is also linked to the possibility of differentiating artificial yellow pigments, both in terms of composition and, above all, in terms of recipes for their production.

Reference 7 - 0.03% Coverage

¶9: An XPS study into sulphur speciation in blue and green ultramarine

Reference 8 - 0.52% Coverage

¶10: A number of ultramarine paint samples were analysed by Raman spectroscopy and X-ray photoelectron spectroscopy to determine the binding energies of the S3.− (blue) and S2.− (yellow) radical anions responsible for the pigment colour. The two sulphur radicals (chromophores) have well assigned Raman signals, however, no previous XPS study has been able to observe both radicals in natural or synthesised blue ultramarine samples and assign binding energies. This study focused on the analysis of synthetic ultramarine samples, which have a higher chromophore concentration than natural pigments, and on the comparison of blue and green shades, as green pigments have a higher quantity of the yellow chromophore. XPS spectra from six blue and three green paints were processed and found to contain sulphide, sulphite, sulphate and two unassigned signals at 162.9 and 163.8 eV. The ratio of these two signals varied between blue and green samples. Raman spectra of the samples were measured and the ratio of the blue versus yellow signals at 549 cm−1 and 580 cm−1 calculated. Comparison of the Raman and XPS data sets found good agreement between signal ratios when the 162.9 eV XPS signal was assigned to the yellow and the 163.8 eV signal was assigned to the blue chromophore.

Reference 9 - 0.03% Coverage

¶11: Fly-ash contribution to Nd:YAG laser yellowing and its mitigation using UV-B light

Reference 10 - 0.58% Coverage

¶12: Nd:YAG Q-Switched laser cleaning of soiled stone at 1064 nm can sometimes result in yellower appearances than other conventional cleaning techniques. The yellowing effect is known to be at least partially due to the laser beam interaction with soiling matter, especially with infra-red absorbing components such as iron oxides, carbonaceous particles or fly-ash. In this study, pure plaster plates were artificially soiled with natural black crust and fly-ash powders. The morphology and crystalline structure of the soiling materials was characterized by scanning electron microscopy (SEM) and X-ray diffraction (XRD). Soiled plaster plates were then treated by Nd:YAG QS laser light at 1064 nm. The laser irradiation led to the appearance of a yellow tone in all cases, highlighting the fly-ash contribution to the yellowing effect. Afterwards, the irradiated plaster plates were exposed to UV-B light (313 nm) for a few dozen hours using an accelerated UV ageing chamber. This treatment resulted in a significant attenuation of the yellow colour for all the samples. Colour measurements revealed that this photo-bleaching effect was essentially due to brightness L* and saturation C* variations and not to hue h* variation towards less yellow shades. As hue variation is often related to chemical transformations of chromophores, this result tends to indicate that the yellowing reduction was mainly due to scattering effects.

Reference 11 - 0.05% Coverage

¶13: Consolidation of lime mortars with ethyl silicate, nanolime and barium hydroxide. Effectiveness assessment with microdrilling data

Reference 12 - 0.69% Coverage

¶14: Two lime mortars were treated under laboratory conditions to assess the potential effectiveness of three consolidation treatments performed with: an ethyl silicate, a nanolime and a solution of barium hydroxide. The consolidation products were applied by direct contact capillarity. The duration and number of applications were adapted to the specific requirements of each product. Compressive and bending strength and drilling resistance were used to assess the potential effectiveness of the three treatments. The mortar made with a larger amount of a coarser aggregate showed lower porosity but a higher proportion of large pores, which was responsible for the observed higher increments in the resistance of the consolidated specimens. Compressive and bending resistance provided information on the consolidation action as a whole, while the drilling resistance measurements allowed also the identification of the consolidated thickness. The ethyl silicate was able to consolidate about 16 mm in thickness, while for nanolime this value only reached a maximum of 5 mm. The treatment with barium hydroxide showed a very distinct behaviour in both mortars reaching a larger consolidated thickness in the coarser mortar, while keeping the resistance increment ratio in a moderate value. The drilling data before and after treatment were interpreted in two ways; (i) with all the tests drilled in a same condition averaged and compared; (ii) after proceeding with a segmentation methodology addressed to identify the binding matrix and to detect

the consolidation directly on it. The two methods proved to be complementary ways to characterise lime mortars and to study their consolidation.

Reference 13 - 0.08% Coverage

¶15: Calcium alkoxides as alternative consolidants for wall paintings: Evaluation of their performance in laboratory and on site, on model and original samples, in comparison to conventional products

Reference 14 - 0.37% Coverage

¶16: In this paper, two innovative calcium alkoxides, calcium tetrahydrofurfuryl oxide [Ca(OTHF)2] and calcium ethoxide [Ca(OEt)2], are proposed as new products for the consolidation of wall paintings. They were developed during the NANOMATCH European project and their efficacy, compatibility with the substrate and durability were evaluated in comparison with commercial products on both model and real samples. Model samples were exposed in four different sites around Europe to investigate the treatments' behaviour under different climatic conditions. The main research results are reported here: alkoxides showed to be a good option for wall paintings' consolidation especially in presence of certain binders and pigments. Finally, an impact testing device was used for the first time for the evaluation of the consolidants' efficacy and thus proposed as a reliable methodology for their performance assessment.

Reference 15 - 0.28% Coverage

¶18: In this paper, we address the problem of alleviating the effects of aging on optical discs. To solve this problem, we (a) experimentally recognize safe and critical areas of optical discs and (b) adopt an Adaptive Reed–Solomon (A-RS) code to increase their lifetime expectancy. More precisely, we reduce the error correction capability of the code in safe areas and increase it in critical areas. Interestingly, the approach adopted does not reduce the capacity of the discs but simply redistributes the error correction capability of the code itself. This adaptive approach helps to counteract the physical and chemical degradation of optical discs, thus increasing their lifetime expectancy.

Reference 16 - 0.05% Coverage

¶19: Subsea spectral identification of shipwreck objects using laser-induced breakdown spectroscopy and linear discriminant analysis

Reference 17 - 0.42% Coverage

¶20: Underwater LIBS is an evolving technology which offers unique advantages over traditional methods, not only do it offers the composition of liquids with high reliability; it also provides the elemental composition of solids with little or no user manipulation. Because of this advantage, LIBS has been used as a tool for inspecting materials in underwater archaeology, where knowledge of the chemical composition may provide valuable clues on the origin of materials in shipwrecks and submerged buildings. This study attempts to provide undersea LIBS instrumentation with the data processing tools intended to make shipwreck inspection surveys easier and faster. The new tool has

been designed to sort the readings obtained by a LIBS system when inspecting unknown pieces found in the sea bottom and assign their composition to one of several groups of common materials found in shipwrecks. The tool involves linear discriminant analysis that was first validated in the laboratory with a training set of samples collected from wreckages.

Reference 18 - 0.32% Coverage

¶22: Multi-image photogrammetry is the principal and innovative technique used, but we have confirmed the necessity of accompanying this new system with a precise topographical net. This last aspect is particularly evident when it is necessary to solve the problem of the documentation of a multi-strata mound of amphoras, anchoring 3D models of each stratum as it is removed. Photogrammetric models must be processed with 3D software modelling to interpret the textured meshes and to construct polygonal models, selecting the important aspects of the objects, and eliminating the 'noise' of the point cloud. The 3D model can easily be used to reconstruct the original arrangement of the cargo, on which it is then possible to make various calculations and considerations of nautical engineering.

¶23:
Reference 19 - 0.04% Coverage

¶24: describes the process of designing and testing an information system (IS) based on three-dimensional (3D) data

Reference 20 - 0.47% Coverage

¶24: In preparation of the restoration, a major effort was carried out to design and implement a web-based IS able to host all of the data produced, to allow the conservation-restoration specialists to interact on-site with an accurate 3D representation of the elements of the fountain, and to directly reference all information and data produced on the geometry of the model. The paper focuses on the challenges and adopted solutions related to the use of 3D models and the data mapping on 3D surfaces in the context of restoration documentation. Highly detailed visualizations of the models, easy navigation, and usable functionalities to add information directly on the 3D model have been achieved by extending the available solutions and by implementing new mechanisms to overcome the limitations of WebGL and remote rendering. Neptune IS' development has been extensively experimented in a real context of use. Results and knowledge from the experimentation currently represents the basis for evolving Neptune IS into a possible generic and flexible platform for documentation management in the field of restoration and related methodologies.

¶25:
Reference 21 - 0.15% Coverage

¶26: In order to resolve this issue, we developed a correlation pipeline for the integration of the semantic, spatial and morphological dimension of a built heritage. The pipeline uses an ontological model for recording and integrating multidisciplinary observations of the conservation state into structural data spatialized into a semantic-aware 3D representation

Reference 22 - 0.04% Coverage

¶28: modelling techniques were exploited to produce 3D digital models of structures and objects

Reference 23 - 0.05% Coverage

¶30: While photogrammetry, laser scanning and building information modeling (BIM) have enhanced 3D documentation in conservation

Reference 24 - 0.23% Coverage

¶30: We present an intermediate solution, a workflow for virtual tour environments (VT) and informational modeling (IM) and we test this workflow on a case study. The VT/IM environment we created contains building plans, previous conservation reports, image galleries, databases about past interventions and short descriptions of the conservation issues at Princeton University. In this paper, we compare conservation reports using 2D plans against the VT/IM environment and we compare the time, cost and data management of VT/IM with methods of 3D documentation.

¶31:
Reference 25 - 0.13% Coverage

¶34: We demonstrate that the tool embeds the rules of spherical trigonometry that provide the orthodromic and lossodromic distances and the azimuth of two points of given latitude and longitude, to within 1% of the difference between the Spherical Earth model of al-Biruni (radius = 6339.6 km) and the WGS84 Ellipsoid

Reference 26 - 0.10% Coverage

¶38: In addition to imaging and classical analytical techniques (SEM and FTIR), the capability of a new developed Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry system for minor elements and thin layers detection is also discussed.

Reference 27 - 0.02% Coverage

¶41: 3D documentation on Chinese Hakka Tulou

Reference 28 - 0.14% Coverage

¶42: Finally, an internet-based cloud-enabled 3D geographic information service system for Hakka culture (HCGISS) was developed with data storage on cloud end and service functions, such as scene loading and browsing, thematic cultural maps display, information query and online virtual experience for tour, tourist route navigation to users on browser end

Reference 29 - 0.08% Coverage

¶48: Proposal for the improvement and modification in the scale of evidence for virtual reconstruction of the cultural heritage: A first approach in the mosque-cathedral and the fluvial landscape of Cordoba

Reference 30 - 0.16% Coverage

¶49: intends to improve and modify the scale of evidence in the virtual reconstructions created by Tayfun Oner for the Byzantium 1200 project team. In the article the scale has been analysed, reducing its number of levels and modifying its chromatic gradation to improve its perception. For this purpose, the original scale and the modified scale have been compared in three different three-dimensional models

Reference 31 - 0.07% Coverage

¶49: it is aimed at been established as a common scale within the scientific community.

¶50: Investigation of Burmese lacquer methods: Technical examination of the V&A Burmese shrine

Reference 32 - 0.29% Coverage

¶51: The samples were studied mainly as cross-sections by visible and ultraviolet microscopy, and additional spectroscopic techniques were performed when necessary. Duplicate samples from the same locations were sent to the Getty Conservation Institute (Los Angeles) to be analysed by pyrolysis gas chromatography mass spectroscopy (THM-py-GC/MS) and preliminary results by this technique are discussed here along with the microscopy results. Our findings show relevant differences in the stratigraphy of many of the shrine's parts, and using these differences we suggest a tentative grouping of the parts at the end of this article.

¶52: Synthesis, properties and uses of chromium-based pigments from the Manufacture de Sèvres

Reference 33 - 0.36% Coverage

¶53: Chromium (Cr) is at the origin of a wide variety of coloration (green, pink and brown) in porcelain glazes from the French Manufacture de Sèvres. This element was introduced for the first time at the factory in 1804, just a few years after its discovery by Louis-Nicolas Vauquelin. Pigments for glazes were developed at the laboratory of the factory, leading to a palette of 76 references. While the synthesis protocol and the nature of the precursors of these pigments are kept in laboratory notebooks, the products have never been fully studied. In this work, the pigments composed of Cr were characterized by X-ray diffraction (XRD), UV-visible spectroscopy and X-ray absorption near edge structure spectroscopy (XANES). The analyses reveal the presence of common crystalline phases, and open new perspectives for the synthesis of pigments containing chromium at the Manufacture de Sèvres.

Reference 34 - 0.05% Coverage

¶54: Comparative assessment of mechanical, chemical and electrochemical procedures for conservation of historical lead

Reference 35 - 0.79% Coverage

¶55: Lead has a good resistance to atmospheric corrosion because it forms adherent, uniform and protective layers which prevent the corrosion advancement. Nevertheless, the exposure to the

acetic and formic acids – emitted by wood and other materials used in museums' showcases, cabinets and storehouses – induces a corrosion process which can damage the surface of the objects. In order to improve their conservation, restorers apply different conservation treatments which depends on the degree of corrosion, the products formed, the skills of the conservator and the access to specific equipment, if is required. With the aim of evaluating the impact of successive conservation treatments on lead surface and assessing their efficiency, four usual treatments for lead were selected and six cycles of alteration and treatment were carried out. The assessed procedures were mechanical cleaning (suspension of CaCO3), chemical cleaning (immersion on EDTA solution) and two electrochemical treatments (potentiostatic reduction, and potentiostatic reduction followed by passivation). The samples were characterized before and after each treatment with gravimetry, colorimetry, rugosimetry, scanning electron microscopy (SEM) and X-ray photoelectron spectroscopy (XPS). The effects observed on lead coupons depended on each treatment procedure. The mechanical cleaning with CaCO3 produced a significant mass loss and it left an irregular surface due to the granulometry of the abrasive. Additionally, it experienced a fast re-alteration. Chemical cleaning with EDTA produced moderate mass and gloss losses due to the etching of the metallic surface after successive cycles. However, the color of the samples was the closest to the original one. Finally, the electrochemical reductions produced a scarce mass loss and a slow re-alteration, although they produced crystalline deposits on the surface which modified the color of the coupons towards bluish hues.

¶56:
Reference 36 - 0.05% Coverage

¶58: The measurement of maximum water content (MWC) on waterlogged archaeological wood: A comparison between three different methodologies

Reference 37 - 0.75% Coverage

¶59: The analyses to determine the state of preservation of waterlogged archaeological wood follow three different directions: anatomical analyses, physical evaluation and chemical characterisation. Physical parameters (densities and moisture content) are the ones most frequently found in the specialised literature. The measurement of moisture content is normally referred as maximum water content (MWC) in the case of archaeological wood in waterlogged conditions, because wood has been long-time preserved by the lack of oxygen in waterlogged conditions. Aim of the paper is the comparison of three pre-measurement treatments in the calculations of MWC: without any vacuum-pressure treatment, after 300 mbar vacuum pressure and after 50 mbar impregnation in water. The evaluations were performed on 240 samples of waterlogged archaeological wood coming from different excavation sites and including different wood species (both hardwoods and softwoods) in different state of preservation, from low to very high decay. The three tested methodologies to measure the maximum water content on waterlogged archaeological wood provided substantially equivalent results. Nevertheless, a deeper analysis of the results showed that the MWC values of 300 mbar impregnations were rather low compared to MWC standard measurements. Thus, this impregnation was a little bit harsher, causing most probably an anatomical damage on a portion of most degraded samples. The opposite result was obtained after the 50 mbar impregnation procedure. In this case, the MWC values were slightly higher. This means that this treatment seemed to be more effective in subtracting even the smallest air bubbles trapped inside waterlogged archaeological wood samples. Some suggestions on how to measure MWC on waterlogged archaeological wood are detailed at the end of conclusions.

Reference 38 - 0.07% Coverage

¶60: Study of nitrate contaminated samples from a historic building with the hygroscopic moisture content method: Contribution of laboratory data to interpret results practical significance

Reference 39 - 0.13% Coverage

¶61: The assessment of moisture and soluble salt sources affecting the masonry materials of a historic building located in the Old Town of Prague triggered the present experimental research focused on the use of the hygroscopic moisture content (HMC) method for the evaluation of nitrate salts in building materials

Reference 40 - 0.61% Coverage

¶61: The HMC method combined with ion chromatography (IC) was used to investigate the nature and amount of soluble salts in the specimens. Nitrates were generally found in a high content and located at high levels (ca. 3 m height) in the walls. The IC results and the generalised surface wetting observed on-site led us to infer that nitrocalcite was one of the main salts present. The results obtained instigated a laboratory study with the HMC method to assess the hygroscopic behaviour of single nitrate salts and salt mixtures. The selection of single salts and the design of the salt mixtures was based on the IC data of the selected historical materials' samples aiming at replicating their hygroscopic behaviour. The results of the case study indicated that the rehabilitation strategy implemented reduced the rising damp phenomena, but that the choice of the type of mortar coats may have contributed to drawing existing moisture (and salts) to higher levels in the walls. The evaluation of the hygroscopic behaviour of samples with the HMC method at a range of RH provided a better understanding of the on-site behaviour of the salt-contaminated materials in the building. The results of the laboratory study showed that the salt mixtures prepared simulated well the hygroscopic behaviour of the building samples.

¶62: Lime-based injection grouts with reduced water content: An assessment of the effects of the water-reducing agents ovalbumin and ethanol on the mineralogical evolution and properties of grouts

Reference 41 - 0.50% Coverage

¶63: Non-structural lime-based injection grouts with reduced water content were designed for the stabilisation of delaminated plasters in water-sensitive contexts. Two water reducing components were considered: (i) ethanol, as a partial substitute for water, being a less effective solvent for ionic substances, (ii) ovalbumin, a protein found in egg white (it is a water-reducer and air-entrainer). The influence of ethanol and ovalbumin on grouts was assessed in terms of its effect on chemical reactions and formation of phases, the internal structure of the set binders and porosity, through a combination of X-ray powder diffraction coupled with quantitative phase analysis by means of the Rietveld method, scanning electron microscopy with EDS microanalysis and X-ray micro-computed tomography. Water vapour permeability, capillary water absorption and mechanical strength of the materials were tested with standard methods. The results show that both ethanol and ovalbumin affect formation of phases, grout internal structure and porosity, and thus other related physical–

mechanical properties. The grouts designed have properties that allow their potential for in situ implementation, with the advantage of water reduction.

Reference 42 - 0.04% Coverage

¶64: Is nano-TiO2 alone an effective strategy for the maintenance of stones in Cultural Heritage?

Reference 43 - 0.70% Coverage

¶65: TiO2-based nanocoatings have been becoming more and more widespread during last years in Cultural Heritage: they seem to be able to keep stone surfaces self-cleaned and to prevent the formation of biofouling. However, the efficiency of these coatings is strongly dependent on the substrate (i.e.: porosity and roughness) and on the amount of TiO2. Thus, this study experimentally investigates on the self-cleaning and anti-biofouling efficiency of a nano-TiO2 dispersion (without any organic or inorganic additive) applied on six different types of natural stones (three limestones, two sandstones and one tuff) usually used in Cultural Heritage, where high porosity and roughness can be found and the TiO2 amount cannot be increased in order to avoid any chromatic variation of the substrate. Water was used as solvent so as to reduce the risk of exposition of hazardous materials and to eliminate any chemical action on stones. The self-cleaning power of the coating was evaluated by measuring its ability at discolouring organic dye Methylene Blue, while its anti-biofouling efficiency was assessed by an accelerated growth test under controlled climatic conditions of two algal microorganisms, namely Chlorella mirabilis and Chroococcidiopsis fissurarum. Results show that, even if the photocatalytic and biocide power of nano-TiO2 itself is well known in literature, its application for the maintenance of stones in Cultural Heritage does not seem to be an effective strategy, especially when stones are highly porous and rough. Roughness and porosity of stones, in fact, can limit the efficiency of TiO2, which is thus not able to powerfully keep the stone substrate cleaned or slow down algal proliferation.

Reference 44 - 0.04% Coverage

¶66: The biocalcarenite stone of Agrigento (Italy): Preliminary investigations of compatible nanolime treatments

Reference 45 - 0.43% Coverage

¶67: Nanolime is a promising consolidant for the conservation of most historic structures thanks to its high compatibility with carbonate-based substrates. Nanolime can recover the superficial cohesion of deteriorated surfaces thanks to its potential to complete the carbonation process, recreating a thin network of new cementing calcium carbonate. In this paper, the nanolime was produced by an innovative, time and energy-saving and scalable method, and its efficacy was tested preliminary on biocalcarenite stones from Agrigento. The stones characterization as well as the treatment effectiveness, in terms of protection against water and superficial consolidation, was investigated by several techniques such as X-ray fluorescence, X-ray diffraction, scotch tape test, water absorption by capillarity, mercury intrusion porosimetry, drilling resistance measurement system and colorimeter. Investigations showed that nanolime could guarantee a complete transformation in pure calcite together with a superficial consolidation and a reduction in water absorption.

Reference 46 - 0.03% Coverage

¶68: Biological colonization on stone monuments: A new low impact cleaning method

Reference 47 - 0.43% Coverage

¶69: In restoration and conservation practices, biocide treatments are considered one of the most practical approaches to remove biological colonization on artworks, including stone. Numerous studies have focused on the short- and long-term effects of these treatments and recently many alternative methods to reduce their potential hazards to human health and the environment have been proposed. In this study, a solvent gel containing dimethyl sulfoxide (DMSO), already used to clean paintings, was applied on colonized marble artifacts at the monumental cemetery of Bonaria (Cagliari – Italy) to remove biological patinas. The protocol efficiency was evaluated by scanning electronic microscopy, rugosimetric and colorimetric measurements and growth tests. A comparative study also was performed to validate the method using biocides currently used in conservation. The results demonstrate that DMSO solvent gel is efficient at removing patinas on stone, of low impact, easy to use, inexpensive and can be considered a more practical alternative to biocide treatments.

Reference 48 - 0.04% Coverage

¶70: Disinfection of ancient paper contaminated with fungi using supercritical carbon dioxide

Reference 49 - 0.44% Coverage

¶71: The aim of this study was to investigate the application of supercritical carbon dioxide (SCCO2) to ancient paper contaminated with fungi. For this purpose, SCCO2 was applied in two processes to treat samples of paper pieces: addition of 4% and 8% ethanol (w/w) at a pressure of 150 bar and temperature of 40 °C for 1 hour. Control samples (no processing) and processed samples were directly plated onto culture media to evaluate the frequency of fungal growth. Morphological and molecular analysis of the 294 samples showing mold growth on paper revealed that Aspergillus niger, Aspergillus flavus, and Eurotium amstelodami were the most frequently isolated fungi. In the control group, 47.6% of the samples were contaminated with fungi. This percentage was only 1.9% after treatment with both processes. The difference between unprocessed control samples and samples treated under the two conditions was statistically significant ($P < 0.1$) for a confidence interval of 90%.

¶72: New methodology for the assessment of cleaning treatments. Applications of photogrammetry for restoration

Reference 50 - 0.42% Coverage

¶73: The development of new technologies in recent years, together with their cost reduction, have fostered their use in different fields such as Cultural Heritage. Likewise, new software and easy accessibility, either through trial versions or due to open-source software, have endorsed their establishment as essential tools in our everyday life. In this paper, a new methodology based on

photogrammetry is proposed for the assessment of cleaning treatments. A set of wall painting fragments was the subject of study. By generating and comparing the photogrammetric model of the fragment before and after the cleaning treatment, this methodology enabled to determine those areas in which the treatment had been more effective – thus removing a higher quantity of dirt – and, on the other hand, those areas in which the treatment had not performed well – and the surface had been left intact. Therefore, photogrammetry offers a low cost, portable and simple solution for objectively assessing the efficacy of a cleaning treatment.

Reference 51 - 0.07% Coverage

¶74: How traces of pollutants in the environment modify bioremediation efficiency performed with Desulfovibrio vulgaris, and the advantage of an optimization protocol using soft chemicals

Reference 52 - 1.21% Coverage

¶75: In recent years, Desulfovibrio vulgaris has been used to clean marble statues affected by gypsum black crusts. Many studies showed that “biocleaning” is very selective: chemical-cleaning products cannot distinguish the decay product, which has to be eliminated, from the original stone that must be fully preserved. Besides, they may cause direct and indirect damage to limestone artefacts. Instead, Sulphate Reducing Bacteria (SRB), as D. vulgaris, are able to remove just the decay matter. D. vulgaris uses SO_4^{2-} ions (gypsum constituent) in its own respiratory chain; while, it does not interact with the calcium carbonate layer underneath because it does not need carbonate ions for its catabolism. However, “biocleaning” shows a large variability in the efficiency depending on the environment. If the cleaning results are not consistent, “biocleaning” cannot become an alternative cleaning method. Therefore, it is extremely important to uncover the reasons behind these differences, and to identify possible strategies to overcome the problem. The large variability of efficiency of “biocleaning” can be explained by the close relationship between the bacterial community and pollutants previously entrapped in the substrate. The aim of this work is to ascertain this hypothesis and identify how the toxic effects of the inorganic pollutants could be mitigated to improve the efficiency of this new cleaning method. In order to identify which kinds of pollutants were present and how they interact with the bacterial community during “biocleaning”, two different steps have been carried out. The first step consists in an environmental/ecotoxicological study that characterized the substrate and proves if inorganic pollutants could affect the bacterial survival. Toxic heavy metals (i.e. Pb > Zn > Cu) were found into the chalky matrix by ICP-AES and ICP-MS analyses and the followed toxicological kinetic studies demonstrated that they reduced the bacterial growth and activity. The second step consists of an optimization of the in situ bioremediation protocol, to create a better condition for the “biocleaning” application. A soft chemical pre-treatment was performed before the bacterial application using Tween 20 surfactant. Tween 20 (non-ionic surfactant) was able to reduce the adverse effects of pollutants, decreasing their superficial amount. Moreover, the method did not influence bacterial growth and activity since it did not have superficial charges and it did not change the pH value of the surroundings. This work proves that inorganic pollutants present in the gypsum decay layer can drastically reduce the bacterial growth and, at the same time, they decrease heavily the bioremediation efficiency. This study provides a soft chemical optimization strategy, helping to overcome the problem and to improve the “biocleaning” efficiency.

¶76: Characterization of airborne particulate matter and microbes inside cultural heritage collections

Reference 53 - 0.76% Coverage

¶77: Measurements of airborne particulate matter mass concentration, mass size distribution, chemical speciation and microbial levels were performed in two museums and a library in Greece over a two-year period. The three cultural heritage sites were located in different environments [coastal (Heraklion), urban (Athens) and mountainous (Zagori)], and their collections consist mainly of organic materials. Particulate mass size distribution measurements (PM10) (cut-off diameters at 10, 9, 5.8, 4.7, 3.3, 2.1, 1.1, 0.7 and 0.4 μm) were performed inside the museums in conjunction with measurements of viable, cultivable microorganisms in air (heterotrophic bacteria, autotrophic chemolithotrophic bacteria, bacteria with metabolizing capabilities for exhibited organic materials, gelatin hydrolyzing bacteria, acid producing bacteria and fast growing fungi). The particulate matter measurements showed a variability, which was related to outdoor particle concentrations, indoor environmental conditions, infiltration rates and to indoor activities. The PM2.1 fraction of the PM10 mass had a value close to 0.6 indicating a significant outdoor origin. Chemical analysis (ions, carbonaceous material and metals) of particulate matter revealed that ions and organic carbon comprised the major part of the particle mass. Elevated concentrations of Fe, Al-rich and soluble particles were measured indoors in the three sites. An enrichment of bacteria with metabolizing capabilities for bone, parchment, woolen fabric, gelatin, and cellulose was encountered indoors in the cultural heritage sites studied as well as inside closed showcases. An indication of seasonal variations of the airborne microbial load was observed in the three cultural heritage collections. In addition, there were differences in the measured microbial load, indoors, inside the showcases and outdoors.

¶78:
Reference 54 - 0.30% Coverage

¶79: For such a purpose, the authors take advantage of the installed extensive building management system (BMS), which is able to record detailed data about flow rates (of air and water), temperature and humidity for all of the key devices of the HVAC system. The building used as a case study is very significant because of its energy intensive intended use as well as for the very strict preservation orders acting on it. In particular, global primary energy savings equal to 36% have been calculated, if compared with a traditional baseline HVAC system.

¶80: A parametric method to assess the energy performance of historical urban settlements. Evaluation of the current energy performance and simulation of retrofit strategies for an Italian case study

Reference 55 - 0.22% Coverage

¶81: Given the use of the energy performance certificates (EPC) per each building was not feasible, a parametric approach was applied to the entire cluster to determine the town's baseline consumption and to test energy retrofit scenarios. This parametric energy calculation method, coherent to the Italian National legislation, was calibrated thanks to a bottom-up approach, allowing the calculation of the building's performance by surveying limited data, therefore easing the entire process and optimizing the Municipality's limited financial resources

Reference 56 - 0.01% Coverage

¶83: and scientific uses.

Reference 57 - 0.54% Coverage

¶89: The degradation assessment can be used in tuning parameters of processing algorithms, selecting the proper algorithm, finding damaged or exceptional documents, among other applications. In this paper, the first dataset of degraded document images along with the human opinion scores for each document image is introduced in order to evaluate the image quality assessment metrics on historical document images. In this research, human judgments on the overall quality of the document image are used instead of the previously used OCR performance. Also, we propose an objective no reference quality metric based on the statistics of the mean subtracted contrast normalized (MSCN) coefficients computed from segmented layers of each document image. The segmentation into four layers of foreground and background is done on the basis of an analysis of the log-Gabor filters. This segmentation is based on the assumption that the sensitivity of the human visual system (HVS) is different at the locations of text and non-text. Experimental results show that the proposed metric has comparable or better performance than the state-of-the-art metrics, while it has a moderate complexity. The developed dataset as well as the Matlab source code of the proposed metric is available at http://www.synchromedia.ca/system/files/VDIQA.zip.

¶90:
Reference 58 - 0.07% Coverage

¶93: This paper provides an overview of the technologies for the removal of rising damp and a state-of-the-art on the results so far obtained by research, both in laboratory and on-site.

¶94:
Reference 59 - 0.29% Coverage

¶100: experimental research in laboratory, on scale models and on-site. Both traditional methods, such as chemical injection, and more recent techniques, such as the so-called “electro-physical” methods have been investigated. [2]

¶101: The following results of the EMERISDA project are presented in this paper:

¶102: Results from on-line questionnaire.

¶103: Definition of an experimental procedure for the assessment of the presence of rising damp and of the effectiveness of the intervention.

¶104: Prototype of decision support tool, which provides insight into the feasibility and risks of existing methods against rising damp and supports actors involved in conservation in the choice and application of the methods against rising damp.

Reference 60 - 0.03% Coverage

¶105: Are electrokinetic methods suitable for the treatment of rising damp?

Reference 61 - 0.22% Coverage

¶106: Several companies offer nowadays such a solution, in the form of so-called ‘electrokinetic’ methods. Within the research project EMERISDA (www.emerisda.eu) (Effectiveness of Methods against Rising Damp), on-site measurements have been carried out on more sites, in order to evaluate their effectiveness. On one of the sites, the effectiveness of such an electrokinetic method has been compared to more conventional injections of water repellent agents.

¶107: Efficiency evaluation of treatments against rising damp by scale models and test in situ

Reference 62 - 0.15% Coverage

¶108: Within this framework, the JPICH Project “Effectiveness of methods against rising damp in buildings: European practice and perspective – EMERISDA” (2014–2017) aimed at a scientifically based evaluation of the effectiveness of different methods against rising damp and at decision support tool definition for a conscious choice use of these methods in the practice of conservation.

Reference 63 - 0.13% Coverage

¶108: During the present paper the methodology adopted on site for the evaluation of the efficiency of methods aiming at stopping/limiting rising damp on masonries is described. Specifically, results concerning the treatments on masonries with chemical injections (solvent and water based) and with plasters application on scale models

Reference 64 - 0.06% Coverage

¶109: Does electro-osmosis work in moisture damage prevention? Applicability of infrared-based methods to verify water distribution under electric fields

Reference 65 - 0.63% Coverage

¶110: In the recent years electro-osmosis drying devices applied to walls in both modern and historic masonry has become one of the leading innovative techniques to prevent damages caused by capillary rising water in building materials. Since the scientific community is raising many doubts on these techniques, the authors aim to propose a fast, simple, noninvasive and economic method to evaluate the dehumidification process specimens of the most used building materials. The paper presents a procedure to monitor water content in different specimens of the most used building materials (e.g. brick, mortar and plaster) and verify any kind of possible effect of electro-osmosis on water diffusion, above all drying kinetic. The procedure is based on the measure of water content and drying behaviour with and without the application of electrostatic fields with the traditional gravimetric method, infrared thermography and optical reflectance in the 940–980 nm with a high sensitivity avalanche photodiode. This allowed us to visualize the surface water content gradient of different building materials. Using different voltage values between tow electrodes coupled with the material under examination, we observed no variation in water distribution inside the material nor any difference in evaporation phenomena. For strong electric field values (V > 150 V/m), compared to those normally used in electro-osmosis dehumidification, we measured mainly the heating caused by the Joule effect due to the intrinsic ion's distribution inside the material.

Reference 66 - 0.05% Coverage

¶111: Assessment of the effectiveness of a dehumidification system by emission of electromagnetic fields: Proposal of a protocol

Reference 67 - 0.04% Coverage

¶112: New test methods to verify the performance of chemical injections to deal with rising damp

Reference 68 - 0.18% Coverage

¶113: Research was performed in order to establish a method to evaluate the effectiveness of injection methods in a simple and quick way, both for assessing performance in practice and for use in laboratory. Interesting side effect of the research program was that also several essential parameters, influencing the effectiveness of chemical products, became evident. In this article, focus will be on the quick assessment method for practice.

¶114:
Reference 69 - 0.42% Coverage

¶115: Moisture transfer in walls of old buildings, which are in direct contact with the ground, leads to a migration of soluble salts responsible for many building pathologies. We know that many of the techniques currently used to reduce rising damp are not much effective, when dealing with walls of considerable thickness and heterogeneous materials, as is the normal case of historic constructions. Bearing this in mind, a new technique to treat rising damp in historic constructions has been developed and patented in Portugal. The technique consists of ventilating the base of walls through a natural ventilation process or by installing a hygroregulated mechanical ventilation device. The process of development and validation of this new technique will be presented as well as the most recent studies to improve it. A detailed presentation of the diagnosis, design and works made on a historic building in the north of Portugal, will be done. Some system limitations and some corrections that needed to be performed will also be presented.

Reference 70 - 0.48% Coverage

¶117: which works with electromagnetic waves. The monitoring activities were carried out simultaneously and independently by Ecodry Italia and the University, under the supervision of both Superintendence (administrative architectural heritage body) and Curia (religious administrative body). During the days agreed for monitoring, measurements were taken independently by both parties in the same points with different equipment. There were four types of moisture measurements: environmental, superficial (Electrical Resistance method), sub-superficial (Electrical Capacitance method) and deep measurements (Gravimetric method). The paper includes the results of the moisture monitoring performed from 2012 to 2016. During the monitoring process, 6 survey campaigns were carried out, which, each time, investigated the same points and parameters to obtain values comparable to each other, in order to evaluate the actual effectiveness of the installed devices. The case study revealed critical issues regarding the structure of the Abbey that should have discouraged the choice of the dehumidification equipment and that inevitably reflected negatively on the outcome of the monitoring.

Reference 71 - 0.11% Coverage

¶117: It is therefore not possible to deduce, from such a complex case, a univocal result that proves that the installed dehumidification system is effectively decreasing the amount of moisture present in the walls of the Abbey of St Matteo, hall, and the room under the crypt.

Reference 72 - 0.02% Coverage

¶124: Automatic pigment identification from hyperspectral data

Reference 73 - 0.45% Coverage

¶125: Recently, the hyperspectral imaging has emerged as a promising measuring methodology for this kind of the artwork analysis; the combination of acquiring spectral information and planar (photography-like) pixel arrangement provides a lot of potential for material characterization. While initial studies of hyperspectral imaging application to art objects analysis are encouraging, the difficulties of working with its multidimensional data are acknowledged; in many cases complex algorithms are required to fully utilize its potential. In this paper, we study the problem of algorithm design for pigment identification based on a hyperspectral image of a painting. We combine various processing steps to achieve a robust solution requiring minimal user intervention. Using a special set of paintings and a reference pigment database we demonstrate the viability of applying this method in the pigment recognition setting. Our results confirm the potential of using hyperspectral imaging in the art conservation setting, and based on them we discuss the potential construction and elements of such an algorithm.

¶126:
Reference 74 - 0.07% Coverage

¶127: To create n system to aid in the analysis of art history by classifying and grouping digitized paintings based on stylistic features automatically learned without prior knowledge.

Reference 75 - 0.74% Coverage

¶129: 6,776 digitized paintings from eight different artistic styles (Art Nouveau, Baroque, Expressionism, Impressionism, Realism, Romanticism, Renaissance, and Post-Impressionism) were utilized to classify (predict) and cluster (group) paintings according to style. The method of unsupervised feature learning with K-means (UFLK), inspired by deep learning, was utilized to extract features from the paintings. These features were then used in: a support vector machine algorithm to classify the style of new test paintings based on a training set of paintings having known style labels; and a spectral clustering algorithm to group the paintings into distinct style groups (anonymously, without employing any known style labels). Classification performance was determined by accuracy and F-score. Clustering performance was determined by: the ability to recover the original stylistic groupings (using a cost analysis of all possible combinations of eight group label assignments); F-score; and a reliability analysis. The latter analysis used two novel ways to determine the distribution of the null-hypothesis: a uniform distribution projected onto the principal components of the original data; and a randomized, weighted adjacency matrix. The ability to gain insights into art was tested by a semantic analysis of the clustering results. For this purpose,

we represented the featural characteristics of each painting by an N-dimensional feature vector, and plotted the distance between vector endpoints (i.e., similarity between paintings). Then, we color-coded the endpoints with the assigned lowest-cost style labels. The scatter plot was visually inspected for separation of the paintings, where the amount of separation between color clusters provides semantic information on the interrelatedness between styles.

Reference 76 - 0.34% Coverage

¶130: The UFLK-extracted features resembled the edges/lines/colors in the paintings. For feature-based classification of paintings, the macro-averaged F-score was 0.469. Classification accuracy and F-score were similar/higher compared to other classification methods using more complex feature learning models (e.g., convolutional neural networks, a supervised algorithm). The clustering via UFLK-extracted features yielded 8 unlabeled style groupings. In six of eight clusters, the most common true painting style matched the cluster style assigned by cost analysis. The clustering had an F-score of 0.212 (no comparison painting clustering method is available at this time). For the semantic analysis, the featural characteristics of Baroque and Art Nouveau were found to be similar, indicating a relationship between these styles.

Reference 77 - 0.15% Coverage

¶131: The UFLK method can extract features from digitised paintings. We were able to extract characteristics of art without any prior information about the nature of the features or the stylistic designation of the paintings. The methods herein may provide art researchers with the latest computational techniques for the documentation, interpretation, and forensics of art

Reference 78 - 0.03% Coverage

¶133: A high-precision photogrammetric recording system for small artifacts

Reference 79 - 0.45% Coverage

¶134: Archaeologists, preservationists, and many other researchers have increasingly turned to photogrammetry as an alternative to optical 3D-scanning hardware. The technology is sufficiently new that researchers have only begun to establish the protocols and standards. This article presents a simple yet rigorously controlled method for 3D modeling small artifacts ca. 5–10 cm across. The specimen is rotated on a turntable to facilitate photography, and artificial lighting creates an even illumination throughout the resulting models. A masking technique allows a full 360° view of the object to be restored simultaneously, eliminating the need for aligning and merging partial scans or other post-processing. Repeatability tests of the resulting models indicate high precisions and accuracies that exceed those reported previously for photogrammetric modeling in the literature. The method can match the accuracy typically attained by commercial optical scanning systems.

¶135: Minimizing the adverse effects of bias and low repeatability precision in photogrammetry software through statistical analysis

Reference 80 - 0.35% Coverage

¶136: While photogrammetry is widely implemented in fields such as archaeology and cultural heritage, the accuracy of this method has yet to be fully addressed. It is imperative that digital photogrammetry models depicting sites of cultural heritage have accurate dimensions to avoid misunderstandings and incorrect analysis. This paper outlines a new method for minimizing the adverse effects of bias and low repeatability precision in photogrammetry software. Specifically, this paper quantitatively addresses the effects of systematic error during scaling of digital photogrammetry models as well as the random error due to a repeatability issue inherent to photogrammetry software. The method was developed using statistical analysis and robust uncertainty calculations and validated through multiple case studies.

¶137: Metastructure of illuminations by infrared thermography

Reference 81 - 0.54% Coverage

¶138: In this work, the capability of Infrared Thermography to characterize in a non-destructive way the main features of illuminated manuscripts has been assessed. It has been shown how this technique can be exploited for a general investigation of the book materials, structure and decorative apparatus, providing information on the manufacturing method, the preservation state and the changes operated throughout the history of the artefact. The used thermographic approach provided infrared images which show also the non-visible surface and subsurface elements that constitute the illumination metastructure, intended as the structure of the entire pictorial system. A number of aspects, like the verification of the adhesion state of the gold leaf, the recovery of the pentimenti, the detection of metal foil residues and the characterization of the damage produced by fungi and bacteria have been studied. For each of the investigated features an interpretative model accounting for the infrared emission processes responsible of the thermogram generation has been proposed. Moreover, for every studied aspect, it has been shown how, based on the thermographic results, other complementary analyses can be directed like Infrared Reflectography, Scanning Electron Microscopy, X-ray Fluorescence and the Energy Dispersion Spectroscopy

Reference 82 - 0.07% Coverage

¶138: since the wide spectrum of the employed materials and the complexity of the structural changes operated during its history by extensive restoration make it a valid test-bed.

Reference 83 - 0.06% Coverage

¶139: An interdisciplinary approach to studying archaeological vase paintings using computed tomography combined with mineralogical and geochemical methods

Reference 84 - 0.18% Coverage

¶140: However, by combining X-ray methods, particularly computed tomography (CT) and related 3D surface renderings, with mineralogical and geochemical methods (SEM-EDS, XRD) and stylistic arguments, we have arrived at a new interpretation. The CT data revealed a feature directly beneath the unpainted circular area that was shaped like an angular plug and had similar structural properties and attenuation coefficients as the surrounding clay matrix

Reference 85 - 0.30% Coverage

¶140: One advantage of this method, particularly for vase collections, is that CT is a non-invasive technique that collects data from the entire ceramic body, which in combination with geoscience methods such as SEM-EDX and XRD allows for minimally invasive analysis that can strengthen the X-ray-based evaluation. Therefore, we contend that integrating CT data combined with mineralogical and geochemical data into pottery studies will open new avenues for the study of ancient vase painting, particularly for interpreting unpainted areas and other irregularities within black-glazed silhouette figures.

¶141: Investigation on the chemical structure and ageing transformations of the cycloaliphatic epoxy resin EP2101 used as stone consolidant

Reference 86 - 0.42% Coverage

¶142: The commercial cycloaliphatic epoxy resin EP2101, frequently used as a structural stone strengthening agent in monuments, was tested to ascertain the related chemical nature, the mechanisms involved in the polymerization reaction and the stability under degradative environments. After a preliminary chemical characterization in the laboratory by means of GC/MS and FTIR, the resin was applied by brushing to the surface of veined Carrara marble and Vicenza white limestone specimens, and subjected to three different typologies of degradation: natural weathering, artificial accelerated ageing and resistance to mould growth. The resin's stability was monitored by microscopic observations, FTIR and SEM-EDX analysis, colorimetric and water absorption measurements. The results prompted a number of considerations, which were confirmed by those obtained from the examination of samples taken from a granite column in Murano (Venice) and a laboratory specimen of Proconnesian marble, treated in 1985 and 1984 respectively.

Reference 87 - 0.06% Coverage

¶143: A multi-analysis characterization of medieval and vernacular coating mortars in rural Valencia (Spain): An experimental study for a Heritage Action Plan

Reference 88 - 0.19% Coverage

¶144: Almost all the façades of rural vernacular constructions were rendered in order to protect and decorate the masonry walls. Therefore, this study has been carried out in order to identify and classify the different vernacular techniques for producing mortar over history in a given geographical region through the combination of petrophysic, chemical and organoleptic analysis, going on to classify and date constructions for which there were no recorded data.

Reference 89 - 0.33% Coverage

¶144: The results show that mortars do indeed contain a wealth of information, which situates these constructions in a specific period of history and allows relationships to be established between construction stages and techniques. The results have also demonstrated that mortars are mainly composed of lime rather than gypsum as was erroneously assumed before the study. So, the

determination of components and techniques has been considered a crucial aspect to be taken into account when working on the conservation, of contemporary aesthetic interventions for which the combination of petrophysical, chemical and organoleptic analysis is necessary to guarantee compatibility between existing mortars and new ones.

¶145: Experimental investigation on physical and mechanical properties of lime mortar: Effect of organic addition

Reference 90 - 0.47% Coverage

¶146: Influence of organic addition in the lime matrix on its mechanical and physical properties has been investigated. Results revealed that addition of organics in the lime matrix enhances the mechanical properties of the mortar significantly as it improves the binding strength between two consecutive lime particle in the mortar. Physical property results reveal loading of organics in the lime mortar decreases the pore size due to formation of weddellite element in the lime mortar, which fills the gap between two consecutive lime particle in the mortar. Results also reveal that the addition of organics does not reducing total porosity due to formation of large numbers of smaller size pores in the lime mortar. However, addition of organics enhances the strength of mortar. Curing studies reveal that mortar with higher curing days enhances the compressive strength of composites while lower curing reduces the performance of mortar due to lower carbonation rate. X-ray diffraction and FT-IR analysis has been used to confirm the new element formation in the organically modified lime mortar due to interaction of protein and carbohydrate with lime particle.

Reference 91 - 0.04% Coverage

¶147: A scientific investigation of five polymeric materials used in the conservation of murals

Reference 92 - 0.55% Coverage

¶148: Since 1950s, polymeric materials, such as polyvinyl acetate, polyvinyl alcohol, polyacrylates, silicone-acrylate copolymers and gelatin have been used as adhesion and consolidation agents for repairing the damages of flaking, powdering, disruption and paint loss on the murals. However, the scientific investigation of physicochemical properties and conservation efficiencies of these polymeric materials, which are quite crucial for the on-site evaluation of the previous conservation treatments and the long-term preventive preservation and monitoring of the works of art in the future, has not been fully performed yet. In this paper, we report the results of fully scientific investigation of these polymeric materials, using Fourier Transform Infrared Spectroscopy, Differential Scanning Calorimetry, Gel Permeation Chromatography, Scanning Electron Microscopy analyses, and viscosity, strength, pH, nonvolatile matter tests, as well as water vapor permeability and surface wettability evaluation. The results show that polyacrylates, silicone-acrylate copolymers and gelatin, compared with polyvinyl acetate and polyvinyl alcohol exhibit better physicochemical and conservative properties, less affecting or changing the nature of murals. The data obtained will be helpful for the formal documentation of conservation materials used in Mogao Grottoes.

¶149:
Reference 93 - 0.05% Coverage

¶150: Investigation of the foil structure and corrosion mechanisms of modern Zwischgold using advanced analysis techniques

Reference 94 - 0.33% Coverage

¶151: We present a comprehensive material analysis of Zwischgold models through advanced characterization techniques including focused ion beam coupled with scanning electron microscopy (FIB-SEM), transmission electron microscopy (TEM), scanning transmission X-ray microscopy (STXM), time-of-flight secondary ion mass spectrometry (TOF-SIMS) and Rutherford backscattering spectrometry (RBS). Complementary information on the foil thickness, sharpness of the gold-silver interface, gold purity, and the formation as well as distribution of corrosion products on Zwischgold models have been obtained, representing a starting point for understanding the morphology and the long-term chemistry of Zwischgold artefacts.

¶152: Dimensional stability and hygroscopic properties of PEG treated irregularly degraded waterlogged Scots pine wood

Reference 95 - 0.60% Coverage

¶153: The study concerns the conservation problem of large scale elements of irregularly degraded archaeological wood being characterized by different susceptibility to agents responsible for wood consolidation and bulking. The conservation effectiveness was established for processes carried out with PEG solutions of different molecular weight with respect to dimensional stabilization, hygroscopic properties and the agent consumption. One of the investigated treatment options had concerned the application of PEG 2000, i.e. poorly studied variant of that type of consolidants. The analysis was performed for wooden elements from a Late Medieval road. The investigated artifacts were characterized by different anatomical structure and each of them included sapwood (SW) and heartwood (HW). Chemical, physical and sorption properties of SW and HW were first determined. A significant difference in the degree of degradation and the content of extractives in SW and HW was observed. The examined artifacts were then impregnated with five different PEG solutions. It was found that the highest anti-shrink efficiency (ASE) was obtained for one-stage PEG 2000 impregnation. The obtained data of sorption experiments showed that all applied impregnation options guaranteed safe exposure of wood in air relative humidity (RH) lower than 80%. Moreover, one-stage impregnation with PEG 2000 assured the lowest equilibrium moisture content (EMC) of wood, especially SW, at RH above 80%.

Reference 96 - 0.09% Coverage

¶165: This approach consists of four recent developments: Firstly, climates files. The availability of the hourly based, European, external future A1B climate data from the European FP7 Climate for Culture project.

Reference 97 - 0.05% Coverage

¶166: Practicing the geometric designation of sensor networks using the Crowdsource 3D models of cultural heritage objects

Reference 98 - 0.13% Coverage

¶167: Nowadays, there is a huge research work and literature about the use of laser scanning, computer vision and photogrammetry to turn cultural heritage objects into 3D digital models. These developed 3D models are used for cultural heritage documentation, conservation, restoration and virtual reality applications.

Reference 99 - 0.09% Coverage

¶167: However, practically there is a significant challenge to ensure a complete coverage of the object during the data acquisition and to fulfill the required geometric conditions to meet the needed precision and complete coverage

Reference 100 - 0.05% Coverage

¶167: in planning either a camera network or a laser scanner network to finally create a valid 3D model of a cultural heritage site.

Reference 101 - 0.05% Coverage

¶167: The scenarios for the sensor network planning is applied and a final 3D point cloud is re-created and lessons learned.

¶168:
Reference 102 - 0.09% Coverage

¶169: In this paper, the physical and chemical analysis of a large set of samples of local soils and masonry elements formed the basis for a discussion on raw materials and techniques originally used in the construction of those buildings

Reference 103 - 0.21% Coverage

¶171: Several non-destructive imaging techniques (photography, photogrammetry, digital radiography and 3D virtual reconstruction) have been used to study the original status of the artwork. The materials to produce the prosthesis to restore the sculpture, and the procedure to attach them with magnets and various adhesives, have been addressed in this study. Different theoretical models and simulations have been developed to help the restorer to select the most appropriate magnets and their optimal position.

Reference 104 - 0.03% Coverage

¶174: The use of erbium lasers for the conservation of cultural heritage. A review

Reference 105 - 0.44% Coverage

¶175: The characteristics of erbium lasers (Er:YAG) make them a promising tool for the conservation of cultural heritage, and yet they still remain less widespread than other lasers in this field. This review aims to summarise, compare and evaluate the results of case studies and experiments published so far about Er:YAG lasers for the cleaning of cultural heritage objects, such as paintings, stone, textiles, paper and plastics. The characteristics and cleaning mechanisms of Er:YAG lasers are presented. Research has focused on the application to painted surfaces and the damage threshold fluences of potentially sensitive pigments are summarised, along with those of organic substrates. The optimal irradiation conditions (fluence, wetting agent, pulse duration, frequency, etc.) for the removal of undesired surface layers, particularly varnishes, overpainting, encrustations and biological growth, are reviewed. This article also identifies the main achievements, limitations, potential applications and trends to foster research about the application of Er:YAG lasers in conservation.

Reference 106 - 0.08% Coverage

¶178: Analysis of heritage stones and model wall paintings by pulsed laser excitation of Raman, laser-induced fluorescence and laser-induced breakdown spectroscopy signals with a hybrid system

Reference 107 - 0.04% Coverage

¶183: Laboratory study of the sulfation of carbonate stones through SWIR hyperspectral investigation

Reference 108 - 0.60% Coverage

¶184: Stone-built Cultural Heritage is subjected to decay in urban environment over the centuries, due to surface interaction and reaction with natural atmospheric agents and, particularly in the last centuries, air pollutants. The Short wave Infrared (SWIR) characterisation of stone surface through portable instruments is attracting increasing interest in the field of Cultural Heritage. In this study, SWIR hyperspectral investigation of carbonate rocks, undergoing acid attack under laboratory conditions was performed with the aim of providing useful quantitative information on the degree of sulfation of the surfaces of carbonate stone. Six marble and six travertine specimens were attacked by aqueous solutions of H_2SO_4 at variable acid concentrations leading to the formation of gypsum. The reacted surfaces of stones were then investigated by a portable SWIR spectroradiometer. The resulting spectra were thus modelled through a full profile approach, in order to obtain a reliable and efficient fitting procedure. Thus, the SWIR characterisation of sulfated carbonate surfaces seems to be a promising, ready-to-use technique for monitoring the conservation state of carbonate stone monuments (e.g. facades, statues). This method could provide valuable support both for restoration practices and for continuous monitoring of stone alteration over time, when assessing the best strategy of intervention and conservation against sulfation processes of historical buildings.

Reference 109 - 0.44% Coverage

¶186: Stratigraphically, the oldest layer of paint which was applied to the facade walls of the Novo Celje Baroque Mansion contains substantial amounts of gypsum, as well as calcium carbonate and iron pigment. Microstructural, isotopic, and thermal analyses of facade samples were performed in order to exclude the possibility of an anthropogenic source of gypsum crystallisation, and to prove

that natural gypsum was used to prepare the original lime-gypsum suspension. This is because, in the exothermic process of quicklime hydration, natural gypsum is converted into ß-hemihydrate and then, after cooling of the suspension, this compound is converted back into gypsum. The technology which was used for the laboratory-level preparation of the investigated lime-gypsum suspensions is simple, efficient, and sustainable, and could thus be used instead of the more energy-consuming dehydration processes which are presently used in the industrial production of gypsum.

¶187: Consolidation of Vicenza, Arenaria and Istria stones: A comparison between nano-based products and acrylate derivatives

Reference 110 - 0.70% Coverage

¶188: Nano-based formulations are emerging as successful materials besides the use of conventional products for the consolidation of carbonate works of art e.g. stone, mortars or mural paintings. In this work, the physico-chemical characteristics, performances and consolidation efficacy in terms of external appearance of commercial NanoRestore Ca(OH)2 and NanoEstel SiO2 dispersions were investigated and compared with two commercial acrylates derivatives, Acril 33 and Acril ME. The colloidal stability of the different consolidants was investigated by dynamic light scattering (DLS) and centrifugal separation analysis (CSA) techniques. As expected, acrylate emulsions showed a higher colloidal stability than the inorganic nanoparticle dispersions, with sedimentation velocity from 10−4 to 10−2 μm/s. The examined consolidants were applied on three different stones, widely used in historical buildings in Venice: Vicenza, Arenaria and Istria stones, representing macro-, meso- and microporous materials, respectively. The absorption capacity, color and gloss variation of the different stone materials were comparatively evaluated after the consolidants application. An accordance among porous structure of the substrates, hydrodynamic particle size and amount of consolidants absorbed was observed for nano-based formulations. The weathering resistance under natural and UVB aging conditions were also investigated for the consolidated stone samples, and recorded as changes of color, gloss and surface morphology. NanoRestore and NanoEstel showed the best performances under the natural aging while the UVB irradiation seemed to not induce significant modification in the surface morphology of the treated stone samples.

Reference 111 - 0.45% Coverage

¶190: Wood samples from Huaguangjiao I were analyzed in order to evaluate the preservation state of the waterlogged wood. Samples were studied from the anatomical, physical and chemical point of view. Thin slides of cross and longitudinal sections from samples were observed by optical microscope, micromorphological decay was classified into class 3 or class 4 according to the anatomical characters. Water content and basic density were measured. Maximum water content (MWC) of the wood samples is between 300% and 600%, residual basic density is about 50%. The proportion of the α-cellulose decreased to 25% of the normal value, and the content of the ash increased greatly. These results indicate the degradation of the wood is very high. In addition, there is a plenty of inorganic deposit in the wood structure. The inorganic compounds deposited in wood samples were analyzed by XRD and ICP qualitatively and quantitatively. The morphology and composition of the inorganic deposit was characterized through SEM-EDS, the majority were iron sulfide, including pyrite and marcasite (FeS2), and fluorite (CaF2).

Reference 112 - 0.26% Coverage

¶194: The study will evaluate among various alternatives of bracing systems using numerical modelling techniques of computer software that applies Finite Element (F.E.) method. The research applies the numerical investigation to one of archaeological buildings in Cairo from Ottoman era, which is the “Sabil” of “Khusraw Pasha” (1535 A.D./942 A.H.). The timber x-bracing system provides remarkable results relative to rigid diaphragm and steel bracing for seismic retrofitting of historical timber roofs.

¶195: Seismic rehabilitation of cultural heritage masonry buildings with unbonded fiber reinforced elastomeric isolators (U-FREIs) – A case of study

Reference 113 - 0.56% Coverage

¶196: Linear and non-linear analyses are performed on the finite element models of the structure. From these analyses it is pointed out that the structure does not behave elastically in its existing condition even when subjected to the frequent design earthquake (81% probability of being exceeded over 50 years). Two traditional rehabilitation methods are studied: the placement of a rigid diaphragm which connects the top of the masonry walls only enclosing the church entrance area and the placement of a rigid diaphragm which connects the tops of all masonry walls. None of the traditional method is sufficient for the structure to survive basic design earthquake (10% probability of being exceeded over 50 years). Hence an advanced seismic retrofit solution using innovative carbon fiber reinforced elastomeric isolators is proposed. The proposed intervention consists in the installation of six Unbonded Fiber-Reinforced Elastomeric Isolators (U-FREI) and six Flat Surface Sliders (FSS) as passive protective devices besides the placement of a rigid diaphragm which connects the tops of all masonry walls. The process of installation of the devices is illustrated. The use of the proposed solution leads to a remarkable enhancement of the seismic response capacities of the structure; indeed a general elastic response under the Basic Design Earthquake (BDE) is attained.

¶197:
Reference 114 - 0.05% Coverage

¶199: Simplified evaluation of seismic vulnerability of Lisbon Heritage City Centre based on a 3DGIS-based methodology

Reference 115 - 0.46% Coverage

¶200: The paper presents a 3DGIS-based methodology to assess the building seismic vulnerability, based on geometric, structural and material properties for each building, with a focus on the Pombalino buildings. For that purpose, in the first step the data provided by national institutions were organized and stored in a GIS database and applied to build the 3D model, in a procedural modelling approach, and then a simplified seismic risk evaluation methodology was developed and applied to the heritage Lisbon city centre. The followed methodology proved to be very efficient at an urban scale, allowing an easy identification of the vulnerable buildings and the viewing of the surrounding geometries, assisting the interpretation of their spatial distribution. A more detailed study will imply the in situ data collection to calibrate the estimative of fundamental period and to identify structural changes against the officially registered, which are crucial to develop the real assessment of the seismic vulnerability.

¶201: Detecting voids within a historical building façade: A comparative study of three high frequency GPR antenna

Reference 116 - 0.73% Coverage

¶202: Ground penetrating radar is becoming an established component of the stone conservation researcher's arsenal. There is great potential in this quick and non-destructive technique that provides confirmation of deterioration features, such as voids, whose presence has been suggested using other tools. The past application of this technology has focused upon block scale stone deterioration, with less attention given to the study of features that extend across multiple blocks within the walls. The aim of this paper was to primarily to demonstrate the suitability of GPR for identifying void spaces when run across a rough surfaced wall façade. Additionally, this work aims to aid in the application of GPR for this purpose, by providing a comparison of three commonly used antennas to inform equipment choice during survey design. For this study, three high frequency antennas, 1.2 GHz, 1.6 GHz and 2.3 GHz, were run along the same perpendicular test lines across multiple blocks within a historical building façade. The resultant reflection profiles demonstrated that GPR can identify the presence of features within the blocks when run across a rough wall section. However, without the use of additional information from secondary data sources it is not possible to confirm the identity of features. The comparison of the three antennas, showed that the 1.6 GHz antenna was the least suited for this task, due to the presence of extensive ringing in the resultant reflection profiles. Alternatively, the 1.2 GHz antenna is most suitable for investigations deep within the wall and the 2.3 GHz better suits highly detailed analysis of features present within the near surface material. The choice of the most appropriate antenna depends upon the nature of the task it will be deployed for.

Reference 117 - 0.02% Coverage

¶205: Figure spotting in Indian heritage image

Reference 118 - 0.40% Coverage

¶206: Figure spotting is one of the important applications in the field of content-based image retrieval. With the recent advances in 3D shape analysis, Wave Kernel Signature (WKS), a kernel-based feature descriptor under the foundation of quantum mechanics performs well than the other kernel based feature descriptors. In this paper, we adopt the WKS as a 2D local patch descriptor for figure spotting. An effective search technique is developed to spot the regions of interest within an image for a given query image. We also use the classical feature descriptors such as scale-invariant feature transform (SIFT), speeded up robust features (SURF), and the histogram of oriented gradients (HOG) for figure spotting and compare their performances. The proposed technique is tested on a dataset which contains 594 images collected from two heritage temples. The performance of the proposed technique is measured using standard evaluation metrics and shows promising results of the proposed method.

Reference 119 - 0.02% Coverage

¶207: Mathematical modeling of oval arches.

Reference 120 - 0.19% Coverage

¶208: we approach the mathematical modeling of oval arches of n centers and we present an analytical study of their geometry given the expressions of the elements that define them and the tangency points as a function of span, sagita and the radius of the circumferences of which they are formed, using Mathematica software to perform interactive graphs and calculations. This allows to mathematically model an existing arch or to design the construction of a new one

Reference 121 - 0.03% Coverage

¶209: Architectural heritage semantic 3D documentation in multi-scale standard maps

Reference 122 - 0.64% Coverage

¶210: The recently evolved potentialities of information technologies and communication (standard data models, ontologies and formats, web technologies) permit the development of digital archives in which the information is also semantically specified in a shared and explicit way, so that it can be universally understood and correctly interpreted. However, some tools are missing for suitably archiving and communicating the architectural heritage information, including the representation potentialities of high-level-of-detail 3D models. A goal of this study is the suitable representation of both the thematic information about architectural heritage and its 3D geometric characteristics in an interoperable and understandable way. For this reason, the existing data models, available for the geometric and cartographic field, and for the cultural heritage domain, were considered. They are distinct standards, and some limits make them incomplete (in the spatial or semantic management). In this study, an extension is proposed of the standard data model CityGML to overcome these limits. CityGML is published by the Open Geospatial Consortium to represent urban objects and permits a multi-scale management of the information useful for the representation of architectural heritage multi-faceted, multi-temporal, complex knowledge. In the paper, the extension is described, and an example of its application on a portion of a highly detailed 3D model of a mediaeval church is presented.

¶211: ReVitAge: Realistic virtual heritage taking shadows and sky illumination into account

Reference 123 - 0.33% Coverage

¶212: In this project, the sun position and sky colour are simulated using Julian dating and Perez model respectively. The historical buildings are pre-created using LightWave 3D. An AR system is created using a new marker-less camera setting. The sky illumination is exerted on the virtual historical buildings using a Hemicube Radiosity technique. We have tested the proposed method on Portuguese Malacca heritage building (Melaka, Malaysia) in different places to reveal the auto-adjustment of the system in the case of shadow positioning, lighting and the sky's illumination. The final system could be installed on HMD (head mounted display) or in our device called ReVitAge to show the realistic reconstructed virtual heritage buildings, taking the main outdoor illumination components into account.

Reference 124 - 0.07% Coverage

¶216: A mid-air gesture-based Natural User Interface was designed, through the user-centric approach, for the navigation of virtual tours in cultural heritage exhibitions

Reference 125 - 0.01% Coverage

¶219: based on Dempster–Shafer theory

¶220:
Reference 126 - 0.19% Coverage

¶220: Studies on multiple criteria provide a series of methods to assist; however, they confuse uncertain with unknown, whilst most of them are not applicable due to uncertain reasoning. Here, an evaluation system of the value of industrial heritage is built using the analytic hierarchy process (AHP) and fuzzy sets used for translating comments from experts. Then, we present the Dempster–Shafer theory (D-S theory) to classify industrial heritage based on an evaluation system

Reference 127 - 0.23% Coverage

¶220: Taking industry type, year, development process, immediate surroundings, and remains into consideration, we select 16 industrial heritage sites as samples to verify the feasibility of D-S theory. The results suggest that D-S theory is effective in fusing evidences, and that the mass function is reliable for confirming conservation levels. The integration of AHP, D-S theory and fuzzy theory establishes a mathematical model that targets information fusing and reduces the uncertainty of evaluations, providing a new approach for confirming the level of heritage conservation

Reference 128 - 0.27% Coverage

¶222: The ISO 14040 standard under guidelines published by the UNEP/SETAC Life Cycle Initiative has been used as an assessment tool. Then, a CH-LCM Model framework based on a previous work from the author is applied to the real case concerning the restoration of the fortress of Uncastillo (Spain). The data collected from the real case concerning the restoration of the fortress of Uncastillo (Spain) have allowed us to reach two objectives: firstly, to validate the model empirically and, secondly, to identify successful managerial practices for the decision makers. In this respect, the paper shows that the life cycle approach can be considered an effective method

Reference 129 - 0.03% Coverage

¶224: through non-destructive analysis of the overglaze enamels that decorate

Reference 130 - 0.59% Coverage

¶224: The investigation focused specifically on the overglaze yellow enamel and the underglaze blue pigment, for they could provide valuable information on the production workshop and geographical area of origin. Owing to the extraordinary importance and extreme rarity of this newly-discovered dish, it was mandatory not to sample it. Therefore, Energy-Dispersive X-Ray Fluorescence (ED-XRF) and Raman spectroscopy were used to obtain, in a non-destructive way, both elemental and

molecular information about the coloring agent present in the yellow overglaze enamel. The underglaze-blue pigment at the base mark was also investigated. Besides a detailed literature research, a comparison was made with the chemical composition of fully identified and dated polychrome decorated Chinese and Japanese porcelains, and the results are reported in this work. The obtained analytical evidence has proved to be crucial in identifying the first use of Naples Yellow in Japan, and in resolving the issue of the origin of overglaze enameling, providing the missing step that actually led to the first development of the technique in Arita in the 1630s. Furthermore, it has shown that the Raman shift of the Pb mode of the A2O' lattice is greatly affected by the firing temperature for enamel decoration, and that this specific characteristic of Naples Yellow, along with its elemental composition, can help determine its area of origin and period of manufacture.

¶225:

Reference 131 - 0.04% Coverage

¶229: Recent trends in cultural heritage 3D survey: The photogrammetric computer vision approach

Reference 132 - 0.51% Coverage

¶230: The techniques of measuring and 3D modelling based on images, as is typical in photogrammetry, grew in interest again in recent years, since a new generation of software tools has spread. These ones implement in different measure the algorithms developed by computer vision, increasing the automation of the standard photogrammetric process. This made the use of image-based approaches for 3D models reconstruction enormously increase, which is an essential part of the Cultural Heritage documentation and analysis processes. Starting from these assumptions, the aim of the paper is to evaluate what and where it is possible nowadays to find the main differences between photogrammetry and computer vision approaches and how these have to be considered in the choice of the processing technique. The analysis has been performed starting from a theoretical point of view in order to trace the main characteristics of the two methods. Moreover, in order to complete the investigation, an experimental part is reported on two particular cases study, considered as representative of two types of usually surveyed objects. The results allow to enlighten some differences between the two image processing approaches, in terms of accuracy and achieved products.

Reference 133 - 0.04% Coverage

¶234: The solution to an unresolved problem: Newly synthesised nanocollagen for the preservation of leather

Reference 134 - 0.05% Coverage

¶235: Characterization of membrane metal threads by proteomics and analysis of a 14th c. thread from an Italian textile

Reference 135 - 0.04% Coverage

¶236: Picture of the metal thread containing the silk core, acquired with HIROX KH-8700 3D digital microscopy

Reference 136 - 0.02% Coverage

¶236: Protein structures obtained from Protein Data Bank

Reference 137 - 0.04% Coverage

¶237: Evaluation of the volatile organic compound emissions in modern and naturally aged Japanese paper

Reference 138 - 0.42% Coverage

¶238: Volatile organic compounds (VOCs) can have a strong effect on cellulose degradation, contributing in decreasing the lifetime expectancy of the paper materials, widely employed in the field of conservation. In this work, we investigated several industrial and homemade Japanese papers, as well as fibers, evaluating VOCs emission by using solid-phase micro extraction coupled with gas chromatography–mass spectrometry (SPME-GC/MS). Acetic acid and 1-butanol were highly detected in industrial and homemade papers rather than fibers, suggesting that the emission of these compounds is influenced by the production process more than by the raw material itself. Conversely, N-N dimethyl formammide was peculiar of industrial processes. Ketones, aldehydes and heavier alcohols were preferentially emitted by fibers and homemade papers. The higher emission of furfural from fibers rather than on papers place new questions about the use of this compound to evaluate the degradation state of the paper material that should be carefully evaluated.

Reference 139 - 0.04% Coverage

¶239: Micro-morphological, physical and thermogravimetric analyses of waterlogged archaeological wood

Reference 140 - 0.32% Coverage

¶240: were analysed in order to estimate wood degradation. Micro-morphological observations showed that the microbial decay could be mainly attributed to erosion bacteria. The most important physical properties, i.e. Maximum Water Content (MWC), Residual basal Density (RDb), and the calculation of the Lost Wood Substance (LWS) highlighted that heartwood (HW) was moderately preserved, with MWC values slightly higher or comparable to that of recent oak, whereas sapwood (SW) was very degraded. Thermogravimetric analysis (TGA) was tested as an alternative method for the chemical characterisation of archaeological wood. The TGA profiles were critically discussed taking into account the results of the physical and micro-morphological analyses. Potentialities and drawbacks of TGA were underlined.

Reference 141 - 0.06% Coverage

¶241: Simulating mass loss of decaying waterlogged wood: A technique for studying ultrasound propagation velocity in waterlogged archaeological wood

Reference 142 - 1.31% Coverage

¶242: Ultrasound compressional (p-) wave velocity has been researched in the past as a potential tool for estimating the preservation state of wooden artefacts and timbers. Its non-invasive principal complies with conservators' working ethics, while it has shown the potential of mapping and imaging submerged wooden archaeological heritage objects, as well as estimating the in situ preservation state. The aims of this paper are to present a viable non-destructive assessment method for cultural conservators for working on laboratory samples of waterlogged wood and to provide data for the analysis of in situ sites. This paper outlines the approach for the preparation of samples; the generation of controlled test-pieces for systematically quantitatively assessing the relationship between mass loss expressed as basic density and p-wave measurements; acoustic measurement; and the initial empirical results. Mass loss is achieved in a controlled and reproducible way for testing with ultrasound. The process incorporates a set of increasing wood degradation levels by gradually removing wood mass from waterlogged oak and pine test-pieces via drilling holes along the grain (longitudinal wood growth axis). This is followed by a chemical treatment with alkaline of the fully drilled wood test-pieces. The same test-pieces are used from zero to maximum degradation. This allows consistent observations, restricts variability and enhances interpretation of the results. The study considers wood both as a raw material and an artefact, here exemplified as the hull components of ancient wooden ships. Dimensions and cutting orientations of the test-pieces respect those noted in archaeological records. The focus is set on the RL and TL planes (radial and tangential axis respectively) and TL (tangential axis) planes, the main planes expected to be insonified with ultrasound considering timber conversion techniques in ancient shipbuilding. Ultrasound testing is performed within a reinforced polyethylene water tank, with the wood test-piece placed in between the transmitter and the receiver in good alignment. Using the trough-transmission immersion technique the time it takes a p-wave to travel through the test-piece together with the latter's thickness, are used to calculate the propagation velocity. Results demonstrate that ultrasound waves travel faster in the radial than in the tangential direction; although advancing the degradation, wood becomes more isotropic across the grain as indicated by the reduction of VRadial/VTangential ratio. Ultrasound velocity is unaffected by the structural differences between ring-porous oak and pine allowing quantitative results for a density range between 0.567 gcm−3 (fresh) and 0.292 gcm−3 (degraded) irrespective of wood species used. Two significant empirically derived equations can be used by the cultural conservator to derive a wood density level, a common bench mark for assessing archaeological wood degradation level.

¶243: An analytical strategy based on Fourier transform infrared spectroscopy, principal component analysis and linear discriminant analysis to suggest the botanical origin of resins from Bursera. Application to archaeological Aztec Samples

Reference 143 - 0.08% Coverage

¶244: Few studies have so far dealt with the chemical composition and the botanical origin of Mexican copal, owing maybe to the difficulty on the procuration of resins from known botanical origin

Reference 144 - 0.62% Coverage

¶244: In this work, fresh resins from six Mexican Bursera species, namely B. bipinnata, B. excelsa, B. grandifolia, B. laxiflora, B. penicillata and B. stenophylla, were analyzed by Fourier-transformed

infrared spectroscopy (FTIR). Main spectral band positions were selected for chemometric analysis using principal component analysis (PCA), based on the loading plot of chemometric analysis. Sample distribution patterns were investigated with PCA. Score plots revealed a sample agglomeration with good differentiation in 5 out of the 6 species. This method was validated by linear discriminant analysis (LDA) with a 95.2% of global positive recognition for certified origin species. To compare the efficiency of this approach, high performance liquid chromatography coupled to diode array detection (HPLC-DAD) and FTIR results were coupled to PCA and LDA, for the same set of samples. “FTIR showed 94.4% of samples correctly assigned on the confusion matrix and 91% on the cross validation one. HPLC-LDA showed 100% of correct assignment in the confusion matrix and 95% on the cross validation one. These results are encouraging, as FTIR is much faster and less expensive than chromatographic techniques and it could more readily be available in conservation laboratories. Finally, an application to the identification of the botanical origin of four archaeological Aztec copal samples was performed and the model suggested an origin on B. bipinnata/B. stenophylla for these archaeological samples.

¶245: Material analysis and TL dating

Reference 145 - 0.50% Coverage

¶246: This paper presents the material analysis and TL dating of the statue and compares the technological features to the glazed sculptural ceramics produced by the della Robbia and Buglioni workshops in the Renaissance Florence. The yellowish ceramic body was made from highly calcareous clay (25 wt% CaO content) and its mineralogical composition indicates an apparent firing temperature of ~900–950˚C. The white tin glaze is of lead-alkali type with 19.2–20.7 wt% SnO2, 26–31 wt% PbO and 4.7–7.4 wt% Na2O + K2O content. Tiny green spots occur sporadically in the white glaze, where the colour is due to the presence of dissolved copper. In these spots, newly-formed potassium-aluminium silicate, calcium-tin silicate and calcium silicate crystals occur at the body-glaze interface and in the glaze. The violet-coloured glaze on the base of the statue contains a lower amount of tin oxide and a higher amount of lead oxide (11.8 wt% SnO2, 40 wt% PbO) compared to the white glaze covering the statue. The colour was achieved by addition of manganese, and the violet-coloured glaze was applied on a white glaze covering the body of the base. Based on the TL dating, the statue is unambiguously authentic with an age of 0.58 ± 0.06 ka.

¶247:
Reference 146 - 0.05% Coverage

¶249: Unveiling the art of René Lalique with XRF and Raman spectroscopy – Technological innovation in jewellery production

Reference 147 - 0.58% Coverage

¶250: were studied using mobile XRF, optical microscopy, and digital radiography to characterise the materials and identify the fabrication techniques. The jewellery is often a gold, sometimes patinated, support where more or less transparent coloured materials, such as enamels and precious stones, were included. Further information on the decoration techniques was searched using μXRF and μRaman spectroscopy by studying two of the most illustrative items of a polychrome effect search. Data show that metal casting was the main forming technique used by Lalique. The surface was frequently left in as-cast condition. Contrary to what literature refers, the yellow and green-yellow

gold alloys employed contain 77 to 83 wt% Au, and the expected presence of Cd was not detected. When black-patinated, the gold surfaces were covered with an artificial layer that could be estimated to be in the order of 70–80 μm thick. This layer consists of a mixture of Ag and Cu sulphides. In some of the patinated areas, was also identified AgCl resulting from a corrosion process. As expected for 19th century enamels, the vitreous matrix is a silica-alkali glass containing Na2O and PbO. Lead-arsenic compounds have served as both opacifiers and white colouring materials. Data suggest that blue was obtained with copper and chromate minerals, and pink with iron oxides.

¶251: Stratigraphic EM-EDS, XRF, Raman and FT-IR analysis of multilayer paintings

Reference 148 - 0.05% Coverage

¶252: A total of 25 inorganic (painting pigment and substrate) and organic components (binding and glaze) have been identified

Reference 149 - 0.58% Coverage

¶252: Micro-sampling of the first wood panel depicting Christ in the Garden of Gethsemane, the third one depicting Christ Crowned with Thorns and the fourth one named Ecce Homo was performed to reveal the stratigraphy of the color paintings. Chalk, cinnabar, lead-tin yellow, cerussite (lead white), malachite, azurite, an iron oxide, and fluorite have been identified using optical microscopy, X-ray fluorescence (XRF), scanning electron microscopy combined with energy-dispersive spectroscopy (SEM-EDS), Raman spectroscopy and Fourier-transform infrared spectroscopy (FT-IR). Green pigment consists of hydrous copper sulfates (probably posnjakite mixed with woodwardite) and carbonates represented by fragmental and spherulitic malachite. Infrared spectroscopy confirmed the linseed oil mixed with egg albumen as the main binding constituent of color paintings, whereas animal glue was used in ground layers. The red glazing consisted of krapplak dissolved in oil, whereas the green glaze was composed by Verdigris (copper acetate) dissolved in the Venetian turpentine. Some samples contained remnants of shellac. The composition of inorganic pigments, including the exotic deep-purple fluorite unknown in the central European realm, points to combined local and remote pigment sources, thus indicating flourishing trade connections within medieval Europe after cessation of Turkish invasions in the early 16th Century.

Reference 150 - 0.05% Coverage

¶255: Comparison of biocides, allelopathic substances and UV-C as treatments for biofilm proliferation on heritage monuments

Reference 151 - 0.18% Coverage

¶257: Using the time depth provided by high-resolution, time-stamped DigitalGlobe satellite and BuckEye aerial images as well as CORONA and other historical satellite images and maps, we quantitatively document spatial and temporal patterns in destruction from looting, agricultural activity, military occupation, urban growth, mining, and other kinds of development at over 1000 previously known archaeological sites across Afghanistan

Reference 152 - 0.34% Coverage

¶263: sets out a methodology for calculating the potential zone of damage to which an Item of Cultural Interest (ICI) located in a karst environment is exposed. An itemised study of the geological characteristics of the cave environment is proposed: lithological cartography, endokarst and exokarst geomorphology and the study of fracturing of the limestone massif. Based on these data and using a Geographical Information System (GIS), it was possible to calculate the degree of the geological threats on a susceptibility map, according to the vulnerability of the heritage item to be protected and its exposure to the identified hazardous geological processes. By combining these parameters, the existing geological risk was calculated and mapped and the necessary protection area for conservation of the cultural heritage was defined

Reference 153 - 0.18% Coverage

¶265: In this paper, we describe the digitization, color enhancement and digital restoration results obtained on degraded reversal films containing animated stories by proposing and applying a specific set of unsupervised, pipelined image processing tasks performing color cast removal and color correction. We present our experimental results, discussion and conclusions.

¶266: A multi feature fusion method for reassembly of 3D cultural heritage artifacts

Reference 154 - 0.48% Coverage

¶267: We present a novel framework that is intended to fuse multiple local features that are the key principles utilized by archeologists. The framework extends the boundary contours to boundary bands, by defining the general adaptive neighborhood (GAN) of points on boundary contours, thus the necessary intermediate comparison between fragments is converted into the matching of GANs. Hence, we propose a novel local shape descriptor, oriented local alphabetic pattern (OLAP), to describe the local shape of the GANs. Then, three different strategies for GANs matching are introduced. Finally, the initial position is calculated according to the sets of appropriate points on boundary contours, and the pairwise alignment is performed by the iterative closest point method (ICP). This framework is effective in composing thin-shell and thick-shell fragments, especially those containing flat or incomplete fracture regions whose pairwise matching is usually unreliable and ambiguous, hence their reassembly remains challenging to existing algorithms. Experimental results with real point clouds are presented to demonstrate the efficiency and superiority of our framework on different datasets.

Reference 155 - 0.04% Coverage

¶270: Multi-technique characterization of madder lakes: A comparison between non- and micro-destructive methods

Reference 156 - 0.48% Coverage

¶271: The chemical characterization of paint material is paramount for the understanding of painting techniques, provenance studies and for assessing conservation strategies. In particular, the chemical

characterization of both the organic and inorganic fraction of lakes is fundamental to assess the technologies used in their production. In this short note, we present a pilot study by comparing several micro-destructive and non-destructive methods for the comprehensive characterization of the organic and inorganic fraction of reference madder lakes. In the final procedure, the chromophores-containing molecules were separated using a sample preparation procedure based on acid hydrolysis and solvent extraction, and analysed by high-pressure liquid chromatography with UV-Vis detector (HPLC-UV/Vis). Laser induced breakdown spectroscopy (LIBS) and X-Ray Fluorescence (XRF) were used for the study of the elemental composition. Multispectral Imaging was also applied in order to evaluate its potentialities to distinguish amongst different red lakes. The final multi-technique method allowed for the characterization of both organic and inorganic fraction from the same lake micro sample.

Reference 157 - 0.35% Coverage

¶273: A gas chromatographic mass spectrometric analytical procedure (GC/MS) was used to characterize the organic binders in micro samples collected from one of the doors. In order to examine the artist's palette, X-ray fluorescence (XRF), Raman and Fourier transform infrared spectroscopy (FTIR) and high performance liquid chromatography (HPLC-DAD), were applied to samples in fragments or on cross-sections of the embedded samples. This multi analytical approach effectively identified the polychrome decoration technique, mainly based on the use of animal glue as a proteinaceous binder, and characterized the superficial varnishes. Lastly many of the different pigments used for the creation of these works of art were identified. We believe that this study contributes significantly to the knowledge of Moroccan art from a material and technological point of view

Reference 158 - 0.07% Coverage

¶274: The integration of terrestrial laser scanning and terrestrial and unmanned aerial vehicle digital photogrammetry for the documentation of Chinese classical gardens

Reference 159 - 0.56% Coverage

¶275: as an example and apply multiple techniques including terrestrial laser scanning (TLS) and terrestrial and unmanned aerial vehicle digital photogrammetry (TDP and UAVDP) to acquire comprehensive data of its diverse elements. These multi-source data were integrated on the basis of point clouds via two steps – fusing the TLS and UAVDP point clouds firstly and integrating the TDP point clouds with the already-merged TLS and UAVDP point clouds. Both these two integrations included coarse and fine registration. With the integrated point clouds of the garden, 3D models and 2D fine drawings of the landscape elements and the garden were constructed to document the study site and show its complicated characteristics. The purpose of this study is to: survey, measure and display the rich and complicated landscape elements and spatial characteristics of HXSZ, and make 3D models and digitally document for HXSZ. The high-accuracy 3D models and fine drawings obtained in this study are crucial for the cultural heritage preservation of HXSZ. Our multiple surveying methods, data processing of multi-source data and presentation and documentation of the data are not only useful for Chinese classical garden preservation, but also could be applied to other researches of cultural heritage sites that contain various elements and complicated space characteristics.

¶276:
Reference 160 - 0.04% Coverage

¶279: The acceptance of such tools deserves a greater attention from the scientific community.

Reference 161 - 0.19% Coverage

¶291: Due to the limitations of existing cultural statistics, it was only possible to present the index for one year (2008). To construct this index, we have used the method of multiple indicators and multiple causes (MIMIC) deriving from structural equation modelling. This method allows us to model the concept of cultural heritage sustainability due to conflict as a latent construct, influencing and being influenced by several general and specific indicators.

Reference 162 - 0.37% Coverage

¶294: therefore strongly exposed to the action of the marine aerosol and wave erosion. The consolidation and protection of the marly limestone building material was performed by testing several products both inorganic and organic. Preliminary tests were performed on laboratory samples. Afterwards, the same products were applied on selected ashlars of the façade in order to study their performance in a real condition. The products were ethyl silicate, ethyl silicate with polysiloxane, litium silicate, nanosilica, ammonium oxalate, ammonium phosphate, silane/siloxane, fluorelastomers and acrylic polymers and acrylic/siloxane. The study of the effect of the treatments on the stone samples was performed by non-destructive and micro-destructive methods, and an assessment procedure has been proposed.

¶295: Similarity and provenance of underpainting chalk grounds based on their nannofossil assemblages cluster analysis

Reference 163 - 0.79% Coverage

¶296: The study concerns first analytical approach aiming to determine similarity and possible source market of chalk used as wooden icon underpainting grounds, on the basis of their quantified nannofossil assemblage compositions. The grounds were sampled, among others, from the oldest icons (14th–16th c.) in the collection of National Museum in Krakow. Forty-seven underpainting ground samples contain the Upper Cretaceous nannofossil taxa (eleven, barren in nannofossil, seem to embody gypsum/anhydrite underpainting layers). Forty-five of them yielded the Upper Campanian—Upper Maastrichtian assemblages and the next two, Turonian—Coniacian. The latter may represent Central Russia trade market source regards also on the manner of icon paintings. Three of forty-five of the Campanian—Maastrichtians samples provided the Tethyan nannofossil assemblages and may derive from the southern Carpathians and/or Balkans. The rest, i.e. forty-two samples provide the Boreal assemblages, dominated by Micula decussata, Arkhangelskiella spp. and Prediscosphaera spp. The analytical part of study involving cluster analysis of the distinguished nannofossil assemblages evidenced separation of the Turonian—Coniacian and Tethyan assemblages from the Boreal ones, in different clusters. Furthermore, this analysis also shows the strong affinities between assemblages of Boreal origin. The next cluster analysis combined the icon chalk ground nannofossil assemblages and those from rock samples outcropped nearby the City of Chełm (Lublin Upland, E Poland). That analysis reveals the close relationship of assemblages coming from the

Chełm's samples with those found in the icon chalk grounds containing the Campanian—Maastrichtian nannofossil assemblages of the Boreal origin.

¶297: First insights on the mineral composition of “stucco” devotional reliefs from Italian Renaissance Masters: investigating technological practices and raw material sourcing

Reference 164 - 0.36% Coverage

¶298: This preliminary work focuses on the multiscale structural and compositional analysis of micro samples from 22 representative stucco low reliefs attributed to the workshops of renowned Masters. The identification and characterisation of main mineralogical phases showed that the material used to make these reliefs consists in a gypsum-based plaster. Data from both X-ray diffraction and Particle induced X-ray emission allowed to gather also information on secondary mineral phases (sulphates, carbonates and clay minerals, together in few weight percentage maximum) and trace elements. Through an extensive comparison of all the mineralogical and compositional data collected on the corpus of artworks, first insights on workshop practices and raw material used have been enlightened.

¶299: Biocide efficacy and consolidant effect on the mycoflora of historical stuccos in indoor environment

Reference 165 - 1.07% Coverage

¶300: Investigations are needed to address and optimize the use of biocides and restoration materials with reference to the fungal diversity, which often characterizes cultural heritage surfaces. This work aimed to examine the diversity of fungi responsible of aesthetic decay on the stuccos of the vault of a religious building in Torino (NW-Italy), and to evaluate the sensitivity of the detected set of species to widely used biocidal products (benzalkonium chloride, isothiazolinones, sulphamide derivatives) and their application solvents. The effect of four commercial consolidants on their potential (re-)colonization following restoration interventions was also assessed. Four different deterioration phenomena were related to the occurrence of Chaetomium murale, Stachybotrys chartarum, Penicillium chrysogenum and Sarocladium kiliense, respectively. Surface receptivity to the different species – identified on morphological and molecular bases – was related to slightly different thermo-hygrometric conditions, the distribution of painted surfaces, salts, and local remnants of cellulose poultice used in past restoration interventions. Specific sensitivity to two solvents and ten different biocide treatments was evaluated in terms of inhibition of mycelial growth from transplanted inocula at 9 (T1) and 27 (T2) days after the incubation. The different solvents and biocide products differently affected growth and/or pigmentation of the four species. Only 40% of the ten performed biocide treatments determined the growth inhibition of all the examined species at both T1 and T2. In other cases, inhibition observed at T1 for C. murorum, S. chartharum and S. kiliense, was followed at T2 by the colonization of inhibition zones. The mycelial growth on an oligotrophic culture medium poured with four commercial consolidants was evaluated one year after the incubation. All the species displayed some growth from the inocula, with a scarce biomass being only observed in negative (water) controls and upon one consolidant treatment. The three other products strongly supported a higher growth of at least two of the examined fungal species with respect to negative controls. In conclusion, different sensitivity of each fungal species for most biocidal treatments and stimulation by consolidants indicate that species-specific assays of products are necessary to calibrate and optimize restoration works. In particular, effective inhibition of fungi by biocides, and

potential stimulation by consolidants, should be evaluated after several weeks and months, respectively, since short-term monitoring may be misleading.

Reference 166 - 0.03% Coverage

¶302: Adhesives used in paper conservation: Chemical stability and fungal bioreceptivity

Reference 167 - 0.36% Coverage

¶303: In paper conservation practice, adhesives are used for several purposes, such as mending tears and gaps, or paper consolidation. The criteria to choose one or another adhesive should be based on the knowledge of the properties and stability of those adhesives. However, the several different adhesives available on the market still lack enough information to help the process of a rational decision-making. In the present work, five adhesives currently used in the paper conservation field (starch paste, unsupported ArchibondTM, carboxymethylcellulose, hydroxypropylcellulose and methylcellulose) were analyzed for their chemical stability and fungal bioreceptivity (the ability of a material to be colonized by fungi). Bioreceptivity of products used in conservation and restoration is a still poorly explored subject, despite its great relevance for the preservation of objects.

Reference 168 - 0.10% Coverage

¶304: The chemical and physical properties of the adhesives, before and after moist heat artificial ageing, were analyzed by thermogravimetry, capillary viscometry, measurement of water absorption capacity, colourimetry, and pH measurement.

Reference 169 - 0.13% Coverage

¶305: Fungal bioreceptivity of the adhesives was tested on two different substrates (paper and glass) against three fungal species: Aspergillus niger, Aureobasidium pullulans and Penicillium pinophilum. Along 56 days of incubation, the colonization area on the adhesives was measured through digital photo analysis.

Reference 170 - 0.21% Coverage

¶306: Starch paste was the most bioreceptive adhesive, but on other hand was also the most stable adhesive to artificial ageing, regarding colour alteration, degree of polymerization and pH. Carboxymethylcellulose and ArchibondTM showed chemical deterioration with ageing. Nevertheless, these two adhesives presented only scarce bioreceptivity to the tested fungi. Methylcellulose and hydroxypropylcellulose showed the best relationship between higher chemical stability with artificial ageing and lower fungal bioreceptivity.

Reference 171 - 0.05% Coverage

¶307: Conservation of acidic papers using a dispersion of oleic acid-modified MgO nanoparticles in a non-polar solvent

Reference 172 - 0.58% Coverage

¶308: In this study, a new method was developed for the deacidification of acidic papers, by using a deacidifying dispersion of oleic acid-modified magnesium oxide (MgO) nanoparticles in cyclohexane. We reported that oleic acid-modified MgO nanoparticles were prepared by using a surface modification method. The results showed that the carboxylic group of oleic acid could react with the hydroxyl group on the surface of nanoparticles and the reaction was esterification. MgO nanoparticles were transformed from hydrophilic to lipophilic, with well dispersibility in cyclohexane for 6 h. Pure MgO nanoparticles all sank in cyclohexane after 30 s, so the deacidifying agents of pure MgO nanoparticles in cyclohexane could not be prepared for the deacidification of papers. The stable dispersion of oleic acid-modified MgO nanoparticles in cyclohexane then was used for the deacidification of papers. The accelerated aging tests were also used to evaluate the effect of the new method. Results showed that the surface pH of all types of papers were alkaline after the deacidification treatment and tensile strength values of those remained stable after accelerated aging. The deacidification treatment had ignorable influence on the appearance of papers, as well as inks and pigments on the paper surface. As the use of hydrophobic oleic acid-modified MgO nanoparticles, hydrophobicity of papers changed from hydrophilic to hydrophobic.

Reference 173 - 0.11% Coverage

¶310: It has been analysed from a historical, organological and xylo-chronological perspective to investigate and describe the cultural context of its creation, the wood species used for its construction and various restoration works to which it has been subjected.

Reference 174 - 0.13% Coverage

¶310: The analysis of dendroprovenance of the actual soundboard shows strong analogies with Italian production of the period and identifies the probable sources for wood as being in the Alps. Our results confirm the intensive and well-organized trade of valuable timber used for musical instruments at that time.

¶311:
Reference 175 - 0.34% Coverage

¶312: The building was monitored and measured to validate numerical codes using Design Builder 4.7.027 and Energy Plus 8.3. Software building models made it possible to evaluate the implementation of different environmental techniques – passive, active and combined – in the church with a view to conserving artworks. This study concluded that the use of passive environmental techniques does not completely eliminate the mechanical risk or bio-deterioration that are inherent to movable heritage. Proposals for the use of active systems in combination with passive techniques improve the initial conservation of artworks and decrease the risk of biological degradation. Although energy consumption is high due to the large size and thermal inertia of the building, consumption is considerably reduced when active and passive systems are combined.

¶313:
Reference 176 - 0.05% Coverage

¶314: presents results of a comprehensive engineering analysis for understanding the current structural damage condition of a sector

Reference 177 - 0.09% Coverage

¶314: multi-scale characterization of the material components, geotechnical assessment of foundation conditions, and advanced numerical modeling to help evaluate the possible reasons for the observed structural damage

Reference 178 - 0.05% Coverage

¶315: A no-reference method of geometric content quality analysis of 3D models generated from laser scanning point clouds for hBIM

Reference 179 - 0.55% Coverage

¶316: Laser scanning technology and modern photogrammetry have become very popular techniques in cultural heritage data acquisition. In the majority of architectural applications of these methods for historic buildings, relatively less attention is paid to the quality of the visualisation. However, when it is necessary to reconstruct the structure, materials, or form of a given heritage building or object, geometrical quality is key in the process of rebuilding or reconstruction. This paper proposes an assessment of geometrical content of 3D models for Heritage Building Information Modelling (hBIM) without reference measurements and independently of the data acquiring method or point cloud resolution. The point cloud analysed in this paper was obtained by terrestrial laser scanning (TLS); however, the analysis could be applied to point clouds of other origins (e.g. ALS, UAV imagery). The inner characteristics of measurement methods are not considered, with the focus on answering the following questions: How much will the point cloud allow us to see? and Is too much data always a good thing? The quality can simply be defined as the suitability of a specific dataset for a specific purpose. It is very important to clarify in advance for what kind of outcome a dataset might be or not be suitable, and which are the results expected.

Reference 180 - 0.04% Coverage

¶317: An AHP-based method for choosing the best 3D scanner for cultural heritage applications

Reference 181 - 0.46% Coverage

¶318: In this paper, a method for determining the best choice of the 3D scanner for cultural heritage applications is presented. Generally speaking, this activity is not trivial since a 3D scanner that matches all the requirements of a typical preservation activity in cultural heritage does not exist. Thus, to the best of the authors' knowledge, the choice of compromise is typically performed in an unstructured way. In order to structure this choice, a method based on the Analytic Hierarchy Process (AHP) is proposed. In the proposed method, the three levels of the AHP hierarchy structure are the selection of the best 3D scanner for a specific cultural heritage application (goal), the most important technical parameters that mainly affect the choice of a 3D scanner (criteria), and the devices matching the required resolution (alternatives). Having defined the goal, prioritization of the

type and quality of information is performed by the team leader of the research group (typically a skilled archaeologist), while the priority of the pairwise comparison among alternatives is decided by an expert on 3D scanners.

Reference 182 - 0.17% Coverage

¶319: The application of the proposed method in two contrasting situations concerning pottery fragments highlights its ease of use, its robustness (confirmed by the consistency analysis), and the completeness of the technical and economic assessment (since all relevant elements are taken into account), which put together, in a structured way, competences in very different fields (archaeology and 3D digital devices).

Reference 183 - 0.02% Coverage

¶320: Documenting carved stones by 3D modelling

Reference 184 - 0.05% Coverage

¶324: Virtual restoration of stains on ancient paintings with maximum noise fraction transformation based on the hyperspectral imaging

Reference 185 - 0.38% Coverage

¶325: proposes a new virtual restoration method of stains based on the maximum noise fraction (MNF) transformation with the hyperspectral imaging. The method has two steps. Firstly, it carries out the forward MNF transformation to concentrate the main features of ancient paintings into the several top principal components. Secondly, it determines the principal component that contains the large spectral information of stains, and applies the inverse MNF transformation to several top components except for the chosen components to reduce the stain effect on the image and restore the original spectral information and color as much as possible. This paper selects a paper painting of the Qing Dynasty as the experiment data, and the results show that the method has the effect of diluting or eliminating image spots, and can restore the style of ancient paintings to a large extent without causing a large loss of data information.

¶326:
Reference 186 - 0.50% Coverage

¶329: However, in spite of the worldwide fame of the BF, the values assumed by the main room acoustics criteria in this hall have been reported and analysed in few works. The aim of the present work is to analyse the key role played by BF in the history of the opera basing on acoustic measurements and then propose tools for an immersive virtual experience of this space. All the main acoustic room criteria have been extracted and commented taking into account the peculiarity of the Wagnerian opera. Measured criteria have been related to the subjective impressions reported in the non technical literature. Furthermore, a numerical model of the theatre has been created. The model was calibrated by using the measured room criteria, following state-of-the-art techniques. A whole orchestra (105 musicians) plus singers (3 singers and a choir of 10 persons) was simulated on a computer. The present and the original acoustics of the hall were recreated by rendering binaural

room impulse responses (BRIRs) for three listener positions in the audience. These tools allow to experience the Wagner's idea of a “new opera” from a perceptual point of view. The CAD model and the simulated BRIRs of the BF are freely available for academic uses.

¶330:
Reference 187 - 0.46% Coverage

¶331: Recent interest in the map has lead to the use of new technologies to image the map and produce sophisticated data that allows scholars and scientists to examine it taking advantage of the new information. In this paper, a technique for Pan-sharpening hyperspectral images (HSI) is introduced to the cultural heritage community. The Pan-sharpening process is applied specifically to HSI images of the Gough map of Great Britain with the purpose of using relatively low spatial resolution hyperspectral analysis techniques on its very fine features. The Pan-sharpening technique is based on Nearest-neighbor diffusion (NNDiffuse) and the spatial enhancing is aimed at faded features such as handwriting and some distinctive details that are only visible in high-resolution conservation photographs. It is shown here that the use of the NNDiffuse Pan-sharpening improves spatial features in HSI of historical artifacts without impacting the spectral fidelity, and that the findings in the analysis of these features could contribute to the understanding of the Gough map and its importance in the historical context of Great Britain.

¶332:
Reference 188 - 0.34% Coverage

¶333: The aim of this research is to design and produce concrete for the restoration of Byzantine monuments. Mixes with different binders, pozzolanic additions and aggregates were produced. The chemical (hydraulic products, consumption of Ca[OH]2), the physical characteristics (apparent density, porosity accessible to water through capillaries and capillary rise coefficient), the compressive and flexural strength, the static and dynamic modulus of elasticity were evaluated. From the obtained results, it is drawn that a light-weight concrete with low value of elasticity modulus was produced by mixing hydrated lime, artificial pozzolan (2.5% p.w.), ceramic fragments and sand. The chemical and the physico-mechanical characteristics of this concrete fit with the ones of the authentic concrete, ensuring the compatibility to building materials.

Reference 189 - 0.19% Coverage

¶339: This work present the data obtained in a multidisciplinary research were geology, geomorphology, micro-environmental and climatic monitoring, rock petrophysical characterization, description of weathering forms and biological colonization were considered in order to propose corrective measures to minimize deterioration.

¶340: Deterioration caused by dimensional change in stone (EBD pathology): the role of the organic matter — pore network — salt combination

Reference 190 - 0.60% Coverage

¶341: We have studied a pathology produced by dimensional changes in Miocene lacustrine limestones of the Ebro basin with very low clay content (Briviesca and Tudela stone). The samples studied come from stone blocks of the Cathedrals of Burgos and Tudela and their respective original quarries. Three additional rocks that present a pattern of similar deterioration are also

characterised. The pathology, known as “Expansion by Drying (EBD)”, looks like a mechanical fracture and is produced by important dimensional changes of the material. We have carried out a detailed study of the rocks with Mercury Intrusion Porosimetry (MIP) and establish four different porous systems in the materials studied. A relationship is found between the type of porous system and the presence of the pathology. In order to develop, EBD pathology needs a porosimetry like the one defined for group IV. On the other hand, oxidation of the organic matter present in the rock (proven by aging the rock with ozone) changes the porosimetry of group IV rocks, converting them into a porous network of group III. These facts explain why EBD pathology develops in oxidized rocks of historical buildings and not in fresh quarry rocks. In addition, we characterise dimensional changes of the rock by the intrusion of liquid water (conventional hydric expansion) and water vapour adsorption. These data have been relevant to understand the mechanisms of the dimensional change in the rocks studied.

Reference 191 - 0.06% Coverage

¶342: Long-term effectiveness, under a coastal environment, of a novel conservation nanomaterial applied on sandstone from a Roman archaeological site

Reference 192 - 0.39% Coverage

¶343: to marine aerosol has produced severe weathering. The aim of this study was to assess the performance of a novel consolidant/hydrophobic nanomaterial applied on sandstones from this archaeological site. The product durability was evaluated for three years of exposure at the archaeological site. For comparison, two commercial products (a consolidant and a hydrophobic product) were also evaluated. The obtained results showed that the product synthesised in our laboratory maintained the consolidant and hydrophobic properties, after three years of exposure, due to the production of a homogeneous coating with a penetration depth of 20 mm. The commercial consolidant was completely cracked and the hydrophobic product generated a superficial coating without penetration into the pores of the sandstone, which promoted a reduction in durability in both cases.

¶344: Nanostructured fluids for the removal of graffiti – A survey on 17 commercial spray-can paints

Reference 193 - 0.58% Coverage

¶345: Several methods exist for graffiti removal, which include chemical, physical or biological approaches. However, traditional methodologies, such as the use of neat organic solvents, are often unsuitable. Moreover, due to the great variability of brands and formulation of commercial paints, a thorough study of materials used for graffiti and a deep knowledge of their behavior when exposed to cleaning media is currently lacking. In this contribution, we report a systematic laboratory survey on 17 different spray-can paints available on the market and commonly used for graffiti and vandalism in the Mexican area. These paints were analyzed by means of ATR FT–IR spectroscopy to characterize their composition. Several solvents, having different nature and polarity, were then used to remove the paints from glass slides. On the basis of these results, two different amphiphile-based nanostructured fluids, which present several advantages with respect to traditional cleaning methodologies, were formulated and tested on the same paint samples. Finally, the two nanostructured cleaning systems were used for the removal of vandalistic graffiti from stones

decorated with red pre-Hispanic paintings in the archeological site of Ba' Cuana, Asunciòn Ixtalpetec, Oaxaca, Mexico.

¶346: Alkyl carbonate solvents confined in poly (ethyl methacrylate) organogels for the removal of pressure sensitive tapes (PSTs) from contemporary drawings

Reference 194 - 0.45% Coverage

¶347: We propose a method involving polymeric gels able to load a "green" solvent, pertaining to the class of alkyl carbonates, which efficiently interacts with PSTs components; the embedment of the solvent into the gel network allows a feasible and effective intervention where the gel is directly applied on the top surface of the PST: the solvent gradually penetrates through the plastic layer of the PST (as proved by laser scanning confocal microscopy measures), swelling the underlying adhesive. In this way, the solvent-artwork contact is controlled. In order to optimize the processing costs and final properties of the gels, three formulations of poly (ethyl methacrylate)-diethyl carbonate (PEMA-DEC) organogels were synthesized, using different diluents and additives. A thorough physicochemical investigation of the systems was performed by means of rheology, gravimetric analysis, thermogravimetry, and IR Spectroscopy. After assessment on representative mock-up samples, the developed systems were successfully used for the removal of six aged PSTs from a drawing on paper by Keith Haring.

Reference 195 - 0.04% Coverage

¶348: Measurement of water content and salinity index in concrete by evanescent field dielectrometry

Reference 196 - 0.91% Coverage

¶349: Water and chloride ions are key parameters in the corrosion processes of reinforced concrete. Consequently, rebar corrosion is the first cause of decay in historical monuments made of concrete. Thus, developing new techniques to be able to detect or quantify water and chloride ions seems to be an interesting approach in the diagnosis of historical reinforced-concrete buildings, especially if these new techniques are non-destructive. SUSI-R© is a non-invasive microwave system based on the evanescent field dielectrometry technique. The SUSI system is equipped with a resonant probe able to analyze the tested material down to 2 cm in depth. The water content and salinity index are calculated from the resonance properties of the probe, which are a function of the material permittivity. Initially developed to quantify the moisture content and to detect the presence of salts in mural paintings, SUSI-R© was considered in this study for the analysis of concrete. In a first phase, the SUSI-R© technique was tested to follow the moisture and salt content in reinforced concrete slabs, made with CEM I or CEM III cements, after their semi-immersion in water or in a sodium chloride solution. Several series of measurements were then carried out before and during the rise of the capillary absorption front. In the second phase, the calibration of SUSI-R© was undertaken in a laboratory on prisms made with the same concretes as those used for the slabs, and which had undergone the same curing conditions. The resonance parameters were correlated to the moisture content contained in these samples, with various saturation rates, in plain water and salted water. The first results of this study showed that the technique makes it possible to follow the hydric changes in the material but also to differentiate between the two types of capillary absorption

solution: plain water or salted water. Distinct evolutions of the salinity index were also distinguished according to the type of cement. The calibration in laboratory allowed the resonance parameters of the probe to be correlated with the moisture content values, and thus to quantify the moisture content of the concrete slabs investigated during the first phase of the study.

Reference 197 - 0.03% Coverage

¶352: Underwater photogrammetric monitoring techniques for mid-depth shipwrecks

Reference 198 - 0.04% Coverage

¶353: The proposed technique is based on a combination of low-cost photogrammetric methods. Using as a case study

Reference 199 - 0.19% Coverage

¶353: presents an ideal protocol for the essential first stages in protecting and managing the archaeological record of an underwater site at medium depth. The process gives immediate results, using photogrammetric and orthophoto coverage of the site to build up a highly accurate site map, as well as recording high-definition images in order to create a computer model of the site.

¶354: Construction and comparison of 3D multi-source multi-band models for cultural heritage applications

Reference 200 - 0.25% Coverage

¶355: 3D multi-band/multi-spectral reconstruction is a technique, which allows the use of images taken in different spectral bands for the reconstruction of spectrally-resolved 3D models of paintings. In this work, we propose a procedure for constructing and comparing 3D multi-band models obtained starting from a variety of input data (RGB and IR images, UV-induced fluorescence images, etc.) and/or acquired with different instruments. The procedure has been tested on two case studies, with the aim to highlight the critical issues associated to the specificities of the subject and of the environmental constrains

Reference 201 - 0.14% Coverage

¶355: RGB, IR and UV–VIS fluorescence models obtained with a conventional digital camera (RGB and UV) and a multisband camera (IR) were realized and compared, for revealing differences at sub-millimeter level.

¶356: Fungal contamination of paintings and wooden sculptures inside the storage room of a museum: Are current norms and reference values adequate?

Reference 202 - 0.57% Coverage

¶357: Contaminated art objects were sampled for fungal isolation and identification, along with seasonal indoor air sampling, for a one-year period. Molecular biology methods complemented with

morphological observation were used for the identification of fungal organisms. Direct sampling of 8 contaminated paintings allowed the retrieval of 10 fungal isolates (3 different genera and 4 different species). In addition, 19 fungal isolates (5 different genera and 9 different species) were retrieved from 7 contaminated wooden sculptures. The air sampling process provided a total of 150 isolates (24 different genera and 43 different species), from which the most common genera were Aspergillus, Cladosporium and Penicillium, and the most frequent species were Aspergillus versicolor, Cladosporium cladosporioides, Penicillium copticola and P. corylophilum. Although the number of airborne CFU was considerably low in all seasons, some fungal species with known biodeterioration capability and adverse human health effects were found. The relevance of air contamination monitoring as a single tool for biodeterioration risk assessment is discussed, as are the currently available norms and recommendations. Preventive measures are advised and considerations are made regarding potentially more effective approaches.

¶358: Air tightness and RH control in museum showcases: Concepts and testing procedures

Reference 203 - 0.35% Coverage

¶359: This paper analyses the use of museum showcases as a means of improving the control of the indoor environment for the conservation of works of art. It presents and discusses the influence of the air and gas tightness of a showcase on variations of the relative humidity. Attention is first focused on the basic mechanisms that drive the exchange of water vapour and gas between the inside and outside of the showcase. Testing procedures to characterize their performance (e.g. pressurization tests, tracer gas measurements) are then described and critically reviewed. Finally, examples of laboratory and field measurement results are presented and discussed in order to abstract general recommendations about: how to test the air tightness of showcases and how to choose the most suitable air tightness value, in relation to the desired level of control of the RH.

Name: Nodes\\Place\Sense of place

<Internals\\Curator 2001> - § 1 reference coded [0.16% Coverage]

Reference 1 - 0.16% Coverage

¶14: creating a specific sense of place,

<Internals\\IJCP 1998 abstracts> - § 1 reference coded [0.63% Coverage]

Reference 1 - 0.63% Coverage

¶26: The field needs new methodologies that harness public appreciation of a site's 'sense of place' to guarantee its future.

<Internals\\IJHS 1994-6 Abstracts> - § 2 references coded [1.08% Coverage]

Reference 1 - 0.76% Coverage

¶77: One of the principal functions of heritage interpretation is to enhance the visitor's sense of place and place identity.

Reference 2 - 0.33% Coverage

¶77: a museum in contributing to visitors' sense of place

<Internals\\IJHS 1998 Abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶36: a sense of place

<Internals\\IJHS 2005 Abstracts> - § 2 references coded [0.14% Coverage]

Reference 1 - 0.08% Coverage

¶43: Whose Sense of Place?

Reference 2 - 0.06% Coverage

¶44: sense of place

<Internals\\IJHS 2006 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶31: defined its sense of place

<Internals\\IJHS 2008 Abstracts> - § 5 references coded [0.70% Coverage]

Reference 1 - 0.04% Coverage

¶26: Sense of Place

Reference 2 - 0.05% Coverage

¶27: the Sense of Place

Reference 3 - 0.05% Coverage

¶28: the sense of place

Reference 4 - 0.48% Coverage

¶32: can virtual environment designers create a sense of place, which will be comparable, if different, to the sense of place engendered by physical environments.

¶33:

Reference 5 - 0.08% Coverage

¶36: engender a sense of place

<Internals\\IJHS 2010 Abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶72: engenders sense of place.

<Internals\\IJHS 2011 abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶81: cultural perspectives on sense of place

¶82:

<Internals\\IJHS 2016 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶26: sense of place of Porto's old city

Name: Nodes\\Socio-economic role of heritage

<Internals\\Antiquity 1996 abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶27: symbolic capital in modern Greek society

<Internals\\Antiquity 2000 abstracts> - § 1 reference coded [0.26% Coverage]

Reference 1 - 0.26% Coverage

¶257: provide another significant benefit in the form of open public space for recreation and leisure. The use of these spaces by growing numbers of urban-dwelling Bangladeshis illustrates the often under-appreciated phenomenon

<Internals\\Antiquity 2008 abstracts> - § 1 reference coded [0.49% Coverage]

Reference 1 - 0.49% Coverage

¶253: Twenty-five years ago, Donald Horne (1984: 252) went so far as to declare that 'in the popularisations … of the huge storehouse of … artifacts … that are such an extraordinary feature of our age. … we may find the only real potential for giving substance to human liberation'

<Internals\\Antiquity 2011 abstracts> - § 2 references coded [0.09% Coverage]

Reference 1 - 0.04% Coverage

¶118: with all its revenue implications

Reference 2 - 0.05% Coverage

¶148: international development in Africa

<Internals\\Antiquity 2013 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶24: makes a vivid case for the role of respect for the past in mitigating hostility and so winning the peace as well as aiding the victory

<Internals\\Antiquity 2015 abstracts> - § 1 reference coded [0.43% Coverage]

Reference 1 - 0.43% Coverage

¶232: inequality and global health are among the much-discussed challenges of our time, and rightly so, given the drastic effects such variables can have on modern populations. Yet with many

populations today living in tightly connected geographic communities—cities, for example—or in highly networked electronic communities, can we still learn anything about societal challenges by studying simple farming communities from many thousands of years ago

<Internals\\Antiquity 2016 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶89: perhaps foremost is that the Anthropocene should be retained as a loosely defined term to focus on the nature and effect of human activities, to be a 'rallying cry' for better planetary stewardship.

<Internals\\Antiquity 2018 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶285: Cultural heritage in peacebuilding and economic development

<Internals\\Curator 1994> - § 1 reference coded [1.14% Coverage]

Reference 1 - 1.14% Coverage

¶32: This advocacy emphasized the importance of a clear focus on actual and potential client needs in research and other programs of the surveys, constantly advertising what we do,

<Internals\\Curator 1995> - § 2 references coded [1.40% Coverage]

Reference 1 - 0.77% Coverage

¶8: Can a new realignment and new definition of our institutions help us to create a more civil society?

Reference 2 - 0.62% Coverage

¶37: explicitly incorporate human needs into exhibit goals and institutional missions.

<Internals\\Curator 1996> - § 1 reference coded [1.04% Coverage]

Reference 1 - 1.04% Coverage

¶37: a growing awareness of the importance and potential of museums for tourism, economic dynamism, and local prestige.

<Internals\\Curator 1997> - § 6 references coded [4.45% Coverage]

Reference 1 - 1.03% Coverage

¶6: was developed as a proactive outreach to the newly arrived Hmong immigrant population in Wausau, Wisconsin, the location of the museum.

Reference 2 - 0.27% Coverage

¶6: positive civic outcomes are included

Reference 3 - 0.37% Coverage

¶32: How can museums encourage active family learning?

Reference 4 - 0.46% Coverage

¶34: Prevention of Substance Abuse: Can Museums Make a Difference?

Reference 5 - 1.49% Coverage

¶35: A field-trip program developed at the Hall of Health (HOH) in Berkeley, California, attempts to reverse or lessen this trend by communicating in a museum setting the dangers of drugs and addiction.

Reference 6 - 0.82% Coverage

¶36: The program may serve as a model for museums desirous of reversing the trend toward drug use by young people.

<Internals\\Curator 1998> - § 2 references coded [2.68% Coverage]

Reference 1 - 0.30% Coverage

¶46: MUSEUMS AND COMMUNITY DEVELOPMENT

Reference 2 - 2.37% Coverage

¶50: designed to cultivate their interest in science and in pursuing science professions. Its double objective is to create a cadre of eloquent, well-informed Explainers for the Hall's visitors, and to encourage underrepresented young people into science careers.

<Internals\\Curator 1999> - § 1 reference coded [0.34% Coverage]

Reference 1 - 0.34% Coverage

¶39: MUSEUMS: BRIDGES BETWEEN POPULAR AND ACADEMIC CULTURES

<Internals\\Curator 2000> - § 13 references coded [13.97% Coverage]

Reference 1 - 1.37% Coverage

¶4: In a competitive environment, established cultural institutions need to justify their activities and to provide measurable indications of success when applying for public and private funds. Science centers are part of the movement striving to enhance public understanding of science.

Reference 2 - 0.51% Coverage

¶4: there is much less tangible information on the economic, political, or public impact of our institutions.

Reference 3 - 3.36% Coverage

¶4: Crude assessments of the economic contribution by a cultural institution to the local economy can fairly easily be made. These include the direct purchasing power of the institutional budget and the salaries that the employees get, and an estimate of the direct costs related to the visits. An indication of the impact on local communities may be estimated from the attendance figures as a percentage of the total metropolitan population. Science centers tend to attract media attention for the exhibitions, programs, and events that they stage. This can be measured. The impact on the local economy, on political agendas, and on public perception of science has been only rudimentarily studied.

Reference 4 - 0.95% Coverage

¶8: exiting conservation knowledge, attitudes, and behaviors of visitors; and (4) over time, how the NAIB experience altered or affected individuals' conservation knowledge, attitudes, and behaviors.

Reference 5 - 0.69% Coverage

¶10: the results suggest strategies to enhance current understanding of the impact free-choice learning institutions have on their visiting public.

Reference 6 - 0.32% Coverage

¶11: Do Museums Make a Difference? Evaluating Programs for Social Change

Reference 7 - 1.87% Coverage

¶16: University natural history museums are in a strong position to assume leadership roles in informal science education. This will emerge through extensive experimentation, innovative educational practices, broad collaborations, and grantfunded programs. Higher expectations for cutting-edge programs of outstanding quality create a climate in which striving for innovation becomes the norm.

Reference 8 - 1.10% Coverage

¶21: these museums promote scientific research and collections through the work of curators and students and must advance the universities' missions. On the other hand, they must provide exhibition and public programs for the local

Reference 9 - 0.97% Coverage

¶21: In the twenty-first century, university natural history museums must further adapt by promoting social awareness of topics such as biodiversity and fostering learning in informal and formal settings.

Reference 10 - 0.91% Coverage

¶24: The UCMP Web site has grown from a relatively simple descriptive online tool to a multifaceted educational resource which encourages and facilitates dialog between scientists and the public

Reference 11 - 0.61% Coverage

¶49: Massive changes in the social fabric of the nation will soon demand new kinds of institutions that play new roles in society.

Reference 12 - 0.85% Coverage

¶49: Future success will require the fundamental reinvention of museums so that their purpose is obvious and their mission is clearly aligned with the needs of future generations.

¶50:
Reference 13 - 0.46% Coverage

¶58: As museums enter a new century, they are challenged to demonstrate their relevance to society.

<Internals\\Curator 2001> - § 6 references coded [10.01% Coverage]

Reference 1 - 1.86% Coverage

¶9: However, truly providing museum-wide public service for a broad audience and creating social capital in our communities is not a discreet project, therefore the project-funding model can thwart the mutual goals museums and institutional funders are trying to achieve. This article explores the problem and suggests that museums work with philanthropic allies to find better ways to create and sustain true public service.

Reference 2 - 0.13% Coverage

¶16: A Meaningful Role in Society?

Reference 3 - 4.99% Coverage

¶17: a process initiated in 1983, at the Canadian Museum of Nature (CMN), which was based on the premise that a responsible natural history museum should assist society in shaping its collective future. The museum predicted that if it were able to help people understand themselves and their relationship to the natural world, the museum would again be seen as valuable to society, and thus would be supported in its efforts. The CMN therefore began to integrate its collections, scholarship, discovery, public programming, and public exhibits into broad, institution-wide programs focused on the needs and interests of society. These programs enabled the museum to engage its visitors in "guided conversations" in which the museum provided the content, drawing on the research and communication strengths of the museum, while the audience, representing society, set the context. This guided conversation empowered the public to make informed decisions and to influence the museum and its work. CMN also designed exhibit formats that allowed the visiting public to contact industry and government decision-makers with their opinions.

Reference 4 - 0.93% Coverage

¶18: Financial and other support grew rapidly, effectively demonstrating a successful programmatic feedback loop helping society to shape its future using the museum as an information source and communication tool.

Reference 5 - 1.88% Coverage

¶24: There are many subtle, interrelated and essentially unexamined ingredients that allow museums to play an enhanced role in the building of community and our collective civic life. The article describes the characteristics of the Livable Cities Movement and New Urbanism and suggests ways in which museums could encourage these characteristics—and thereby consciously use their interior and exterior spaces to build community.

Reference 6 - 0.22% Coverage

¶48: MUSEUMS AS AGENTS FOR SOCIAL AND POLITICAL CHANGE

<Internals\\Curator 2002> - § 2 references coded [3.28% Coverage]

Reference 1 - 0.75% Coverage

¶24: Modern zoos are committed to environmental education and thus have a mandate to inform the public about biodiversity and conservation.

Reference 2 - 2.53% Coverage

¶53: MBA's mission has shifted from raising awareness about nature to advocating and inspiring conservation of nature. This article reviews the history of these changes from a developer's point of view and reports on how the aquarium is continuing to examine how mission, message, and visitors interrelate. The current challenge of inspiring visitors to care about the ocean and to take action on its behalf is proving to be the most difficult challenge yet.

<Internals\\Curator 2003> - § 6 references coded [4.02% Coverage]

Reference 1 - 0.44% Coverage

¶8: and sequential educational activities that provide in-depth learning experiences.

Reference 2 - 0.41% Coverage

¶13: Categorizing Urban Tasks: Functions of Museums In the Post-Industrial City

Reference 3 - 1.19% Coverage

¶22: The museum in the contemporary era imports from the nineteenth century a venerable idea: that the first responsibility of a public art museum is to enlighten and improve its visitors, morally, socially, and politically

Reference 4 - 0.70% Coverage

¶42: regarding the role museums play and the contribution they make both to individuals and to the social and economic development.

Reference 5 - 0.16% Coverage

¶43: Curatorship as Social Practice

Reference 6 - 1.12% Coverage

¶60: A museum's commitments to education and research and to expansion of learning, as well as its physical resources, offer potentially attractive forms of involvement for various segments of the population.

<Internals\\Curator 2005> - § 1 reference coded [0.32% Coverage]

Reference 1 - 0.32% Coverage

¶59: The Role Of Museums In Society: Education And Social Action

<Internals\\Curator 2006> - § 8 references coded [9.76% Coverage]

Reference 1 - 1.28% Coverage

¶8: They are participants, and essentially agents of change, in the stressful, shifting ecology of globalization that has unmoored whole economies, regions and populations. Fundamentally, they are a form of media, in the sense defined by the Oxford English Dictionary.

Reference 2 - 0.37% Coverage

¶10: but also try to look at them via new aspects, widening cultural understanding

Reference 3 - 1.55% Coverage

¶12: Today, most cultural institutions realize they are part of a complex and interrelated universe, a community of service and influence. Dynamic museums now participate in a self-conscious value exchange with other entities in their community context. The guiding principle: Provide value first before support is sought.

Reference 4 - 0.35% Coverage

¶16: Great Expectations: Museums and Regional Economic Development in England

Reference 5 - 2.85% Coverage

¶17: This polemic addresses the political expectations of museums in England. Its starting point is the premise of the Department for Culture, Media and Sport that museums make a significant contribution to regional economies, if not to the national economy. Political expediency requires museums to provide evidence for their economic worth. But it could be argued that estimates of museums' economic impact are devalued by being blatantly constructed for the purposes of advocacy. This paper explores various issues that inform the practice of associating museums with economic development.

Reference 6 - 1.56% Coverage

¶17: have served to misrepresent (if not exaggerate) the economic impact that museums currently exert, or are deemed capable of exerting. It closes by suggesting that there are some ambiguities in the commitment of the DCMS to the premise that museums are economically important, and by examining implications for the future.

Reference 7 - 0.57% Coverage

¶33: If museums have primary value to society as educational institutions, what kind of learning actually happens in them?

Reference 8 - 1.23% Coverage

¶35: This argument suggests that exhibitions and programs can strengthen democracy by promoting skills that improve visitors' ability to become critical thinkers and by directly addressing controversial issues, taking the side of social justice and democracy.

<Internals\\Curator 2007> - § 3 references coded [1.60% Coverage]

Reference 1 - 0.24% Coverage

¶43: led to his later calls for museums to act as community servants.

Reference 2 - 1.06% Coverage

¶45: along with several examples of museums and galleries that are currently playing key roles as agents of the civil society. This paper contends that departing from the status quo of marketplace imperatives opens the door to more creative definitions of museums as social institutions

Reference 3 - 0.29% Coverage

¶73: Making a Difference in the Lives of Youth: Mapping Success with the “Six Cs”

<Internals\\Curator 2008> - § 3 references coded [6.26% Coverage]

Reference 1 - 3.58% Coverage

¶9: and the benefits they derive. The findings confirm the importance of the “satisfying experiences” framework for understanding visitor experiences in museums, and extend this understanding in relation to the beneficial outcomes these experiences produce. The study also highlights the importance of “restoration” as an outcome of a museum visit. It is argued that the concept of the museum as a restorative environment, which enables visitors to relax and recover from the stresses of life, is worthy of further research attention.

Reference 2 - 2.07% Coverage

¶27: This paper examines how museums might encourage the kind of awareness that can lead to sustainability, by assessing responses to The Human Factor, a permanent exhibition at the Royal Saskatchewan Museum, which raises questions about values, beliefs, and actions associated with the industrialized worldview.

Reference 3 - 0.62% Coverage

¶59: The Relative Credibility of Zoo-Affiliated Spokespeople for Delivering Conservation Messages

<Internals\\Curator 2009> - § 2 references coded [0.78% Coverage]

Reference 1 - 0.46% Coverage

¶19: While both museums have made important cultural contributions

Reference 2 - 0.32% Coverage

¶21: Museums have strived to be valued resources

<Internals\\Curator 2010 Abstracts> - § 8 references coded [3.55% Coverage]

Reference 1 - 0.89% Coverage

¶10: Museum objects return us to the human culture and knowledge we carry with us; they stimulate reflective impulses essential to the shared threads of democracy. They allow us to locate ourselves and each other, and our shared horizons

Reference 2 - 0.08% Coverage

¶11: Museum as Soup Kitchen

Reference 3 - 0.49% Coverage

¶12: museums have not explored their potential opportunities enough when dealing with their communities under stressful conditions.

Reference 4 - 0.43% Coverage

¶12: I do not suggest that all museums become full-service community centers, though some might explore that option.

Reference 5 - 0.63% Coverage

¶23: Many museums include “learning” among their goals and many researchers concern themselves with how museums and other settings can be organized to support learning.

Reference 6 - 0.31% Coverage

¶53: the need for a heightened sense of social, environmental and economic stewardship

Reference 7 - 0.43% Coverage

¶53: into one of a locally-embedded problem-solver, in tune with the challenges and aspirations of their communities

Reference 8 - 0.30% Coverage

¶81: in relation to their increasing need to demonstrate their social relevance.

¶82:
<Internals\\Curator 2011 abstracts> - § 10 references coded [4.75% Coverage]

Reference 1 - 0.36% Coverage

¶4: an alternative performance venue, and an active agent in creating events around the local area

Reference 2 - 1.78% Coverage

¶22: Probably as far back as we humans go, we have been dependent on cultural continuity. Essential parts of culture exist on multiple levels: individual, family, community, region, nation, and so on. It's the sharing of critical elements across these levels that maintains a working society. The value of a geographical or physical space for culture-keeping lies in those shared values, for which museums provide a living matrix.

¶23: Envisioning a Common, Capable Public

Reference 3 - 0.40% Coverage

¶26: how to start to reverse the trend of declining public funding by demonstrating museums' value to society

Reference 4 - 0.13% Coverage

¶33: Exhibitions have social potential

Reference 5 - 0.70% Coverage

¶33: We can imagine ways in which the museum space can link art, objects, experiences, people, and technologies to provide a structure within which visitors feel comfortable participating

Reference 6 - 0.29% Coverage

¶68: to achieve a demonstrable, verifiable basis for the value of our museums.

¶69:

Reference 7 - 0.10% Coverage

¶74: The Social Work of Museums

Reference 8 - 0.38% Coverage

¶76: Mindfulness, the Jumping Universe, and the Language of Inscape: Crossing Borders for the Public Good

Reference 9 - 0.44% Coverage

¶89: Consequently, they are under increasing pressure to provide funding bodies with evidence of their value and worth

Reference 10 - 0.17% Coverage

¶93: the buildings serve ever-more-complex roles.

<Internals\\Curator 2012 abstracts> - § 17 references coded [12.12% Coverage]

Reference 1 - 0.47% Coverage

¶7: examines new developments taking place in Brazil, which shed light on ways museums can contribute to solving social problems in the twenty-first century

Reference 2 - 0.43% Coverage

¶7: explore how this museum seeks to organically adapt itself to the social demands of the favela inhabitants and other relevant stakeholders.

Reference 3 - 0.49% Coverage

¶11: Rural history museums are increasingly fighting to be relevant to their various communities. This article uses a series of case studies to illustrate relevance

Reference 4 - 0.12% Coverage

¶15: National museums play an important role

Reference 5 - 0.56% Coverage

¶36: One necessary condition for being a country, it might be said, is that its people have a distinctive artistic tradition and therefore reason to build a museum in which to house it

Reference 6 - 0.45% Coverage

¶45: so too are the missions, exhibitions, and programming initiatives of many museums around the globe responding to an evolving human rights culture

Reference 7 - 0.44% Coverage

¶53: The VWM aimed to be a center for cultural exchange with women from other nations with the goal of fostering “equality, development, and peace.

Reference 8 - 3.02% Coverage

¶54: Tackling HIV/AIDS by Creating Awareness of Rights and Cultural Practices

¶55: The HIV/AIDS epidemic has greatly impacted the lives of many Malawians. In 2007, one million people in a population of 13 million were infected with the HIV virus. There are 91,000 cases of children living with HIV and over 550,000 orphans who lost their parents to this disease (UNAIDS 2008 Report on Global AIDS Epidemic). At the Museums of Malawi, many staff have died of HIV/AIDS-related illnesses. The gravity of this matter prompted the Museums of Malawi to join hands with other stakeholders in a concerted effort to address the HIV/AIDS pandemic. The

Museums of Malawi has found that the most significant reasons for HIV transmission are specific cultural beliefs and practices that abuse people's rights, and that are as dangerous as the disease itself. The museum created activities that look at these beliefs in order to achieve behavioral change among youth and adults during the program.

Reference 9 - 0.28% Coverage

¶59: what is the role of museums in supporting demands of minorities and disenfranchised groups?

Reference 10 - 0.73% Coverage

¶61: The article presents the theoretical, methodological, and practical considerations at play in adapting the original model for use in Israel and notes the insights gained for peace education and for the museum's educational endeavors.

¶62:
Reference 11 - 0.36% Coverage

¶63: in order to envision online and on-site museum encounters that can mobilize various kinds of pluralistic passions.

¶64:
Reference 12 - 0.28% Coverage

¶68: embrace their potential as safe venues for exploring ethical dilemmas these sites embody.

¶69:
Reference 13 - 0.21% Coverage

¶72: Can museums still be valuable to populations that don't visit them?

Reference 14 - 0.98% Coverage

¶72: I suggest a way to rethink impact in museums by, in effect, turning them inside out: shifting the focus away from "public value driven by a universal right to cultural access" (Stein 2012, 219), toward more tangible, external outcomes, including direct interventions in the dynamic world beyond the quiet galleries.

Reference 15 - 2.73% Coverage

¶76: Currently dominant ideas about the social accountability of museums demand that museums produce "intended outcomes": positive changes to visitors. Proponents commonly depict this process as a "logic model," a tightly controlled sequence of events that moves from goal to intended outcome. A tightly coupled system obliges all elements to work toward a common goal. But studies in a variety of fields have shown that tightly coupled systems are achievable only under specific environmental conditions, which are not met within the network of relationships in which museums work. Instead, this article views the museum and its relationships as a loosely coupled system. Each element has its own purposes, and strives to maintain its own autonomy. Interests overlap, but are

not identical. In the loosely coupled system, encounters generate a wide and unpredictable range of events.

Reference 16 - 0.19% Coverage

¶82: functioning as self portraits of nations, regions, and cities.

Reference 17 - 0.38% Coverage

¶82: As concepts of democracy expand in the twenty-first century, can museums be platforms for dialogue and solution-building?

<Internals\\Curator 2014 abstracts> - § 2 references coded [0.38% Coverage]

Reference 1 - 0.28% Coverage

¶67: have served as important platforms for public discourse about a variety of issues

Reference 2 - 0.10% Coverage

¶73: Museums, Health and Wellbeing

<Internals\\Curator 2015 abstracts> - § 4 references coded [2.34% Coverage]

Reference 1 - 0.41% Coverage

¶10: that promote reflection and discussion about the connections between the historical past and the world in which we live today.

¶11:
Reference 2 - 0.42% Coverage

¶19: an exhibition that aimed to mediate between the hidden cultural worlds of artists with intellectual disabilities and wider arts scenes

Reference 3 - 0.22% Coverage

¶50: However, this assumption was not borne out by the study's results.

¶51:
Reference 4 - 1.30% Coverage

¶51: Thirdly, the Museum program was not designed as part of a holistic approach with multiple strategies which addressed the complex reasons for youth offending. Despite eight out of the twenty-two participants reoffending after the Museum visit, there was enough potential for the rehabilitative intervention that the Museum was granted funding to take its program to the community and make it more user-centered.

<Internals\\Curator 2016 abstracts> - § 5 references coded [3.31% Coverage]

Reference 1 - 0.14% Coverage

¶13: social roles and responsibility, health

Reference 2 - 0.27% Coverage

¶29: “Loving, Knowing Ignorance”: A Problem for the Educational Mission of Museums

Reference 3 - 0.67% Coverage

¶30: In this essay, I suggest that Mariana Ortega's concept of “loving, knowing ignorance” (2006) provides a useful conceptual tool for museum practitioners who seek to advance a progressive mission

Reference 4 - 1.20% Coverage

¶32: a revolution in public expectations as museums secured a position within the nonprofit sector (81–82). With competition for public, private, and philanthropic support resting upon measurable results, the evaluation of museums depends upon its ability to “accomplish its purpose” (5). However, the question remains: what is the museum's purpose?

Reference 5 - 1.03% Coverage

¶40: takes the opportunity of a discussion within a national museum association about the possible implementation of environmental sustainability standards and argues instead for systematically engaging the entire museum field in re-thinking and restructuring the foundations of culture in our society

<Internals\\Curator 2018 abstracts> - § 1 reference coded [0.16% Coverage]

Reference 1 - 0.16% Coverage

¶5: the Protection of Contemporary Wildlife

¶6:
<Internals\\IJCP 1995 abstracts> - § 1 reference coded [1.83% Coverage]

Reference 1 - 1.83% Coverage

¶3: An active licit market in cultural property advances the international interest, provides income to source nations and reduces the harm done by the black market.

<Internals\\IJCP 1997 Abstracts> - § 1 reference coded [0.54% Coverage]

Reference 1 - 0.54% Coverage

¶50: Their Mutual Relationship and Regional Aspects

<Internals\\IJCP 2001 abstracts> - § 1 reference coded [1.18% Coverage]

Reference 1 - 1.18% Coverage

¶6: in light of the nonprivate benefits that this category of art produces.

<Internals\\IJCP 2005 Abstracts> - § 2 references coded [0.72% Coverage]

Reference 1 - 0.27% Coverage

¶25: the Solidère project brought the hope of social recovery through economic renewal

Reference 2 - 0.46% Coverage

¶27: By acknowledging the weight of the past, such policies would also bolster confidence in the emergent government and the political process.

<Internals\\IJCP 2006 Abstracts> - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

¶23: based on accepting its new functional socioeconomic dimension

<Internals\\IJCP 2008 Abstracts> - § 5 references coded [0.94% Coverage]

Reference 1 - 0.35% Coverage

¶32: a critical goal of which has been to rethink the manifold and complex relationships between museums and the societies in which they exist

Reference 2 - 0.09% Coverage

¶55: social and economic development.

¶56:

Reference 3 - 0.14% Coverage

¶57: which is regarded as an innovative and efficient manner

Reference 4 - 0.12% Coverage

¶57: and social development throughout the world.

¶58:

Reference 5 - 0.26% Coverage

¶59: being a leader in shaping public discourse about the arts community and the role of art in society.

¶60:
<Internals\\IJCP 2009 Abstracts> - § 4 references coded [3.24% Coverage]

Reference 1 - 1.69% Coverage

¶29: to the men and women perhaps not yet born who will seek to land on and inhabit planets other than this one. Such journeys reveal ways of relating to new worlds and, in that process, instruct us in new ways of being human. As another great journey of exploration, this search within ourselves may teach us equally as much. To be certain, none of our journeys thus far have been without hardship, and it is naive to think that this or any exploration is free from challenges.

Reference 2 - 0.69% Coverage

¶39: on the other hand, the view of others arguing that it is in the interest of the general public to lift as many embargos as possible in order to stimulate research and to increase economic growth

Reference 3 - 0.17% Coverage

¶43: Advocating a form of social intervention in situ

Reference 4 - 0.69% Coverage

¶47: This has complicated the kava story as producer efforts shifted from protecting rights to the plant to reopening blocked export markets. The difficulty is to both push kava into global markets

<Internals\\IJCP 2010 abstracts> - § 3 references coded [0.70% Coverage]

Reference 1 - 0.19% Coverage

¶12: first situates the issue in a general political-economy perspective

Reference 2 - 0.27% Coverage

¶81: it often becomes the driving force for commerce, business, leisure, and educational politics

Reference 3 - 0.24% Coverage

¶81: it establishes profound relationships with economics, environment, and social aspects

<Internals\\IJCP 2011 abstracts> - § 5 references coded [1.76% Coverage]

Reference 1 - 0.14% Coverage

¶8: unrealized socioeconomic opportunities

Reference 2 - 0.32% Coverage

¶8: can examine the socioeconomic costs and benefits of heritage conservation projects.

¶9:
Reference 3 - 0.69% Coverage

¶19: Cloth and cloth production have come to have significant influence on the cultural, socioeconomic and political, as well as the ceremonial and religious life of the people of Bhutan.

Reference 4 - 0.52% Coverage

¶52: among these and other important issues raised by the 170 participants were the economic and social value of cultural heritage for Europe.

¶53:
Reference 5 - 0.09% Coverage

¶56: postconflict restoration

<Internals\\IJCP 2012 abstracts> - § 2 references coded [0.96% Coverage]

Reference 1 - 0.15% Coverage

¶4: may have on the cultural industries initiative

Reference 2 - 0.81% Coverage

¶45: the Bahian state has piggybacked on social scientific evaluations of local people's moral comportments in order to put together an archive of everyday life that exists as a standing reserve for histories of Brazil and the marketing of cultural heritage.

<Internals\\IJCP 2013 abstracts> - § 4 references coded [1.39% Coverage]

Reference 1 - 0.43% Coverage

¶19: In providing an exemplary process for isolated and dispirited communities to improve their economic circumstances

Reference 2 - 0.07% Coverage

¶28: economic priorities

Reference 3 - 0.68% Coverage

¶29: Additionally, the growing awareness and recognition of heritage as a valuable economic, sociopsychological and environmental asset is receiving increasing international attention.

Reference 4 - 0.20% Coverage

¶35: Cultural Heritage and Development in the Arab World.

<Internals\\IJCP 2014 abstracts> - § 5 references coded [1.39% Coverage]

Reference 1 - 0.14% Coverage

¶4: commercialization of heritage goods

Reference 2 - 0.39% Coverage

¶4: in which their loss or mismanagement means damage to an entire ecosystem of culture and history.

Reference 3 - 0.38% Coverage

¶7: consequently, of urban historical discourses, whose outcomes enrich the lives of citizens.

¶8:
Reference 4 - 0.27% Coverage

¶47: This ominous new turn in the commodification of cultural property

Reference 5 - 0.21% Coverage

¶47: but also as a marketable entertainment experience.

¶48:
<Internals\\IJCP 2015 abstracts> - § 2 references coded [0.16% Coverage]

Reference 1 - 0.11% Coverage

¶51: Commodification of Culture

¶52:
Reference 2 - 0.06% Coverage

¶52: commodification

<Internals\\IJCP 2017 ABSTRACTS> - § 3 references coded [1.43% Coverage]

Reference 1 - 0.98% Coverage

¶8: Urban redevelopment projects increasingly draw on culture as a tool for rejuvenating city spaces but, in doing so, can overemphasize the economic or exchange-value potential of a cultural space

Reference 2 - 0.28% Coverage

¶8: as part of a culture-focused urban redevelopment trend

Reference 3 - 0.17% Coverage

¶10: when used for gains in the market.

<Internals\\IJHS 1994-6 Abstracts> - § 6 references coded [2.98% Coverage]

Reference 1 - 0.31% Coverage

¶12: the implication in the social and economic system

Reference 2 - 0.09% Coverage

¶16: economic values

Reference 3 - 0.49% Coverage

¶27: characterised by bureaucratisation, institutionalisation and commodification.

Reference 4 - 0.41% Coverage

¶38: Selling Places: The City as Cultural Capital, Past and Present,.

Reference 5 - 0.38% Coverage

¶74: Socio-cultural currents affecting heritage site consideration

Reference 6 - 1.30% Coverage

¶77: Heritage has been cast in the role of both saviour and sinner – saviour for spearheading the introduction of regenerative tourism and conservation programmes into declining urban, industrial and rural areas

<Internals\\IJHS 1996 Abstracts> - § 7 references coded [3.36% Coverage]

Reference 1 - 1.06% Coverage

¶11: The identities of cities are being refashioned by entrepreneurial urban governments, as part of a three-pronged attempt to market their territories

Reference 2 - 0.29% Coverage

¶11: the reduction of heritage to a commodity

Reference 3 - 0.27% Coverage

¶11: for the purposes of place marketing.

Reference 4 - 0.60% Coverage

¶11: the associated physical restructurings are displacing service-dependent populations

Reference 5 - 0.74% Coverage

¶14: the international trend of revitalising economically defunct harbour areas for tourism and retail usage

Reference 6 - 0.35% Coverage

¶14: commercial sensitivity to current marketing image

Reference 7 - 0.06% Coverage

¶61: economics

<Internals\\IJHS 1997-8 Abstracts> - § 9 references coded [4.72% Coverage]

Reference 1 - 0.35% Coverage

¶29: A 'social and environmental relations' model is proposed.

Reference 2 - 0.31% Coverage

¶34: a background of increasing competition for visitors

Reference 3 - 0.53% Coverage

¶49: to benefit an economically poor but socially and culturally stable urban neighbourhood

Reference 4 - 0.17% Coverage

¶59: Regenerating Town Centres,

Reference 5 - 0.22% Coverage

¶70: the phenomenon of cultural capital.

Reference 6 - 0.48% Coverage

¶71: Estimating the value of the social benefits to visitors to a large art gallery

Reference 7 - 0.13% Coverage

¶72: benefit the community

Reference 8 - 1.37% Coverage

¶72: with increased pressure on funding, galleries have to demonstrate that the benefits equal or preferably exceed the costs of providing them. This is not an easy task, given the nature of the benefits which galleries provide.

Reference 9 - 1.16% Coverage

¶72: in practice, Cost Benefit Analysis enables monetary values to be put on these benefits, with an example of how, for one proposed gallery, the social benefits to the visitors were valued.

¶73:
<Internals\\IJHS 1998 Abstracts> - § 11 references coded [8.02% Coverage]

Reference 1 - 0.11% Coverage

¶12: commodified heritage

Reference 2 - 0.61% Coverage

¶20: offers solutions to produce a better understanding of the role of heritage tourism in a transitional economy

Reference 3 - 0.16% Coverage

¶24: an apparatus of social memory

Reference 4 - 0.58% Coverage

¶39: Heritage builds communities: The application of heritage resources to the problems of social exclusion

¶40:
Reference 5 - 1.35% Coverage

¶40: The use of heritage resources to help deal with social problems has been practised since the early years of the 19th century and can provide a community with a focus, identity and pride as well as making a contribution to regional economies.

Reference 6 - 0.62% Coverage

¶40: A holistic multi-agency approach is advocated to tackle social exclusion, with heritage playing a central role.

Reference 7 - 0.85% Coverage

¶40: clarify the contribution that heritage resources can make and identify a framework within which heritage can realise its potential to build communities.

Reference 8 - 2.48% Coverage

¶44: The economic literature on heritage has primarily analysed the impact of building preservation on real-estate values and community redevelopment. Recently, economists have expanded their study on heritage to include everything from historic buildings and antiques to museums and monuments. However, this research ignores the political and legal characteristics of heritage and is used primarily to justify government expenditures on heritage.

Reference 9 - 0.21% Coverage

¶49: The consumption of a heritage culture

Reference 10 - 0.50% Coverage

¶50: In terms of media coverage, at least, the heritage bubble has burst, as indeed it had to.

Reference 11 - 0.54% Coverage

¶50: the sheer size of the national preservation and presentation enterprise hinted at its own demise.

<Internals\\IJHS 1999 Abstracts> - § 5 references coded [2.26% Coverage]

Reference 1 - 0.45% Coverage

¶16: The Latin American museum can take the special role of idenity-revealer in such societies.

Reference 2 - 0.32% Coverage

¶28: Memorials perform an important function in encapsulating memories

Reference 3 - 0.49% Coverage

¶40: the full extent of socio-ecological challenges that would be facing humanity at the millennial dawn

Reference 4 - 0.69% Coverage

¶40: issues that must be urgently addressed if interpretation is to remain a positive force for the survival of humanity and ecological systems.

Reference 5 - 0.30% Coverage

¶54: in order to give something back to the ‘stolen generation’.

¶55:
<Internals\\IJHS 2000 Abstracts> - § 7 references coded [6.16% Coverage]

Reference 1 - 0.84% Coverage

¶9: They may not attract large numbers of visitors like Stonehenge or the Acropolis but they are capable of providing socio-economic advantages for local communities

Reference 2 - 0.32% Coverage

¶16: Heritage Designation and Property Values: is there an effect?

Reference 3 - 2.44% Coverage

¶17: It was found that heritage designation could not be shown to have a negative impact. In fact there appears to be a distinct and generally robust market in designated heritage properties. They generally perform well in the market, with 74% doing average or better than average.The rate of sale among designated properties is as good or better than the ambient market trends and the values of heritage properties tend to be resistant to downturns in the general market.

Reference 4 - 0.97% Coverage

¶22: in a periphery, tourism may be used for development and regeneration, for delivering economic and social wellbeing, while heritage stewardship and care of the environment are encouraged

Reference 5 - 0.30% Coverage

¶26: and often as key resources in local economic development.

Reference 6 - 1.02% Coverage

¶43: workforce diversity will become increasingly important to the sector as, in response to changing socio-political agendas, museums are required to assume new roles as agents of social inclusion.

Reference 7 - 0.27% Coverage

¶62: A Geography of Heritage: power, culture and economy

<Internals\\IJHS 2001 abstracts> - § 5 references coded [3.21% Coverage]

Reference 1 - 0.31% Coverage

¶4: economic imperatives may demand that buildings generate revenue

Reference 2 - 0.66% Coverage

¶12: Museums and interpretation centres are one of the elements that contribute to the structuring of communal memories within societies.

Reference 3 - 0.95% Coverage

¶15: the belief that cultural heritage plays a significant part in conflict resolution in Northern Ireland has long been expressed in statements on education policy and local government programmes.

Reference 4 - 0.39% Coverage

¶28: making heritage and cultural tourism networks for socio-economic development

¶29:
Reference 5 - 0.90% Coverage

¶29: The especial capacity of itineraries to bring about cross-boundary dialogue and interaction are highlighted and the wider potential of this feature for global society is alluded to.

<Internals\\IJHS 2002 Abstracts> - § 8 references coded [6.16% Coverage]

Reference 1 - 0.40% Coverage

¶3: Conservation Designation and the Revaluation of Property: the risk of heritage innovation

Reference 2 - 2.52% Coverage

¶4: Investment in renovation by public authorities and individuals is a risky undertaking which does not necessarily result in private and public gains. The causes of the failure of the St. John's Heritage Conservation Area (HCA) to generate private property investment for renovation and enhancement of the historic district are investigated. Conclusions are drawn about the relationship of local authority goals and policies and private initiatives so that the preconditions for possible success and the minimising of risk, of relevance elsewhere, can be established.

Reference 3 - 0.41% Coverage

¶8: tourist-historic economy of this and possibly other (ex)colonial naval outposts are queried.

Reference 4 - 0.73% Coverage

¶10: if so, are they prepared to pay the costs of maintenance and undergo the restrictions of living in an urban conservation area and in some cases a national monument?

Reference 5 - 0.41% Coverage

¶12: that of encouraging economic advance in areas which had suffered serious reverses of fortune.

Reference 6 - 0.70% Coverage

¶12: at Le Creusot (intended to assist development in a former industrial area) and two in the Cevennes (designed to stabilise the culture of a remote rural area)

Reference 7 - 0.64% Coverage

¶12: can make them victims of their own success in stimulating economic growth, with the risk of consequent unintended shifts in society and economy.

Reference 8 - 0.34% Coverage

¶20: reflecting the gentrification and 'touristification' of the historic district

<Internals\\IJHS 2003 Abstracts> - § 2 references coded [1.64% Coverage]

Reference 1 - 0.68% Coverage

¶25: Heritage brings tourism flows, tourism generates migration through the demand for labour which cannot be met by locals

Reference 2 - 0.96% Coverage

¶38: that can be used for education, environmental awareness, conservation of biological diversity as well as serve as destinations for ecotourists and nature appreciation.

<Internals\\IJHS 2004 Abstracts> - § 9 references coded [4.30% Coverage]

Reference 1 - 0.12% Coverage

¶2: A Force for Social Inclusion?

Reference 2 - 0.36% Coverage

¶3: This paper starts with a brief theoretical exploration of the social role of heritage

Reference 3 - 1.87% Coverage

¶3: sets out a framework for considering how this wider CBH might contribute to social inclusion. A fundamental binary divide is made between the role of CBH as historic places and opportunity spaces in which regeneration may occur. However, in neither case is action necessarily socially inclusive. The paper concludes that a greater clarity of objectives and definitions is necessary if CBH is to meet its potential to be socially inclusionary

Reference 4 - 0.27% Coverage

¶5: by creating a sense of community and developing social cohesion

Reference 5 - 0.35% Coverage

¶7: the representational, and the economic—and explores the relationships between them.

Reference 6 - 0.25% Coverage

¶8: A Case Study from the Bangladeshi Community of East London

¶9:
Reference 7 - 0.26% Coverage

¶11: to construct and promote local or regional cultural identities

Reference 8 - 0.15% Coverage

¶29: therefore, the behaviour of society

Reference 9 - 0.66% Coverage

¶36: Heritage has become an important economic attraction that draws hundreds of thousands of visitors and billions of dollars into communities around the world

<Internals\\IJHS 2005 Abstracts> - § 8 references coded [4.22% Coverage]

Reference 1 - 0.41% Coverage

¶18: the contextual association of the cultural and natural environment with promotion of economic growth.

¶19:
Reference 2 - 1.36% Coverage

¶22: The experiences of post-apartheid South Africa have often been used to open dialogue about Northern Ireland and the possible approaches to dealing with the legacy of the conflict. People in Northern Ireland have, for example, looked towards the South African Truth and Reconciliation Commission and policing in South Africa for further insights

Reference 3 - 0.30% Coverage

¶29: In addition, it serves a political purpose and acts as an economic resource.

Reference 4 - 0.12% Coverage

¶36: through Heritage Conservation

¶37:
Reference 5 - 0.30% Coverage

¶37: the aim of this exercise is to improve the economic performance of the city

Reference 6 - 0.49% Coverage

¶41: Urban Regeneration/Heritage Tourism Endeavours: The Case of Salt, Jordan 'Local Actors, International Donors, and the State'

Reference 7 - 0.93% Coverage

¶42: The practice of urban regeneration/heritage management in Salt is tied to sporadic agents of power that generate shock treatments and very modest outcomes in the form of architectural cosmetics rather than an institutionalised practice.

Reference 8 - 0.32% Coverage

¶57: ranging from scholarly archaeological research to urban renewal and redevelopment

<Internals\\IJHS 2006 Abstracts> - § 12 references coded [4.75% Coverage]

Reference 1 - 0.44% Coverage

¶7: The city also suffers from some of the worst levels of health, poverty and educational attainment in Britain. Within the context of these contrasts

Reference 2 - 1.33% Coverage

¶7: the museum service has tried to achieve its various objectives: making 'high culture' widely accessible, providing a recreational and educational facility for local people, expressing civic pride and promoting cultural tourism. This article explores both the impact of these factors on Glasgow Museums and the attempts by Glasgow Museums to influence the identities of their visitors and to contribute to the creation of a more just society

Reference 3 - 0.21% Coverage

¶9: to determine how socially excluded visitors to two museum exhibitions

Reference 4 - 0.13% Coverage

¶9: as agents of social inclusion might act.

¶10:
Reference 5 - 0.63% Coverage

¶23: Museum Volunteering: Heritage as ‘Serious Leisure’

¶24: The growing number of volunteers in the heritage sector indicates a desire for a leisure experience by pursuing a subject interest with like-minded people.

Reference 6 - 0.46% Coverage

¶24: According to the concept of ‘serious leisure’, museum volunteers become part of a social world inhabited by those knowledgeable about heritage and history

Reference 7 - 0.32% Coverage

¶27: as they seek solace in the certainty of operating and working in complex and highly satisfying workplaces.

Reference 8 - 0.15% Coverage

¶41: The Nature and Purpose of Centennial Celebrations

Reference 9 - 0.31% Coverage

¶45: Today, the intersection of museum villages with the managerialist pressures of local economy enhancement

Reference 10 - 0.36% Coverage

¶57: Museums and other cultural and heritage institutions have important roles to play in both formal and informal education

Reference 11 - 0.16% Coverage

¶59: public memory of war, national education initiatives

Reference 12 - 0.26% Coverage

¶71: encourage ideas of intercultural exchange and dialogues in the creation of these places

<Internals\\IJHS 2007 Abstracts> - § 6 references coded [1.66% Coverage]

Reference 1 - 0.04% Coverage

¶5: Planting Peace

Reference 2 - 0.49% Coverage

¶27: they provide the participants with more than just a nostalgic trip back to the community spirit articulated through the so-called ‘blitz mentality’ of the 1940s

Reference 3 - 0.34% Coverage

¶29: This work suggests that success could be measured more effectively in terms of the forms of capital that result

Reference 4 - 0.24% Coverage

¶31: related visitor attractions also have a wider social and political significance

Reference 5 - 0.25% Coverage

¶31: thus serves as economic, social and political capital within a Communist context

Reference 6 - 0.29% Coverage

¶65: that suggests that psychological factors may be as important as political or aesthetic issues.

<Internals\\IJHS 2008 Abstracts> - § 14 references coded [4.78% Coverage]

Reference 1 - 0.22% Coverage

¶41: The cause of integrating heritage conservation into broader social agendas

Reference 2 - 0.52% Coverage

¶51: In an attempt to understand the value of waqf and its developmental role, this paper discusses the significance of waqf development with regard to social and economic growth

Reference 3 - 0.25% Coverage

¶56: While ‘official’ agencies recognise the economic potential of this form of heritage

Reference 4 - 0.41% Coverage

¶56: a strategy that is aimed at transforming the nature of the conflict through fostering self-understanding within disputant communities.

Reference 5 - 0.34% Coverage

¶60: naval heritage in waterfront revitalisation and heritage tourism with particular reference to small-island states

Reference 6 - 0.26% Coverage

¶60: what wider significance this naval heritage has for the cultural/economic landscape.

Reference 7 - 0.50% Coverage

¶65: to consider the role of this curious historical site in the contemporary, global Pacific, particularly how it might more effectively address the needs of non-tourist

Reference 8 - 0.22% Coverage

¶69: are greatly compounded by Cambodia's need to recover from war and turmoil

Reference 9 - 0.28% Coverage

¶71: the dilemmas surrounding conservation in modern Asian societies committed to economic growth

Reference 10 - 0.24% Coverage

¶71: Built heritage is shown to have socio-cultural, political and economic functions

Reference 11 - 0.60% Coverage

¶71: is especially important in times of change and uncertainty. Circumstances in Hong Kong reflect its unique history and current status, but the issues emerging from the analysis have a wider relevance.

Reference 12 - 0.15% Coverage

¶72: Towards Opportunities for Developing Social Capital

Reference 13 - 0.61% Coverage

¶73: with respect to opportunities to develop social capital. The extent to which museums generate social capital is largely unknown, but museums have potential opportunities to develop this type of capital.

Reference 14 - 0.20% Coverage

¶73: would generate more social capital among visitors and in society.

¶74:
<Internals\\IJHS 2009 Abstracts> - § 8 references coded [4.20% Coverage]

Reference 1 - 0.27% Coverage

¶16: and the possible future contribution of these to human communities and the environment.

¶17:
Reference 2 - 0.30% Coverage

¶20: instrumental in the preservation and transmission of local memories, traditions, and local history.

Reference 3 - 1.16% Coverage

¶34: This paper discusses the economic, social, political and environmental impetus of this unprecedented popularity of heritage conservation in contemporary Hong Kong, and argues that heritage conservation has become an implement for various parties in post-colonial Hong Kong to present themselves in the discourse of urban renewal and development, and to defend and negotiate their interests

Reference 4 - 0.13% Coverage

¶37: in communities devastated by economic decline

Reference 5 - 0.40% Coverage

¶37: believe that museums can radically change their lives. The evidence suggested that the importance of history to people's sense of self

Reference 6 - 0.43% Coverage

¶59: The aim is to promote learning about Alabama history while enhancing fitness, as a planned activity of a programme to prevent childhood obesity

Reference 7 - 0.05% Coverage

¶69: Economical Growth

Reference 8 - 1.47% Coverage

¶70: to create growth and replace jobs lost in industrial closures and in the heavily mechanised forestry industry. In the area discussed in this article, northern Värmland, Sweden, the local population did not find it attractive to work in touristic jobs. Most of the small-scale tourist entrepreneurs are also 'immigrants' who often found it hard to achieve success in business. Heritage

productions, however, have emerged as meeting places for local citizens, and as sources of community pride

<Internals\\IJHS 2010 Abstracts> - § 12 references coded [4.87% Coverage]

Reference 1 - 0.17% Coverage

¶14: Shifts in the understanding of the role of archives in society

Reference 2 - 0.12% Coverage

¶16: which is so vital to many island communities

Reference 3 - 0.52% Coverage

¶43: They also suggest the significance of archives in the formation of publics, within the broader context of cultural memory and democratic participation.

¶44: Can there be a conciliatory heritage?

Reference 4 - 0.24% Coverage

¶45: But might heritage not also be deployed for conciliatory functions after national trauma?

Reference 5 - 0.34% Coverage

¶45: It is one of the few sites in the world today where (non-Polish) Jews and (non-Jewish) Poles regularly encounter one another

Reference 6 - 0.51% Coverage

¶45: the achievement or expectation of reconciliation, this paper considers heritage spaces and landscapes as key sites for conciliatory civil society development through meaningful engagement

Reference 7 - 0.24% Coverage

¶47: citizens are building their capacity to acknowledge, understand and respect difference.

Reference 8 - 0.65% Coverage

¶47: In settings in which the past is negotiated by ordinary citizens, heritage simultaneously demands and creates new spaces for public discourse.

¶48: Dealing with difference: heritage, commensurability and public formation in northern New Mexico

Reference 9 - 0.27% Coverage

¶53: Created to promote local businesses, the event seeks to draw tourists to a gentrifying neighbourhood

Reference 10 - 0.99% Coverage

¶66: It looks at late-Francoist heritage as a vehicle for achieving, simultaneously, an ideological and an economic effect. Economically, heritage was conceived as a tool for diversifying and individualising Spain's tourism product in the Mediterranean market, and above all, for confronting the uneven territorial and seasonal distribution of 'sun and beach tourism'

Reference 11 - 0.36% Coverage

¶70: Indeed, local shopkeepers are sceptical that cultural tourism will draw numerous visitors, and fear that is not economically viable.

Reference 12 - 0.46% Coverage

¶70: For residents of the town, setting up a localised visit site has disadvantages because of the turnover of touristic traffic to which this type of tourism is exposed.

¶71:
<Internals\\IJHS 2011 abstracts> - § 13 references coded [3.90% Coverage]

Reference 1 - 0.13% Coverage

¶4: as well as in the competitive global tourism market

Reference 2 - 0.89% Coverage

¶10: The analysis reveals growing official interest in built heritage conservation for a combination of economic, socio-cultural and political motives. However, commitment is constrained by the importance attached to economic development objectives and there is an emphasis on maximising the commercial potential of old buildings through adaptive reuse

Reference 3 - 0.15% Coverage

¶23: To make domestic heritage sites useful to their communities

Reference 4 - 0.14% Coverage

¶43: the benefits and opportunities afforded by the geopark

Reference 5 - 0.18% Coverage

¶52: has transcended changing patterns of investment and economic decline.

¶53:
Reference 6 - 0.74% Coverage

¶56: On the other hand, a common civic heritage has been configured through the folklore festivities of Moors and Christians, in which most city citizens participate irrespective of their social position, and in which the role of workers and industrialists has traditionally been very important.

Reference 7 - 0.26% Coverage

¶69: heritage-based livelihoods: an initial study of artisans and their crafts in Viljandi County, Estonia

¶70:
Reference 8 - 0.39% Coverage

¶70: examines the role of traditional woodworking and building crafts as a local resource in a country in transition from socialism to a market-based economy

Reference 9 - 0.11% Coverage

¶70: into a contemporary institutional framework

Reference 10 - 0.16% Coverage

¶70: changes in the relationship between the artisan and the customer

Reference 11 - 0.16% Coverage

¶74: the uses of heritage sites as resources to achieve social goals

Reference 12 - 0.28% Coverage

¶74: has as an attractive place become a resource for the production of cultural capital among various stakeholders

Reference 13 - 0.31% Coverage

¶76: the involvement of public and private institutions and the voluntary sector in the democratic management of local affairs

<Internals\\IJHS 2012 Abstracts> - § 9 references coded [1.59% Coverage]

Reference 1 - 0.22% Coverage

¶12: it was conceived as a developmental node to encourage urban regeneration in Johannesburg's inner city.

Reference 2 - 0.07% Coverage

¶21: coupled with calls for development

Reference 3 - 0.08% Coverage

¶41: opportunities for economic development

Reference 4 - 0.15% Coverage

¶43: It contextualises this by acknowledging the social role of archaeology

Reference 5 - 0.08% Coverage

¶61: aspirational remedies to social crisis

Reference 6 - 0.29% Coverage

¶82: could be an effective resource for economic and social development in areas that have been severely affected by de-industrialisation.

Reference 7 - 0.21% Coverage

¶82: for the role that industrial heritage might have in repairing the effects of deindustrialisation.

Reference 8 - 0.09% Coverage

¶82: while the French preferred cultural projects

Reference 9 - 0.39% Coverage

¶89: is not primarily to preserve cultural heritage objects for the future, but to establish and maintain common social institutions in the local society, institutions of vital importance

<Internals\\IJHS 2013 abstracts> - § 18 references coded [5.41% Coverage]

Reference 1 - 0.08% Coverage

¶7: Ethiopia in the twenty-first century

¶8:

Reference 2 - 0.21% Coverage

¶10: it increasingly serves as a means of generating income and stimulating economic development through tourism

Reference 3 - 0.14% Coverage

¶10: examining the role of history, religion, and socio-economic development

Reference 4 - 0.12% Coverage

¶12: With a growing emphasis on tourism and development in Chitral

Reference 5 - 0.05% Coverage

¶31: human capital enhancement

Reference 6 - 0.20% Coverage

¶31: in order to maximise the benefits of Olympic legacy and heritage in a host city's tourism development.

Reference 7 - 0.22% Coverage

¶33: Heritage, health and well-being: assessing the impact of a heritage focused intervention on health and well-being

Reference 8 - 1.66% Coverage

¶34: Do museums and other heritage organisations have something to offer the healthcare sector? Do they have a role in improving health and well-being? Increasingly both heritage and healthcare organisations think they do. A broader definition of health including well-being and an emphasis on preventative medicine and multi-agency approaches to care within the UK's National Health Service has facilitated the work of museums and galleries in this area. However, there are still few specific heritage programmes in healthcare organisations and very little evaluation of these. Here we present key findings from a qualitative evaluation of a heritage focused intervention carried out in a range of healthcare settings. The aim of the research project was to assess the impact on well-being of taking museum objects into hospitals and healthcare contexts.

Reference 9 - 0.16% Coverage

¶42: Creative cities through local heritage revival: a perspective from Jordan/Madaba

Reference 10 - 0.09% Coverage

¶43: yet meanwhile stimulates creative urban images

Reference 11 - 0.19% Coverage

¶44: The role of heritage conservation districts in achieving community economic development goals

¶45:
Reference 12 - 0.19% Coverage

¶45: less exploration has been devoted to understanding their potential role in economic development.

Reference 13 - 0.45% Coverage

¶45: The research involved interviews, household questionnaires, observation and statistical analysis. It was found that overall the data indicated that the management of the heritage resources supported and enhanced economic development

Reference 14 - 0.15% Coverage

¶55: how such heritage functions within political, cultural and economic arenas.

Reference 15 - 0.62% Coverage

¶76: The present article explores these questions and reaches the conclusion that, at present, most of industrial and technical museums are tackling social changes. They are focusing increasingly on current issues such as migration, Europeanisation and globalisation and they are relating history to contemporary questions.

Reference 16 - 0.21% Coverage

¶92: historical hybridity, and how the introduction of 'history' into a modern arena affects the local society.

Reference 17 - 0.41% Coverage

¶102: regeneration and economic development. In doing so, it is argued conservation has successfully repositioned itself from being regarded as a barrier to development to being regarded as an active agent of change

Reference 18 - 0.30% Coverage

¶106: seeks to offer a new perspective on the debate regarding heritage-conflict relations by interpreting heritage as a sign of peace rather than conflict.

¶107:
<Internals\\IJHS 2014 abstracts> - § 13 references coded [4.10% Coverage]

Reference 1 - 0.05% Coverage

¶15: local economic development.

¶16:
Reference 2 - 0.11% Coverage

¶18: The economic value of heritage properties in Alexandria, Egypt

Reference 3 - 0.60% Coverage

¶19: Parties involved in real estate appraisals believe that listing has a negative effect on property values. It is arguable that listed buildings have not performed as well as others in the market place in terms of price, and that when listing occurs it has adversely affected their value. In this research, the economic value of listed buildings is examined

Reference 4 - 0.44% Coverage

¶29: Now as a small village, Dunwich has built a cultural heritage industry devoted to presenting absence to its visitors and residents, through many diverse forms: historiography, archaeology and the material culture displayed and commodified in the Dunwich Museum

Reference 5 - 0.29% Coverage

¶46: yet claims that this music scene contributed significantly to the transformation of Linz from an industrial town dominated by state-owned steel works to a 'cultural city'.

Reference 6 - 0.28% Coverage

¶66: for its economic value instead of also exploring the ways in the city's heritage might contribute to the social organisation and utilisation of the urban public space.

Reference 7 - 0.07% Coverage

¶67: symbolic healing and cultural renewal

¶68:

Reference 8 - 0.15% Coverage

¶68: national and sub-national post-conflict healing-heritage initiatives from Rwanda and Uganda

Reference 9 - 1.23% Coverage

¶68: proposes that heritage is neither an essentially positive nor negative post-conflict development strategy to select or avoid respectively. Instead, heritage is better understood as a common element of post-conflict renewal, which becomes intensified as the past is aggressively negotiated to provide healing related to conflict traumas. By moving beyond the 'does heritage heal or hurt?' distraction the meaning and function of heritage in post-conflict contexts as a common element of post-conflict healing complexes is elucidated. The implication for those who wish to manage post-conflict development through heritage is that they are just the latest in a long history of symbolic healers, from whom they have a lot to learn

Reference 10 - 0.07% Coverage

¶83: The two opposing impacts of heritage making

Reference 11 - 0.12% Coverage

¶84: Special attention is paid to the residents' perceptions of the impact.

Reference 12 - 0.36% Coverage

¶84: Based on ethnographic materials collected in 2003, 2009 and 2013, the study demonstrates that the making of heritage may give rise to two opposing impacts simultaneously – increased social cohesion and place pride,

Reference 13 - 0.32% Coverage

¶84: and that residents are entirely cognisant of the tension between the two. The study has the potential to contribute to both the theoretical and the applied literature on heritage making.

¶85:
<Internals\\IJHS 2015 abstracts> - § 8 references coded [1.20% Coverage]

Reference 1 - 0.15% Coverage

¶43: alongside the relationship of traditional medicine to the fields of human rights, public health and development.

Reference 2 - 0.13% Coverage

¶67: by presenting local sociocultural and economic contexts as assets to enrich development projects,

Reference 3 - 0.35% Coverage

¶89: Drawing on a recent surge in heritage work in Sierra Leone, I suggest that heritage has efficacy beyond the provision of emotional security in a context of rapid change, indeed that it may be implicated in the process of instituting and shaping change itself.

¶90:
Reference 4 - 0.09% Coverage

¶97: The business of D-Day: an exploratory study of consumer behaviour

Reference 5 - 0.25% Coverage

¶98: The result confirms the a priori hypothesis that economic imperatives are at odds with perceptions of quality and sacredness, leading to the commodification of otherwise venerable sites

Reference 6 - 0.06% Coverage

¶99: Debating the reconciliatory use of heritage.

Reference 7 - 0.16% Coverage

¶100: The premise is that only by learning from past conflicts will the region be able to continue its path to EU integration.

Reference 8 - 0.03% Coverage

¶138: Heritage diplomacy

¶139:
<Internals\\IJHS 2016 abstracts> - § 13 references coded [2.14% Coverage]

Reference 1 - 0.09% Coverage

¶7: Cultural revitalisation after catastrophe: the Qiang culture in A'er

Reference 2 - 0.19% Coverage

¶10: Furthermore, the participation process referred not only to the industrial zone itself, but to the development of the district as a whole.

Reference 3 - 0.20% Coverage

¶21: where heritage campaigns against redevelopment in the historic centre in the 1980s were later incorporated into an ambitious regeneration agenda,

Reference 4 - 0.05% Coverage

¶30: with positive local economic benefits

Reference 5 - 0.07% Coverage

¶44: encompassing cultural, social and economic benefits

Reference 6 - 0.18% Coverage

¶48: Yet, the 'diaspora' had long been identified as an important niche market in relation to heritage perceived as an economic resource

Reference 7 - 0.10% Coverage

¶54: is negatively affecting continued peace building processes in the country

Reference 8 - 0.09% Coverage

¶54: I show that common collective heritage matters for peace building

Reference 9 - 0.17% Coverage

¶62: thereby identified a convergence of interests and mutual gain by linking heritage protection with local development needs.

Reference 10 - 0.11% Coverage

¶101: recognition of the pitfalls of fostering economic development through heritage.

¶102:
Reference 11 - 0.16% Coverage

¶127: as a resource for tourism-oriented revenue generation and for 'improving' the 'quality' and behaviour of town residents

Reference 12 - 0.63% Coverage

¶127: . Based on ethnographic field work, a survey, and extended interviews over a period of four years, the paper finds the town leadership's faith in the ability of the built environment to shape and improve the conduct of citizens to be overstated. While the town's transformation has generated a new sense of urban modernity among residents, their ways of inhabiting and using urban space have little relevance to the 'heritagized' environment in which they now live.

¶128:
Reference 13 - 0.11% Coverage

¶140: Managing heritage, making peace: history, identity, and memory in contemporary Kenya

<Internals\\IJHS 2017 abstracts> - § 16 references coded [2.52% Coverage]

Reference 1 - 0.10% Coverage

¶20: promoting heritage for the purposes of nation building and social cohesion.

Reference 2 - 0.05% Coverage

¶23: Heritage and rural gentrification in Spain

Reference 3 - 0.58% Coverage

¶24: Although gentrification has been mostly understood as an urban phenomenon, the permanent establishment of urban dwellers in rural areas is becoming a widespread trend across the world. Despite its relevance to postindustrial societies, rural gentrification has been largely overlooked by heritage scholars, and has been explored very little in the context of Spain. In this article, I examine the relationship between heritage and rural gentrification

Reference 4 - 0.39% Coverage

¶24: I examine a specific instance of the globalizing phenomenon of rural gentrification, highlighting the key role heritage plays in this phenomenon, including (1) the impact on local governmentalities based on heritage discourse; (2) the refurbishing of houses and changes in the social spaces of villages

Reference 5 - 0.24% Coverage

¶24: I emphasize the urgency to carry out more research in order to improve our understanding of the complex and multifaceted phenomenon of rural gentrification from a heritage perspective.

¶25:
Reference 6 - 0.08% Coverage

¶31: Cultural heritage as civilising mission: from decay to recovery

Reference 7 - 0.09% Coverage

¶37: which describes in detail how the subject of this study constructs

Reference 8 - 0.04% Coverage

¶47: social and economic spheres.

Reference 9 - 0.09% Coverage

¶47: to tackle the various cultural challenges in postcolonial Hong Kong.

¶48:
Reference 10 - 0.02% Coverage

¶58: to its role

Reference 11 - 0.21% Coverage

¶114: Nostalgia mediates the tension between tradition and progress, refashioning the mangrove as a moral agent and re-negotiating the paradoxical outcomes of development.

¶115:
Reference 12 - 0.18% Coverage

¶127: Through interviews with key stakeholders and observations, I examine the role of heritage in the redevelopment using two broad categories

Reference 13 - 0.06% Coverage

¶168: and belonging and thus the role of heritage today.

Reference 14 - 0.09% Coverage

¶169: Making a home in Mostar: heritage and the temporalities of belonging

Reference 15 - 0.19% Coverage

¶174: The common practice is to ‘preserve’ these buildings by developing them to create more housing units. This practice inevitably leads to gentrification.

Reference 16 - 0.12% Coverage

¶174: and where the neighbourhood’s development continues to be linked with historic preservation.

<Internals\\IJHS 2018 abstracts> - § 19 references coded [2.25% Coverage]

Reference 1 - 0.22% Coverage

¶6: considering the crofting landscapes in relation to the (economisation) framing of heritage in development processes, especially in relation to fair development in present rural communities.

Reference 2 - 0.19% Coverage

¶25: but also poses a challenge to those accounts that see in the advent of a visitor economy the inevitable ‘museumification’ and gentrification of historic centres.

Reference 3 - 0.12% Coverage

¶31: to create an aesthetically pleasing and economically valuable destination for display and consumption.

Reference 4 - 0.01% Coverage

¶52: regeneration

Reference 5 - 0.05% Coverage

¶67: in realising socially equal and just cities.

¶68:

Reference 6 - 0.08% Coverage

¶73: with the heritage and the past of the site playing an important role

Reference 7 - 0.09% Coverage

¶73: considers to what extent the built environment in particular, can play a role

Reference 8 - 0.04% Coverage

¶90: from fulfilling its potential function

Reference 9 - 0.10% Coverage

¶122: looking forward to a supposed ‘golden age’ that seeks to heal internal social problems,

Reference 10 - 0.26% Coverage

¶132: Conceptual and theoretical modelling has been deployed in archival science for over 20 years to critically examine the complex and diverse roles that records and archives play at individual, community and societal levels.

Reference 11 - 0.08% Coverage

¶137: secure the socio-economic and environmental development of China

Reference 12 - 0.25% Coverage

¶137: This article traces the ways in which heritage became a component of this policy in one village in Zhejiang Province. It examines how the value of heritage was gradually realised by government officials and villagers

Reference 13 - 0.09% Coverage

¶137: which ensures that funds can be accessed to stimulate rural development.

Reference 14 - 0.31% Coverage

¶137: Focusing on the ways in which institutions recognise and then mobilise heritage to secure instrumental goals enables us to examine the inherent malleability of heritage and how this is aligned to meet specific policy goals in China, as it is around the world.

¶138:

Reference 15 - 0.02% Coverage

¶143: on local development

Reference 16 - 0.10% Coverage

¶143: fostering local development through tourism and improving communities’ quality of life.

Reference 17 - 0.05% Coverage

¶149: Dilemma of local socio-economic perspectives

Reference 18 - 0.04% Coverage

¶150: focusing on their socio-economic value

Reference 19 - 0.12% Coverage

¶150: from which they can earn money and get employment and see infrastructure and social facilities developed

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶12: The investigations focused on the role of cultural heritage as a positive force in the operation of integrated coastal management programmes

<Internals\\JCH 2004 Abstracts> - § 3 references coded [2.30% Coverage]

Reference 1 - 0.86% Coverage

¶19: Heritage and culture are two important components of the leisure sector. This leads to the question of how such non-market goods may be valued. In this paper we have opted for the travel cost method, widely used in the valuation of natural assets, to estimate the demand curve. Using this method, it was possible to calculate the consumer surplus value of four different cultural goods or services in the Castilla y León region of Spain.

Reference 2 - 1.14% Coverage

¶67: By using France as an illustration, we shall show the different channels through which such jobs are created. It is therefore important to see how a society defines the conditions of this valorisation and its potential, using an 'heritage ecosystem approach' based on the interdependence between the quality of a monument and the relationship between the providers of heritage-related services and those who desire these services. This approach to the heritage ecosystem defines the conditions necessary for sustaining heritage and deciding whether it is an asset or a liability.

Reference 3 - 0.30% Coverage

¶67: Then it may be shown that Cultural Tourism is not a panacea and that there exists many conditions in order to realize its corresponding expectations.

¶68:
<Internals\\JCH 2005 abstracts> - § 5 references coded [1.09% Coverage]

Reference 1 - 0.05% Coverage

¶20: Economy in Cultural Heritage

Reference 2 - 0.46% Coverage

¶21: the social benefits of restoring and old Arab tower

¶22: Cultural heritage protection is a key issue around the world today. In this paper, the contingent valuation method has been applied to obtain the social benefits that stem from the restoration

Reference 3 - 0.44% Coverage

¶76: Since much of such heritage is unique and priceless, its durability is a subject of utmost importance, not only from the standpoint of economic planning and maintenance, but also on cultural, political, technical and scientific grounds

Reference 4 - 0.08% Coverage

¶87: Economy and sociology in Cultural Heritage

Reference 5 - 0.06% Coverage

¶88: Financing the culture in Italy

<Internals\\JCH 2006 Abstracts> - § 6 references coded [1.35% Coverage]

Reference 1 - 0.08% Coverage

¶63: Economy and sociology in cultural heritage

Reference 2 - 0.15% Coverage

¶64: The three economic values of cultural heritage: a case study in the Netherlands

Reference 3 - 0.30% Coverage

¶65: This paper shows that the economic benefits of conserving the most threatened types of cultural heritage surpass the costs. Conservation is a sound investment.

Reference 4 - 0.15% Coverage

¶65: The housing comfort value is determined through the Hedonic Pricing method (HPM).

Reference 5 - 0.46% Coverage

¶65: It is the first time that this monetarisation technique is used to express the value of cultural heritage in Euro's. The results show that historical characteristics of buildings and their surroundings account for almost 15% of property values.

Reference 6 - 0.22% Coverage

¶65: The recreation and bequest value are estimated by means of the more commonly used Contingent Valuation method (CVM).

<Internals\\JCH 2008 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶192: These CV studies assess the social benefits of cultural resources

<Internals\\JCH 2009 Abstracts> - § 6 references coded [2.79% Coverage]

Reference 1 - 0.08% Coverage

¶11: all the actions addressed to the promotion and the social development of its population

Reference 2 - 0.06% Coverage

¶35: Economic impacts of cultural heritage – Research and perspectives

Reference 3 - 0.72% Coverage

¶36: Investment in cultural heritage (and other forms of culture) are often claimed to be beneficial for a local economy, not only in terms of cultural consumption, but also in the form of increased employment and income. This article addresses some methodological questions regarding economic impact studies of investments in cultural heritage projects. Different types of direct and indirect impacts are being discussed, especially how these can be calculated. We also give a short overview over some studies of economic impact of different cultural and/or tourism activities, and the pros and cons of these studies. In a study of the Norwegian town of Røros, we find that tourism related to the cultural heritages in the region contribute some 7 per cent to overall employment and income.

Reference 4 - 0.43% Coverage

¶38: While benefit transfer is being increasingly applied in studies on environmental goods, its application in the field of cultural heritage resources is rare. The unique nature of these public goods, and differences in the size and demographic characteristics of the affected populations lead to a significant risk of benefit transfer providing irrelevant estimates for cultural heritage. In this study, we compared the results of two contingent valuation (CV) studies

Reference 5 - 0.43% Coverage

¶38: These results suggest that there are other important factors – possibly physical, cultural and institutional variables – that need to be taken into account in explaining the differences in WTP for cultural heritage aside from the usual income and socio-economic variables captured in CV studies. Until we are able to identify these other factors and measure their impacts, the potential policy use of benefit transfer in the case of cultural heritage goods remains limited.

Reference 6 - 1.07% Coverage

¶110: Data Envelopment Analysis (DEA) is a widely applied tool in efficiency evaluation for public administration, yet has scarcely been put to use in the case of heritage institutions. The goal of the current paper is to evaluate the technical efficiency of a regional system of museums, the hypothesis being that these bodies represent one organization of productive resources (employment, equipment, art collections, and so on), aimed at providing various goods and services linked to their basic functions: conservation, exhibiting, research and dissemination of cultural heritage. Yet, given the diverse nature of this kind of institution, previous sorting and classification is required in order to obtain homogeneous clusters for the various elements. This research therefore merges multivariate statistical techniques to synthesise the initial information and DEA for efficiency evaluation. These findings may prove useful for management of these institutions, as well as for those responsible for public resource allocation policies in the area of cultural heritage. We apply this to a regional system of museums in Spain, which includes both rural and urban museums.

<Internals\\JCH 2010 Abstracts> - § 8 references coded [2.04% Coverage]

Reference 1 - 0.27% Coverage

¶33: The respectful conversion of these derelict constructions to adopt new economic or social uses constitutes an interesting practise to protect the rural landscapes and to set in motion complementary gainful activities to the agricultural production

Reference 2 - 0.31% Coverage

¶39: The lack of significance regarding a racial variable coefficient estimate suggests that the use of an institution's visual identity in terms of built heritage may have important marketing implications, particularly in cases where universities or colleges are trying to attract students

Reference 3 - 0.09% Coverage

¶40: Valuing museums as economic engines: Willingness to pay or discounting of cash-flows?

Reference 4 - 0.71% Coverage

¶41: a hope for substantial impact on the local economy. The economic value of cultural assets is defined as the extent to which they generate benefits for society. The aim of this article is to shed light on the valuation of GLAMUR infrastructures and why, and then to valuate the Guggenheim Museum Bilbao (GMB). In fact, the author of this paper argues that economic valuation through an estimate of the Willingness to Pay (WTP) (e.g. contingent valuation), is clearly an insufficient method

for valuating a GLAMUR. One possible accurate method could be to calculate the Discounting of Cash-flows (DCF), followed by the discounting of the WTP estimates.

Reference 5 - 0.19% Coverage

¶45: is not only of academic interest but can be a crucial economic and heritage issue for regions with long mining traditions but which are now severely affected by mine closures

Reference 6 - 0.21% Coverage

¶80: There are many contingent valuation (CV) studies to estimate the economic benefits of cultural heritage, but few provided advice on the design of financial products for cultural heritage assets.

Reference 7 - 0.10% Coverage

¶115: is an important task because of its historical significance, symbolism, and economic benefits

Reference 8 - 0.16% Coverage

¶119: indeed, they are nowadays considered as a privileged means for communication and play a central role in making culture accessible to the mass audience

<Internals\\JCH 2011 abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶88: Cultural heritage has been recognised to be intrinsically, economically and environmentally valuable

<Internals\\JCH 2013 abstracts> - § 8 references coded [1.21% Coverage]

Reference 1 - 0.05% Coverage

¶44: The socio-economic impact of built heritage projects conducted by private investors

Reference 2 - 0.55% Coverage

¶45: Drawing on the existing research on the socio-economic impact of cultural heritage on local and regional development, the author's aim is to further the scientific discourse in two ways. Firstly, she focuses on the economic and social significance of private investors as important actors implementing heritage restoration projects. Although these initiatives are often primarily commercial in character, they may nonetheless exert a strong, broadly positive influence on local and regional development processes, especially if a cluster of such projects develops within a relatively small area richly endowed with a specific type of heritage. Secondly, she provides empirical evidence from Central and Eastern Europe, a region little explored to date by studies of this type.

Accordingly, the article examines the specific context of post-1989 private heritage-oriented investments

Reference 3 - 0.04% Coverage

¶55: Rehabilitation through a holistic revitalization strategy

Reference 4 - 0.14% Coverage

¶56: This was the first official act that recognizes the historical centres as Europe's research, innovation, and economical development engines and one of its main goals was to attract investments and activities in the cities centres

Reference 5 - 0.18% Coverage

¶56: namely: revitalize – restructure – renovation in this order by using the potential of the existing students as an engine of development. The revitalization itself took place on another three levels meaning refunctionalizing of buildings, recreating public spaces and reorienting events

Reference 6 - 0.08% Coverage

¶56: which goes beyond physical regeneration as urban knowledge hubs are developed with explicit social regeneration objectives in mind.

Reference 7 - 0.10% Coverage

¶143: So much so that the women of the town of Baunei took pride in their skill at making acorn bread and apparently sold it at a higher price than regular wheat flour bread

Reference 8 - 0.07% Coverage

¶208: Heritage institutions, as one of the main aspects of culture, play an important role in economic prospect of culture

<Internals\\JCH 2015 abstracts> - § 4 references coded [0.68% Coverage]

Reference 1 - 0.02% Coverage

¶185: Economic evaluation of urban heritage

Reference 2 - 0.44% Coverage

¶186: proposes an operational analysis grid to evaluate the economic interest of rehabilitation or renovation projects linked to urban heritage. Monetary and non-monetary indicators are both useful for this evaluation. Developers currently view urban heritage as a resource for their field. This view

has led the developers to estimate the economic value of urban heritage when standard tools of economic analysis, which only focus on use values, are unable to provide clear results. We advance an operational economic definition of urban heritage. Our definition of urban heritage is described as inclusive because it includes four series of interdependent economic, social, cultural and environmental elements.

Reference 3 - 0.11% Coverage

¶186: Above certain thresholds, the four different dimensions of urban heritage are complementary, rather than substitutable, and the loss of one of these dimensions would be irreversible

Reference 4 - 0.10% Coverage

¶188: Decisions related to integrated cultural and natural heritage are increasingly complex due to the multiple-use nature of goods and services provided by the environment

<Internals\\JCH 2016 abstracts> - § 2 references coded [0.06% Coverage]

Reference 1 - 0.02% Coverage

¶93: attempts to assess the economic benefit

Reference 2 - 0.04% Coverage

¶184: and the financial resources these sites introduce to local communities.

<Internals\\JCH 2017 abstracts> - § 4 references coded [0.73% Coverage]

Reference 1 - 0.08% Coverage

¶115: The latter could be used in cost-benefit analysis of historic sites by policy and decision makers, and development practitioners wishing to protect the traditional built environment.

¶116:
Reference 2 - 0.22% Coverage

¶205: The aim of the present paper is to estimate the benefits related to the CdM slow-mobility project, through the Contingent Valuation Method (CVM), and therefore the willingness to pay (WTP) declared by the 472 families, living within 3.75 km of the path. These benefits are expected to be intangible for the most: they are both environmental, in terms of reduced motorized mobility and increased quality of life, and cultural, due to the improved promotion of the historic and religious heritage system

Reference 3 - 0.06% Coverage

¶247: Cognitive Keynesianism: Heritage conservation as a platform for structural anti-cyclic policy. The case of the Halland Region, Sweden

Reference 4 - 0.37% Coverage

¶248: The paper presents the case study of the so called Halland Model, a pioneering example of strategic inter-sector coordination focused upon cultural heritage conservation, which has solved a major structural crisis of the local economy in the early 90s through an original public administration-driven, capability building-centred approach. We argue that this example can be taken as the prototype of a more general, structural approach to counter-cyclic policies that we call Cognitive Keynesianism (CK), and that CK in turn can be usefully read in the context of the more general class of culture-led local development models known as System-Wide Cultural Districts (SWCD). The paper analyses how the Halland model case fits into the CK and SWCD frameworks, and draws implications in terms of directions for future research

<Internals\\JCH 2018 abstracts> - § 12 references coded [0.78% Coverage]

Reference 1 - 0.14% Coverage

¶81: Retrofit strategies at urban scale may play a strategic role in promoting the regeneration of existing towns and revitalizing the local building market, particularly in case of historical urban settlements where economic/societal changes have been amplified by natural calamities, accelerating depopulation and depletion of the local productive network

Reference 2 - 0.02% Coverage

¶84: The Altamira controversy: Assessing the economic impact

Reference 3 - 0.05% Coverage

¶85: that was conducted from 2012 to 2014 and focused on a key feature of the project estimating the potential economic impacts

Reference 4 - 0.10% Coverage

¶85: The study analyzed the direct and indirect economic impacts of visitors to Altamira on the regional economy of Cantabria, a Spanish Autonomous Community. Using an input-output method (IO), we estimated the values accrued to the region

Reference 5 - 0.02% Coverage

¶86: Economic valuation of museums as public club goods:

Reference 6 - 0.16% Coverage

¶87: The economic valuation of public goods, which include museums, is an important field of study in economic analysis and management in that the findings to emerge help to design public policies

and to further both private and public commitment to managing such cultural heritage institutions. The current paper seeks to ascertain the economic value assigned to a specific and relevant museum

Reference 7 - 0.06% Coverage

¶87: This value is determined using the choice experiments method. The analysis therefore provides a case study describing demand for cultural club goods

Reference 8 - 0.06% Coverage

¶87: Finally, the paper expands the number of case studies on public cultural heritage institutions in Latin America and developing countries.

¶88:
Reference 9 - 0.06% Coverage

¶289: Many countries base their development strategies on promoting cultural tourism by making use of their rich historical and artistic heritage

Reference 10 - 0.07% Coverage

¶289: Therefore, the impact of the loss of this heritage is also unclear. In this paper we estimate the economic loss that would result from total or partial damage to WHS.

Reference 11 - 0.02% Coverage

¶327: compatibility of the creative industries is indisputable.

Reference 12 - 0.02% Coverage

¶327: it reveals the economic characteristics of cultural values

Name: Nodes\\Place\Spirit of place

<Internals\\IJCP 2008 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶57: to preserve the spirit of place

<Internals\\IJHS 1998 Abstracts> - § 1 reference coded [0.33% Coverage]

Reference 1 - 0.33% Coverage

¶34: high visitation levels have imperilled its spirit of place

<Internals\\IJHS 2015 abstracts> - § 3 references coded [0.74% Coverage]

Reference 1 - 0.03% Coverage

¶112: The spirit of place

Reference 2 - 0.31% Coverage

¶113: the 'spirit and feeling' of a place or how it could inform heritage conservation. I argue that the notion of spirit of place may be defined in a manner that directly links it with the concept of cultural significance of historic places

Reference 3 - 0.40% Coverage

¶113: were interviewed to explore their shared understanding of its spirit of place. The residents identify the spirit of place of Bhaktapur in terms of four interrelated place dimensions; that is, the 'sense of sacrality', the 'sense of community', the 'sense of historicity' and the 'sense of serenity'.

¶114:
<Internals\\IJHS 2016 abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶30: for the spirit of place

Name: Nodes\\'Critical' heritage discussion\Abstract concepts of heritage\Subjectivity of heritage recognition

<Internals\\Antiquity 1994 abstracts> - § 1 reference coded [0.21% Coverage]

Reference 1 - 0.21% Coverage

¶89: A modest experiment explores what is is seen and what is not seen

<Internals\\Antiquity 1998 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶210: Making alternative histories: the practice of archaeology and history in non-Western settings.

<Internals\\Antiquity 2008 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶248: recognition and potential

<Internals\\Antiquity 2009 abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶36: Only the admirer can make 'treasure' of a find in isolation

<Internals\\Antiquity 2012 abstracts> - § 1 reference coded [0.16% Coverage]

Reference 1 - 0.16% Coverage

¶66: above all, by the entrenched assumption that this part of the world had no history to save

<Internals\\Curator 1998> - § 1 reference coded [3.47% Coverage]

Reference 1 - 3.47% Coverage

¶55: A work judged to be genuine in one era might be considered a fake, or a partial fake, in another. In some contexts, modified works or copies might be acceptable or even preferred to the original or to its unretouched version. Different criteria—for example, aesthetic effect versus value on the art market—may lead to different judgments. Fakery is not a black-and-white issue.

<Internals\\Curator 2011 abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶81: fact versus fiction

<Internals\\Curator 2015 abstracts> - § 1 reference coded [1.15% Coverage]

Reference 1 - 1.15% Coverage

¶38: Since the 1970s, the de-differentiation of high and low culture has legitimized the curation of craft and popular culture. The curation of some crafts, such as quilting, has assisted in reducing art-craft distinctions, and the exhibition of fashion and popular music has highlighted links between folk culture (e.g., stories, songs, and crafts) and mass culture.

<Internals\\IJCP 1994 abstracts> - § 1 reference coded [1.34% Coverage]

Reference 1 - 1.34% Coverage

¶10: involving complicated and controversial exercises of judgment and, in particular, is not simply a technical matter.

<Internals\\IJCP 2006 Abstracts> - § 3 references coded [0.46% Coverage]

Reference 1 - 0.15% Coverage

¶3: of Heritage Recognition in Puebla, Mexico

Reference 2 - 0.22% Coverage

¶4: This article problematizes the process of heritage declaration

Reference 3 - 0.10% Coverage

¶41: “What Heritage to Preserve?”

<Internals\\IJCP 2007 Abstracts> - § 2 references coded [1.61% Coverage]

Reference 1 - 1.02% Coverage

¶33: this paper takes strategic thinking in cultural heritage management one step further and addresses the management of artifactual material created by our closest relatives, the great apes. Given the increasing understanding that chimpanzees have cultures and traditions in tool use,

Reference 2 - 0.59% Coverage

¶34: By extension, which artifacts will be kept along the way? The contemplation of the role of nonhuman heritage will ultimately foster a reappraisal of human heritage

<Internals\\IJCP 2008 Abstracts> - § 1 reference coded [0.23% Coverage]

Reference 1 - 0.23% Coverage

¶26: as well as how doing so raises issues about what cultural property is, and perhaps can be.

<Internals\\IJCP 2013 abstracts> - § 4 references coded [2.27% Coverage]

Reference 1 - 0.41% Coverage

¶4: Moreover, it raised a foundational question as to whether these relics might be considered cultural heritage

Reference 2 - 0.73% Coverage

¶8: The philosophical and art-historical opinions regarding the value of copies and reproductions of works of art have oscillated from promulgation in the 1860s to outright rejection by the 1920s

Reference 3 - 0.98% Coverage

¶45: while denigrating or even destroying later significant built environments. Structures that are the emanation of subsequent cultures, but similarly tied to the place, are often undervalued, underinterpreted, and even purposely obliterated from the landscape.

Reference 4 - 0.15% Coverage

¶45: to the complete detriment of the other.

<Internals\\IJCP 2014 abstracts> - § 1 reference coded [0.19% Coverage]

Reference 1 - 0.19% Coverage

¶42: Monumentalizing the Ruins of Korean Antiquity:

<Internals\\IJCP 2017 ABSTRACTS> - § 2 references coded [2.30% Coverage]

Reference 1 - 1.67% Coverage

¶54: I therefore suggest “pastness” as a useful term for denoting the perception that a given object is “of the past.” Pastness is not immanent in an object but, rather, results from its appearance (for example, patina), its context (for example, in a museum), or its correspondence with preconceived expectations among the audience.

Reference 2 - 0.63% Coverage

¶54: emerges as being less universal than Riegl thought and was linked to a very particular intellectual and cultural context.

¶55:
<Internals\\IJHS 1994-6 Abstracts> - § 1 reference coded [1.00% Coverage]

Reference 1 - 1.00% Coverage

¶29: modern landscape studies emphasise the subjectivity of landscape assessment, and this is subverting the former tendency to aspire to objectivity in evaluation.

<Internals\\IJHS 1996 Abstracts> - § 4 references coded [2.49% Coverage]

Reference 1 - 0.65% Coverage

¶17: A lively debate has ensued, most notably in the capital. Hanoi, about what is worth keeping

Reference 2 - 0.84% Coverage

¶17: Western planning advisers who argue for the protection of the French and Russian layers in Hanoi's cultural landscape

Reference 3 - 0.70% Coverage

¶44: Recent acquisitions challenge conventional perceptions of ‘natural beauty’ and ‘historic interest’

Reference 4 - 0.29% Coverage

¶44: changes in public perceptions of heritage

<Internals\\IJHS 1997-8 Abstracts> - § 1 reference coded [0.41% Coverage]

Reference 1 - 0.41% Coverage

¶7: one which misunderstands the essential concept of cultural heritage

<Internals\\IJHS 1998 Abstracts> - § 6 references coded [1.86% Coverage]

Reference 1 - 0.25% Coverage

¶8: the recognition of the town's heritage status

Reference 2 - 0.25% Coverage

¶18: a local landscape heritage, in its own right

Reference 3 - 0.29% Coverage

¶18: this element is treated as landscape heritage today

Reference 4 - 0.37% Coverage

¶22: a gender difference emerges; for men the passage of time produces

Reference 5 - 0.27% Coverage

¶22: , but for women, objects are the passage of time.

Reference 6 - 0.43% Coverage

¶22: This has a significant impact on what eventually emerges as family heritage,

<Internals\\IJHS 2000 Abstracts> - § 3 references coded [1.65% Coverage]

Reference 1 - 0.72% Coverage

¶20: such crafted furniture and photographs of such objects have a particular role in the development of material culture and public history.

Reference 2 - 0.74% Coverage

¶20: However, the way such work is viewed by their current owners gives different insights and suggests alternative ways of approaching this topic.

Reference 3 - 0.19% Coverage

¶45: Heritage sites regarded as important

<Internals\\IJHS 2002 Abstracts> - § 4 references coded [2.39% Coverage]

Reference 1 - 0.38% Coverage

¶6: exposed both the depth of local sentiments over place-memories and fishing heritage,

Reference 2 - 0.62% Coverage

¶10: One important question with regard to this is: do they acknowledge the recent historicity of their residential district built in 1910-1940

Reference 3 - 0.28% Coverage

¶34: as alternative models for European notions of the built past

¶35:
Reference 4 - 1.12% Coverage

¶46: It is argued that current heritage management practice has not engaged with the extensive discourse relating to aesthetics, and therefore confines aesthetics to a particular class and culture, and an inert view of only one of our sensory experiences.

<Internals\\IJHS 2004 Abstracts> - § 3 references coded [1.28% Coverage]

Reference 1 - 0.66% Coverage

¶9: Comparisons are drawn between those buildings and areas identified as being of special interest by English Heritage and the London Borough of Tower Hamlets

Reference 2 - 0.11% Coverage

¶9: and view of built heritage

Reference 3 - 0.50% Coverage

¶23: with respect to what heritage perspectives exist among redevelopment agencies and other concerned institutional actors

<Internals\\IJHS 2005 Abstracts> - § 1 reference coded [0.32% Coverage]

Reference 1 - 0.32% Coverage

¶7: A conclusion is that Skåne's landscape heritage runs the risk of being alienated

<Internals\\IJHS 2006 Abstracts> - § 3 references coded [0.64% Coverage]

Reference 1 - 0.11% Coverage

¶36: for present and future generations

Reference 2 - 0.32% Coverage

¶38: and later reinterpreted and defined quite differently in Europe, Australia, New Zealand, Canada and China

Reference 3 - 0.22% Coverage

¶73: but which aspects of heritage, and whose heritage, are being celebrated?

<Internals\\IJHS 2007 Abstracts> - § 3 references coded [0.91% Coverage]

Reference 1 - 0.10% Coverage

¶3: On the Cultural Heritage of Robots

Reference 2 - 0.53% Coverage

¶4: Cultural heritage management is an inherently retrospective discipline. To the detriment of future heritage management, some heritage places were not recognised and managed

Reference 3 - 0.28% Coverage

¶12: This article seeks to engage with rather different perspectives in areas of Southeast Asia

<Internals\\IJHS 2008 Abstracts> - § 2 references coded [0.34% Coverage]

Reference 1 - 0.22% Coverage

¶43: often overlook and, at times, even devalue the role of the moving image.

Reference 2 - 0.12% Coverage

¶46: Comparing the Philippines and South Korea

<Internals\\IJHS 2009 Abstracts> - § 4 references coded [1.34% Coverage]

Reference 1 - 0.51% Coverage

¶4: It is an ethos that includes a philosophical and practical approach to this Japanese Continuing Landscape which dramatically diverges from conventional Western practices

Reference 2 - 0.36% Coverage

¶20: cultural aspirations influence how we create and give meaning to our environment. Local populations may assign importance

Reference 3 - 0.16% Coverage

¶20: and landscapes according to their own cultural criteria

Reference 4 - 0.30% Coverage

¶22: which has not been properly identified as such. This paper contributes to that task of identification.

<Internals\\IJHS 2010 Abstracts> - § 6 references coded [1.04% Coverage]

Reference 1 - 0.15% Coverage

¶6: seeking to assert alternative understandings of heritage

Reference 2 - 0.12% Coverage

¶16: often interpret heritage objects differently

Reference 3 - 0.16% Coverage

¶24: even where no sites of archaeological significance occur.

Reference 4 - 0.21% Coverage

¶70: As summarised by one of the local leaders ‘the people do not believe in it’.

Reference 5 - 0.19% Coverage

¶71: Our history is not false: perspectives from the revitalisation culture

Reference 6 - 0.21% Coverage

¶72: the deprecation of subjective ways in which the perception of building fabric

<Internals\\IJHS 2011 abstracts> - § 2 references coded [0.48% Coverage]

Reference 1 - 0.21% Coverage

¶10: the challenges of selecting and preserving structures which embody these concepts

Reference 2 - 0.27% Coverage

¶12: This article traces the parallel development of the idea of the dhow as a symbol of regional identity and

<Internals\\IJHS 2014 abstracts> - § 5 references coded [1.05% Coverage]

Reference 1 - 0.29% Coverage

¶34: illustrates how the term has been mobilised by a variety of actors, from the public to the private sector, to highlight the value of particular popular music manifestations

Reference 2 - 0.43% Coverage

¶36: Focusing our discussion on the example of music heritage plaques, we identify three categories of heritage discourse: (1) official authorised popular music heritage, (2) self-authorised popular music heritage and (3) unauthorised popular music heritage.

Reference 3 - 0.19% Coverage

¶53: in a spectacular 1000-year-old ruin, but falls short of explaining the uneven recognition of smaller ruins.

¶54:
Reference 4 - 0.11% Coverage

¶115: China has developed, over thousands of years, a unique way of

Reference 5 - 0.03% Coverage

¶115: and using the past.

<Internals\\IJHS 2015 abstracts> - § 9 references coded [1.78% Coverage]

Reference 1 - 0.06% Coverage

¶35: culturally (Mediterranean and traditional).

Reference 2 - 0.09% Coverage

¶37: different understandings of heritage that existed outside Europe.

Reference 3 - 0.09% Coverage

¶39: The increasing presentation of popular music culture as heritage

Reference 4 - 0.31% Coverage

¶51: Despite engaging directly with the physical effects of collecting and vandalism, little attention is given to the meanings of these actions and the contributions they make to the stories told about sites or the past more broadly.

Reference 5 - 0.42% Coverage

¶58: considers the implications of framing subcultural graffiti and street art as heritage. Attention is paid to subcultural graffiti's relationship to street art and the incompatibility of its traditions of illegality, illegibility, anti-commercialism and transience with the formalised structures of heritage frameworks

Reference 6 - 0.15% Coverage

¶58: mean that traditional definitions of heritage, vandalism and the historic environment will all need to be revisited

Reference 7 - 0.24% Coverage

¶60: I point to a heritage allegedly neglected by the state, the religious shrines of the Shia community, which to this group signify an alternative heritage and history of the islands

Reference 8 - 0.34% Coverage

¶81: However, these events are not always maintained in the city's commemorative schemes. Indeed, incidents that have caused substantial fatalities, whilst immediately remembered within the city, can appear to be disregarded by society with the passing of time

Reference 9 - 0.09% Coverage

¶99: European post-monumentalism versus regional national-monumentalism

¶100:
<Internals\\IJHS 2016 abstracts> - § 8 references coded [1.60% Coverage]

Reference 1 - 0.35% Coverage

¶4: Investigating how different 'associated people' perceive, construct and even manipulate heritage, this study found that participation is not only related to wealth, success or status, but also to residential orientations, self-perceptions of the motherland

Reference 2 - 0.08% Coverage

¶23: as a key factor in residents' understandings of heritage

Reference 3 - 0.11% Coverage

¶26: The photographs were collected as part of a wider research project on the way

Reference 4 - 0.20% Coverage

¶44: Based on critical discourse analysis of interviews with local actors, the paper identifies that collected memory and local place distinctiveness,

Reference 5 - 0.16% Coverage

¶44: , are of central importance in how non-experts construct their understanding of built heritage. In the Irish context,

Reference 6 - 0.25% Coverage

¶48: For a long time in Scotland, diasporic – and popular – heritage with its imaginary emphasising kinship, stylised images and ritualised practices was either overlooked or discredited

Reference 7 - 0.10% Coverage

¶48: initiating revisions and re-reading of popular and diasporic culture.

¶49:
Reference 8 - 0.37% Coverage

¶123: The Enning Road redevelopment project has been controversial in Guangzhou as the site possesses many vernacular buildings that are not officially recognised by the authorities as significant but are nevertheless highly regarded by non-state stakeholders as important entities

<Internals\\IJHS 2017 abstracts> - § 8 references coded [1.69% Coverage]

Reference 1 - 0.19% Coverage

¶17: There are currently few examples of popular music being officially celebrated as heritage in Australia. Interest in this area is growing, however

Reference 2 - 0.09% Coverage

¶39: which often comes into conflict with UNESCO understandings of heritage

Reference 3 - 0.04% Coverage

¶39: their understanding of heritage

Reference 4 - 0.04% Coverage

¶39: which could not be explained

Reference 5 - 0.10% Coverage

¶47: contradictory views and discourses surrounding heritage and cultural governance

Reference 6 - 0.46% Coverage

¶56: During the last 50 years, and due to the dilapidation of public funds, hundreds of unfinished public works have been erected Italy. In 2007, the group of artists Alterazioni Video declared these ruins a formal architectural style – 'Incompiuto Siciliano' – and, in doing so, their aim is to change the buildings' dark side and turn it into something positive.

Reference 7 - 0.51% Coverage

¶56: This article analyses how such a provocative project contains serious implications in terms of heritage. It is stated that, in order to forge a positivized 'unfinished heritage', Incompiuto Siciliano

Archaeological Park builds bridges between aspects that, in principle, seem to be the opposite of each other. This opens the possibility of putting traditional heritage assumptions in question

Reference 8 - 0.27% Coverage

¶60: More than the distant history of the Incas, it is this kind of more recognisable and meaningful folk history what people remember the most and what largely constitutes the fabric of social memory in Chinchero

<Internals\\IJHS 2018 abstracts> - § 12 references coded [1.16% Coverage]

Reference 1 - 0.04% Coverage

¶14: It focuses on the 're-discovery'

Reference 2 - 0.24% Coverage

¶14: describes the global connections and disconnections between the actors involved, claiming that the alternative practices of appropriating the Maisons Tropicales rely on competing and conflicting technologies

Reference 3 - 0.04% Coverage

¶40: Performing a different narrative

Reference 4 - 0.08% Coverage

¶54: influencing the production and definition of their urban heritage.

Reference 5 - 0.11% Coverage

¶77: Through this study, a vernacular way of practicing and conceptualising heritage is established

Reference 6 - 0.08% Coverage

¶84: and rebalances the field's disproportionate focus on recognition

Reference 7 - 0.05% Coverage

¶108: A study of stakeholder-defined heritage

Reference 8 - 0.14% Coverage

¶108: The study also problematised the term 'cultural heritage' as it is understood and used by the different constituencies

Reference 9 - 0.18% Coverage

¶120: The main heritagization processes highlights the palm as a plant through arguments that emphasize the utility, beauty and specificity of palm forests.

Reference 10 - 0.15% Coverage

¶135: The subjectivities of ICH practitioners, as well as their subjective perspectives and experiences are privileged in this research

Reference 11 - 0.03% Coverage

¶135: the idea of subjective

Reference 12 - 0.04% Coverage

¶145: the subjectivity of destruction

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶14: the heritage most at risk is often that which carries most meaning for local people and traditional visitors

<Internals\\JCH 2008 Abstracts> - § 2 references coded [0.41% Coverage]

Reference 1 - 0.03% Coverage

¶210: have totally ignored this phenomenon.

Reference 2 - 0.38% Coverage

¶211: The discovery of its history and its role in Tel Aviv cultural heritage will change the attitudes of Tel Aviv-Jaffa municipality to this building material; instead of a vernacular phenomena, a common brick or a frequent building technology, it will get a better appreciation. Urban landscapes of many cities around the world are based on vernacular phenomena, which are ignored by the urban municipalities

<Internals\\JCH 2010 Abstracts> - § 1 reference coded [0.43% Coverage]

Reference 1 - 0.43% Coverage

¶45: We propose that the particular mining-related aspects (which are usually viewed as negative, such as subsidence or groundwater modification), be considered as part of the heritage of the

mining activity, considered in the widest sense. To facilitate understanding, these are discussed in comparison to those for a prehistoric cave, for which there is a broader experience and solid knowledge

<Internals\\JCH 2014 abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶183: Due to their utilitarian nature, their heritage value is often overlooked.

<Internals\\JCH 2018 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶83: which can leave them open to criticism for not protecting the cultural resources most important to various and

Name: Nodes\\Sustainability

<Internals\\Antiquity 1994 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶45: All natural things: archaeology and the green debate.

<Internals\\Antiquity 1996 abstracts> - § 1 reference coded [0.16% Coverage]

Reference 1 - 0.16% Coverage

¶216: In contemporary green perceptions, rainforests are an Eden of biodiversity

<Internals\\Antiquity 2007 abstracts> - § 2 references coded [0.19% Coverage]

Reference 1 - 0.07% Coverage

¶257: Global Socioenvironmental Change and Sustainability

Reference 2 - 0.12% Coverage

¶258: The Recurring Dark Ages: Ecological Stress, Climate Changes, and System Transformation

<Internals\\Antiquity 2010 abstracts> - § 2 references coded [0.58% Coverage]

Reference 1 - 0.34% Coverage

¶255: There is a multiplicity of dimensions to the debate about 'global warming' (also referred to as 'enhanced greenhouse warming', 'human-induced climate change' or 'anthropogenic warming')

Reference 2 - 0.24% Coverage

¶255: I see a need to refocus the debate toward issues of sustainability and away from the current over-emphasis on global warming.

¶256:

<Internals\\Antiquity 2012 abstracts> - § 1 reference coded [0.14% Coverage]

Reference 1 - 0.14% Coverage

¶217: Sustainable lifeways: cultural perspectives in an ever-changing environment.

<Internals\\Antiquity 2015 abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶232: Sustainability, culture change

<Internals\\Antiquity 2016 abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶293: Lessons from history on sustainability, collapse and resilience

<Internals\\Antiquity 2017 abstracts> - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

¶276: Such studies are becoming increasingly important as archaeologists seek to understand how cities sustained themselves, demonstrating resilience to both external shocks and long-term environmental changes, and, conversely, how cities contributed to their own demise through the over-exploitation of environmental resources

<Internals\\Curator 2004> - § 1 reference coded [0.42% Coverage]

Reference 1 - 0.42% Coverage

¶47: Morality's Progress: Essays on Humans, Other Animals, and the Rest of Nature

<Internals\\Curator 2007> - § 1 reference coded [0.25% Coverage]

Reference 1 - 0.25% Coverage

¶45: testing alternative means of achieving meaning and sustainability

<Internals\\Curator 2008> - § 4 references coded [2.57% Coverage]

Reference 1 - 0.55% Coverage

¶26: Promoting Sustainability: Audience and Curatorial Perspectives on The Human Factor

Reference 2 - 0.97% Coverage

¶27: Humanity faces a growing list of socio-economic and environmental problems, which impel us all to foster more sustainable forms of development.

Reference 3 - 0.82% Coverage

¶27: Additional qualitative insights were gained from responses of participants in a high school Youth Forum on Sustainability

Reference 4 - 0.24% Coverage

¶27: and that a focus on sustainability

<Internals\\Curator 2010 Abstracts> - § 2 references coded [0.52% Coverage]

Reference 1 - 0.44% Coverage

¶53: the foundation for a sustainable future, in a time of profound social and environmental change for society at large

Reference 2 - 0.08% Coverage

¶60: Sustainable Values

¶61:

<Internals\\Curator 2011 abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶89: issues of sustainability

<Internals\\Curator 2012 abstracts> - § 2 references coded [0.34% Coverage]

Reference 1 - 0.09% Coverage

¶11: it explores the sustainability

Reference 2 - 0.24% Coverage

¶76: This approach offers advantages for the long-term sustainability of museums.

¶77:

<Internals\\Curator 2014 abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶45: Going Green in Nepal

<Internals\\Curator 2016 abstracts> - § 4 references coded [1.19% Coverage]

Reference 1 - 0.10% Coverage

¶13: environmental sustainability

Reference 2 - 0.12% Coverage

¶40: in the sustainability movement.

Reference 3 - 0.86% Coverage

¶40: The author concludes that sustainability will require rebuilding the foundation blocks of our social and economic structures, both locally and globally, and that museums have the potential to play important roles in facilitating these processes.

Reference 4 - 0.12% Coverage

¶62: to achieve sustainable development

<Internals\\Curator 2017 abstracts> - § 2 references coded [0.86% Coverage]

Reference 1 - 0.11% Coverage

¶24: environmental sustainability.

¶25:
Reference 2 - 0.75% Coverage

¶61: The results of this study provide basis of expectations and trends with different age groups which will serve as basis to understand and explore implementation of biomimetic related technology for sustainable society.

¶62:
<Internals\\IJCP 1999 Abstracts> - § 1 reference coded [0.59% Coverage]

Reference 1 - 0.59% Coverage

¶14: the pursuit of universal concerns, such as sustainable development.

¶15:
<Internals\\IJCP 2006 Abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶23: sustainable use

<Internals\\IJCP 2007 Abstracts> - § 6 references coded [1.95% Coverage]

Reference 1 - 0.14% Coverage

¶42: bring out aspects such as sustainability

Reference 2 - 0.07% Coverage

¶43: for Sustainability

¶44:
Reference 3 - 1.06% Coverage

¶44: with a strong sense of reciprocity that acknowledges the undeniable human dependency on other lives. It is argued that such spirituality has an important implication for our understanding of

sustainability. Whaling is no doubt one of the most contentious issues in today's environmental debates

Reference 4 - 0.13% Coverage

¶44: their role in sustainability debate

Reference 5 - 0.36% Coverage

¶46: A divide has emerged between traditional allies as environmental protections increasingly constrict

Reference 6 - 0.18% Coverage

¶47: Promoting the Idea of a Sustainable Cultural Fest

<Internals\\IJCP 2008 Abstracts> - § 5 references coded [0.37% Coverage]

Reference 1 - 0.06% Coverage

¶34: presents environmental

Reference 2 - 0.11% Coverage

¶34: Fundamental among these is the sustainability

Reference 3 - 0.07% Coverage

¶55: as a resource for sustainable

Reference 4 - 0.06% Coverage

¶57: of ensuring sustainable

Reference 5 - 0.07% Coverage

¶81: environmental sustainability

<Internals\\IJCP 2009 Abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶6: for the sustainable conservation

<Internals\\IJCP 2010 abstracts> - § 5 references coded [2.38% Coverage]

Reference 1 - 0.21% Coverage

¶69: shared experiences to address the sustainability of cultural heritage.

¶70:
Reference 2 - 0.24% Coverage

¶80: Heritage 2010: 2nd International Conference on Heritage and Sustainable Development

Reference 3 - 1.17% Coverage

¶81: Heritage 2010 was a state-of-the-art event regarding the relationship between forms of heritage and the conceptual framework for sustainable development. The four dimensions of sustainable development—environment, economics, society, and culture—were brought together in order to define a particular approach on how to deal with and go beyond the traditional aspects of heritage preservation and safeguarding

Reference 4 - 0.20% Coverage

¶81: sustainable development brings heritage concepts to another dimension

Reference 5 - 0.57% Coverage

¶81: the “Heritage 2010: Heritage and Sustainable Development” conference was conceived to embrace a global view on how heritage is being contextualized with the four dimensions of sustainable development.

<Internals\\IJCP 2011 abstracts> - § 1 reference coded [0.21% Coverage]

Reference 1 - 0.21% Coverage

¶23: the sustainability of local government heritage programs

<Internals\\IJCP 2012 abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶59: Climate Change and Disaster Prevention

<Internals\\IJCP 2014 abstracts> - § 2 references coded [0.27% Coverage]

Reference 1 - 0.14% Coverage

¶37: the sustainable development agenda

Reference 2 - 0.13% Coverage

¶45: sustainable provision of culture.

<Internals\\IJCP 2016 abstracts> - § 5 references coded [2.98% Coverage]

Reference 1 - 0.11% Coverage

¶13: Sustainability Concepts

Reference 2 - 0.56% Coverage

¶14: The concepts of sustainability, and of the more specific notion of sustainable development, have become entrenched in

Reference 3 - 0.41% Coverage

¶14: over the last half century. However, little attention has been paid to sustainability

Reference 4 - 0.11% Coverage

¶14: non-indigenous societies

Reference 5 - 1.79% Coverage

¶14: We point out that the two approaches to sustainability share many common concerns, although significant differences are evident. While the paradigm of sustainability can be seen as a universal concept that can be applied irrespective of social, political, or cultural context, it is argued that a fully realized model of sustainability for application in non-indigenous societies

<Internals\\IJHS 1994-6 Abstracts> - § 2 references coded [0.75% Coverage]

Reference 1 - 0.19% Coverage

¶80: sustainable tourism strategies

Reference 2 - 0.56% Coverage

¶81: This particular initiative is discussed in the context of sustainable tourism strategies.

<Internals\\IJHS 1996 Abstracts> - § 2 references coded [0.98% Coverage]

Reference 1 - 0.27% Coverage

¶42: Sustainable stewardship in transition

Reference 2 - 0.72% Coverage

¶44: Organisational greening has precipitated a review of the implications of stewardship ‘in perpetuity’

<Internals\\IJHS 1997-8 Abstracts> - § 2 references coded [0.35% Coverage]

Reference 1 - 0.25% Coverage

¶15: Green Shift. Towards a Green Sensibility

Reference 2 - 0.10% Coverage

¶39: Green Imperialism

<Internals\\IJHS 1998 Abstracts> - § 1 reference coded [0.47% Coverage]

Reference 1 - 0.47% Coverage

¶34: Tourism pressure is having a serious effect on the sustainability of monastic life,

<Internals\\IJHS 1999 Abstracts> - § 1 reference coded [0.19% Coverage]

Reference 1 - 0.19% Coverage

¶42: sustainable development and management

<Internals\\IJHS 2000 Abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶22: with sustainability as the ideal.

¶23:
<Internals\\IJHS 2001 abstracts> - § 1 reference coded [0.99% Coverage]

Reference 1 - 0.99% Coverage

¶38: Our environmental heritage is often interpreted as reflecting a fall from grace in which modern society is seen to destroy tradition through an increasingly unnatural relationship to its environment.

<Internals\\IJHS 2004 Abstracts> - § 2 references coded [0.48% Coverage]

Reference 1 - 0.31% Coverage

¶16: to ensure sustainability and to preserve and frame sightlines to monuments

Reference 2 - 0.17% Coverage

¶46: sustainability in the cultural sector

¶47:
<Internals\\IJHS 2005 Abstracts> - § 4 references coded [1.36% Coverage]

Reference 1 - 0.35% Coverage

¶18: This paper explores the concept of heritage as part of sustainable development planning.

Reference 2 - 0.09% Coverage

¶18: sustainable development

Reference 3 - 0.69% Coverage

¶18: This perspective leads to broader questions on approaches to heritage planning where the cultural environment is considered specifically within sustainable development planning

Reference 4 - 0.22% Coverage

¶18: It identifies how the city is integrating sustainability

<Internals\\IJHS 2007 Abstracts> - § 4 references coded [2.40% Coverage]

Reference 1 - 1.49% Coverage

¶45: Contemporary human relationships with the environment appear to be different in scope but not in fundamentals from cultures that came before. Until the contact period, humans had adapted their culture to sustain communities in balance with the difficult landscape. Today's human population dominates the natural environment, although perhaps only in the short term. It remains to be determined whether cultural views can change quickly enough to secure a new viable carrying capacity.

Reference 2 - 0.55% Coverage

¶57: How do we educate for a different world where sustainability becomes a priority for the exponentially growing human population and the diminishing biodiversity of other species?

Reference 3 - 0.20% Coverage

¶60: The Gift of Environment: Divine Response and Human Responsibility

Reference 4 - 0.17% Coverage

¶63: important to the future of humankind on a global level.

<Internals\\IJHS 2008 Abstracts> - § 6 references coded [1.23% Coverage]

Reference 1 - 0.29% Coverage

¶13: We argue that humans today have a very real desire to help save scarce resources on our planet.

Reference 2 - 0.23% Coverage

¶51: could be developed and adopted today in our society as a sustainable approach

Reference 3 - 0.26% Coverage

¶54: This poses a number of challenges, aside from the complexities of climate change itself.

Reference 4 - 0.07% Coverage

¶76: Sustainable Development

Reference 5 - 0.20% Coverage

¶77: The main problem lies in the fact that a non-sustainable activity

Reference 6 - 0.19% Coverage

¶77: As regards the scope of the concept of sustainable development

<Internals\\IJHS 2009 Abstracts> - § 14 references coded [4.71% Coverage]

Reference 1 - 0.10% Coverage

¶4: looking for a sustainable future

Reference 2 - 0.10% Coverage

¶6: to propose a sustainable approach

Reference 3 - 0.08% Coverage

¶14: Heritage and the Environment

Reference 4 - 0.35% Coverage

¶16: Mention is made of some strategies for the creation of ecologically enhanced—and therefore more environmentally robust

Reference 5 - 0.58% Coverage

¶18: Though this model is culturally specific, it is argued that it expresses a fundamental need for negotiation between man and nature, which remains a major concern to our survival on the planet.

¶19:
Reference 6 - 1.23% Coverage

¶24: Wind power is seen by many as a key industry for the future: an environmentally benign renewable energy to replace fossil fuels. The Northern and Western Isles, with their high average wind speeds, would seem to be well placed to exploit this rapidly emerging demand. As well as meeting a global need, to reduce output of greenhouse gases and a national need for security of supply into the twenty-first century,

Reference 7 - 0.12% Coverage

¶26: seen in the new light of sustainability.

Reference 8 - 0.23% Coverage

¶29: Linking Heritage and 'Environment' in the Okavango Delta Regions of Botswana

¶30:
Reference 9 - 0.42% Coverage

¶30: I argue that these management approaches negatively impact on sustainable conservation and development of both natural and cultural resources

Reference 10 - 0.10% Coverage

¶41: spreading environmental awareness.

Reference 11 - 0.14% Coverage

¶63: A Framework for Sustainable Heritage Management

Reference 12 - 0.61% Coverage

¶64: declared heritage to be 'an instrument for the sustainable development of all societies'. The term 'sustainable development', however, is inscribed with a complex economic, environmental and social agenda

Reference 13 - 0.28% Coverage

¶64: The analysis focuses on the extent that each plan integrates four key sustainability dimensions

Reference 14 - 0.36% Coverage

¶64: limit the development of a sustainable local cultural economy. A sustainable heritage management framework is presented

<Internals\\IJHS 2010 Abstracts> - § 1 reference coded [0.19% Coverage]

Reference 1 - 0.19% Coverage

¶20: towards successful implementation of sustainable and relevant projects

<Internals\\IJHS 2011 abstracts> - § 6 references coded [1.25% Coverage]

Reference 1 - 0.06% Coverage

¶69: Developing sustainable

Reference 2 - 0.10% Coverage

¶70: sustainable heritage-based livelihoods

Reference 3 - 0.24% Coverage

¶70: The paper also examines several related phenomena such as economic sustainability of the crafts

Reference 4 - 0.08% Coverage

¶75: Evaluating social sustainability

Reference 5 - 0.55% Coverage

¶76: and academic literature, this paper explores the concept of social sustainability and the characteristics of its evaluation. The paper illustrates how social sustainability indicators favour multi-dimensional themes

Reference 6 - 0.22% Coverage

¶76: The paper concludes with a suggested approach to the evaluation of social sustainability

<Internals\\IJHS 2012 Abstracts> - § 7 references coded [1.85% Coverage]

Reference 1 - 0.05% Coverage

¶87: sustainable community.

Reference 2 - 0.02% Coverage

¶90: Sustainable

Reference 3 - 0.03% Coverage

¶91: Sustainability

Reference 4 - 1.01% Coverage

¶91: is now more extensively considered than it was decades ago. The introduction of the concept of sustainability to the field marked hopes to overcome problems threatening heritage sites. There are general concepts guiding sustainable conservation. However, heritage specifics play important roles in achieving sustainability, and may direct the formulation of sustainable concepts to be applied. This paper is an attempt to add to the discourse of heritage sustainability

Reference 5 - 0.21% Coverage

¶91: It examines sustainability in terms of its financial, social, managerial, and environmental aspects

Reference 6 - 0.15% Coverage

¶91: suggests sustainable and transmissible 'genes' within the tradition.

Reference 7 - 0.38% Coverage

¶91: It further suggests that sustainable conservation cannot avoid monetary sacrifices, and if it is to be sustainable in the long term it should be inherent in the heritage itself.

<Internals\\IJHS 2013 abstracts> - § 5 references coded [0.65% Coverage]

Reference 1 - 0.16% Coverage

¶29: to prioritise 'sustainable urbanism' as a key legacy of 'successful' Olympic Games,

Reference 2 - 0.27% Coverage

¶43: Meanwhile, it is argued in this study that globalisation, and its Arabic version of Dubaisation, is affecting the sustainability of cities

Reference 3 - 0.09% Coverage

¶85: late modern heritage practices, sustainability

Reference 4 - 0.07% Coverage

¶86: if heritage is to remain sustainable

Reference 5 - 0.06% Coverage

¶94: ensure long-term sustainability.

<Internals\\IJHS 2014 abstracts> - § 5 references coded [0.48% Coverage]

Reference 1 - 0.06% Coverage

¶65: towards a sustainable urban future

Reference 2 - 0.05% Coverage

¶66: is important to sustainable

Reference 3 - 0.19% Coverage

¶66: urban sustainability when asked for their perspectives on the most important sustainability issues in the city

Reference 4 - 0.10% Coverage

¶66: which is an important thrust of the sustainability agenda.

¶67:
Reference 5 - 0.08% Coverage

¶93: sustainable development and corporate reputation

¶94:
<Internals\\IJHS 2015 abstracts> - § 7 references coded [0.46% Coverage]

Reference 1 - 0.06% Coverage

¶35: both qualitatively (healthy and sustainable)

Reference 2 - 0.10% Coverage

¶75: which finally led to the dissolution of the Waqf system's sustainable elements,

Reference 3 - 0.02% Coverage

¶92: 'sustainability'

Reference 4 - 0.11% Coverage

¶109: sustainable human use of natural resources and the conservation of biodiversity.

Reference 5 - 0.05% Coverage

¶127: developing a more sustainable future

Reference 6 - 0.07% Coverage

¶137: This article examines the challenges of sustainability

Reference 7 - 0.05% Coverage

¶137: The sustainability of grassroots sites

<Internals\\IJHS 2016 abstracts> - § 4 references coded [1.11% Coverage]

Reference 1 - 0.05% Coverage

¶4: behind sustainable heritage management.

Reference 2 - 0.07% Coverage

¶65: Climate change and our heritage of low carbon comfort

Reference 3 - 0.41% Coverage

¶66: examines the viability of maintaining a heritage of low carbon comfort as an alternative to the energy intensive comfort regime of mechanical air conditioning. In many parts of the world, the carbon footprint of buildings is increasing significantly due to the widespread adoption of air conditioning.

Reference 4 - 0.57% Coverage

¶66: Current trends around indoor comfort are unsustainable, and alternative, less energy intensive comfort regimes need to be maintained or cultivated. To date, studies on this topic in heritage and preservation studies have focused on the architectural designs of 'passive cooling'. This paper seeks to expand this conceptualisation of 'cool living heritage' to incorporate other forms of material culture and comfort practice.

<Internals\\IJHS 2017 abstracts> - § 4 references coded [0.22% Coverage]

Reference 1 - 0.02% Coverage

¶50: sustainability

Reference 2 - 0.13% Coverage

¶58: to achieve greater sustainability in transforming historic sites in China, particularly in rural areas

Reference 3 - 0.03% Coverage

¶58: in sustainable development

Reference 4 - 0.04% Coverage

¶154: future sustainability of museums

<Internals\\IJHS 2018 abstracts> - § 3 references coded [0.19% Coverage]

Reference 1 - 0.03% Coverage

¶39: sustainability measures

Reference 2 - 0.10% Coverage

¶119: Heritagization of nature and its influence on local ecological knowledge in Uruguay

Reference 3 - 0.07% Coverage

¶150: that would maintain the sustainability of the heritage.

¶151:
<Internals\\JCH 2002 abstracts> - § 1 reference coded [0.17% Coverage]

Reference 1 - 0.17% Coverage

¶75: in the prospects of driving coastal systems towards sustainable development.

<Internals\\JCH 2003 Abstracts> - § 10 references coded [1.09% Coverage]

Reference 1 - 0.06% Coverage

¶4: Coastal cultural heritage and sustainable development: introduction

Reference 2 - 0.06% Coverage

¶6: the prospect of operating sustainable development-aimed strategies.

Reference 3 - 0.20% Coverage

¶6: In this view, the discourse on the coastal cultural heritage runs along this pathway: (i) global (climatic) change and globalisation are assumed to be the key components of the external environment with which the coastal area interacts

Reference 4 - 0.07% Coverage

¶9: Seaport decline and cultural heritage sustainability issues in the UK coastal zone

Reference 5 - 0.25% Coverage

¶10: problems of heritage sustainability are identified. It is proposed that these problems may be related not only to the issue of heritage conservation but also to the difficulties of identifying appropriate new uses that will secure the long-term economic viability of the port system's patrimony

Reference 6 - 0.04% Coverage

¶10: Issues relating to economic sustainability

Reference 7 - 0.08% Coverage

¶11: Sustainable development prospects for Italian coastal cultural heritage: a Ligurian case study

Reference 8 - 0.08% Coverage

¶13: Cultural heritage and sustainability in the coastal zone: experiences in south west England

Reference 9 - 0.07% Coverage

¶14: Theoretical ideas of sustainability of heritage are applied to a practical case study

Reference 10 - 0.20% Coverage

¶14: Relating the study to the sustainability dimensions of economic development and environmental protection, the paper questions whether these wider definitions of sustainability can be applied to coastal heritage, especially in a remote region.

<Internals\\JCH 2011 abstracts> - § 2 references coded [0.12% Coverage]

Reference 1 - 0.05% Coverage

¶24: sustainable management at river basin level.

Reference 2 - 0.07% Coverage

¶121: In view of the sustainable preservation of audiovisual material

<Internals\\JCH 2012 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶198: Appropriate re-use can result in a sustainable preservation of both historical assets and the environment.

<Internals\\JCH 2013 abstracts> - § 9 references coded [0.43% Coverage]

Reference 1 - 0.04% Coverage

¶71: Energy and sustainability are a hard challenge in building heritage

Reference 2 - 0.03% Coverage

¶71: sustainable development of human activity

Reference 3 - 0.08% Coverage

¶71: The first issue is quantitative and measurable. The second issue is qualitative: what does sustainability of historic building mean?

Reference 4 - 0.03% Coverage

¶71: in order to sustainable development aims,

Reference 5 - 0.08% Coverage

¶84: Energy restoration and retrofitting. Rethinking restoration projects by means of a reversibility/sustainability assessment

Reference 6 - 0.09% Coverage

¶85: while integrating them with a new sustainability assessment and verification in terms of environmental, economic and energy sustainability

Reference 7 - 0.01% Coverage

¶124: sustainable protection.

Reference 8 - 0.02% Coverage

¶126: Sustainable conservation and management

Reference 9 - 0.06% Coverage

¶146: Although new development plans are constituted to increase the potential and sustainability

<Internals\\JCH 2014 abstracts> - § 3 references coded [0.15% Coverage]

Reference 1 - 0.07% Coverage

¶143: The second objective is the investigation of the sustainable adaptation of the Museum

Reference 2 - 0.04% Coverage

¶143: the drawbacks of the sustainable adaptation indicator

Reference 3 - 0.04% Coverage

¶181: considers the problem of sustainability assessment

<Internals\\JCH 2015 abstracts> - § 9 references coded [0.47% Coverage]

Reference 1 - 0.03% Coverage

¶21: Systematic approach for sustainable conservation

Reference 2 - 0.09% Coverage

¶22: sustainable renovation. The sustainable approach also requires a high professional level of activity and time to study and do research on the buildings

Reference 3 - 0.03% Coverage

¶22: In order to achieve a sustainable renovation,

Reference 4 - 0.06% Coverage

¶56: but a number of arguments have been advanced to point out its contribution to sustainability

Reference 5 - 0.02% Coverage

¶118: Green Conservation of Cultural Heritage

Reference 6 - 0.02% Coverage

¶185: under a sustainability perspective

¶186:
Reference 7 - 0.12% Coverage

¶186: As environmental economists advance an economic definition of sustainability, the definition of "strong sustainability" appears to be particularly relevant for the evaluation of urban heritage

Reference 8 - 0.06% Coverage

¶186: We examine sustainability through the dynamics of accumulation in the four dimensions of urban heritage

Reference 9 - 0.03% Coverage

¶188: promote sustainable solutions for heritage management

<Internals\\JCH 2016 abstracts> - § 5 references coded [0.74% Coverage]

Reference 1 - 0.05% Coverage

¶174: This condition created some problems for the sacred site in terms of its sustainable conservation.

Reference 2 - 0.02% Coverage

¶208: their environmental sustainability assessment

Reference 3 - 0.34% Coverage

¶209: The changes in present world oblige the scientific community working on Cultural Heritage to face every day more urgent challenges of "sustainability". This concept refers to a very broad horizon, touching various spheres: cultural, economic, social, environmental, before the purely technical and energetic ones; the terms deal, in fact, with a sustainable process of conservation, renovation, reuse and management of historical architecture, where the assessment methods could play a key role, even in the early stage process. The assessment of the environmental sustainability of historical buildings may help to recognize potential ways of enhancement

Reference 4 - 0.28% Coverage

¶209: To highlight the increasing value of a smart renovation, the sustainability of the energy solutions has been analysed verifying how a good rating can be obtained, within the early design process, in the energy performance sectors. The outcomes allow to show that better results can be reached in the environmental sustainability certification by means of added actions not strictly needed, but allowed. A proposal of a methodological approach to the sustainability evaluation for historic building renovation is the main result of the investigation

Reference 5 - 0.05% Coverage

¶209: for a more appropriate use of sustainability rating systems for this particular kind of heritage.

<Internals\\JCH 2017 abstracts> - § 7 references coded [0.50% Coverage]

Reference 1 - 0.04% Coverage

¶187: as well as other benefits associated with the concept of sustainable development

Reference 2 - 0.04% Coverage

¶246: protects or further undermines the cultural heritage sustainability of these sites.

¶247:
Reference 3 - 0.02% Coverage

¶250: environmentally sustainable option

Reference 4 - 0.03% Coverage

¶329: User-driven energy efficiency in historic buildings: A review

Reference 5 - 0.10% Coverage

¶330: Two main topics are identified as key barriers and future research fields: First, energy performance modelling is identified as a general barrier to developing sustainable strategies that promote user impact in historic buildings.

Reference 6 - 0.08% Coverage

¶330: Practical tools also require that the modelling can be used for trade-off scenarios where other sustainability aspects such as cultural heritage and economy are weighed in

Reference 7 - 0.21% Coverage

¶330: is proposed as a key ingredient and driver for improved and sustainable energy behaviour. The paper argues that while user-driven energy efficiency represents an important resource for fostering less energy-demanding and less intrusive interventions in historic buildings, there are no guarantees for achieving the planned level of energy efficiency without taking into account user behaviour and the actual operation and energy performance of the historic building.

<Internals\\JCH 2018 abstracts> - § 10 references coded [0.58% Coverage]

Reference 1 - 0.03% Coverage

¶163: favored the sustainability of the high-density model for historic centers

Reference 2 - 0.12% Coverage

¶165: Fourthly, a mapping tool. We used a mapping tool to produce European maps for sixteen museum types and five 30-year periods: recent past, near future, far future, near future minus recent past and far future minus recent past. The most important mapping results are included and discussed in this paper.

¶166:

Reference 3 - 0.02% Coverage

¶192: For the sustainability of wooden religious heritage

Reference 4 - 0.04% Coverage

¶221: Improving sustainable cultural heritage restoration work through life cycle assessment based model

Reference 5 - 0.15% Coverage

¶222: Sustainable restoration process is one of the biggest challenges for public and private decision makers in the Cultural Heritage sector. Currently, sustainability assessment methods are well established tools to quantitatively determine their environmental (LCA), economic (LCC) and social (SLCA) impacts from products/service across the entire value chain.

Reference 6 - 0.06% Coverage

¶290: The unbearable sustainability of cultural heritage: An attempt to create an index of cultural heritage sustainability in conflict and war regions

Reference 7 - 0.04% Coverage

¶291: It does so by developing a cultural heritage sustainability index for regions threatened by conflicts

Reference 8 - 0.01% Coverage

¶327: sustainable development

Reference 9 - 0.02% Coverage

¶360: Sustainable interventions in historic buildings

Reference 10 - 0.09% Coverage

¶361: under the environmental perspective, for helping in reducing the carbon footprint, in supporting conservation needs through a minimal intervention approach, and in encouraging materials reuse and renewable energy systems.

Name: Nodes\\Socio-economic role of heritage\The heritage industry

<Internals\\IJHS 1994-6 Abstracts> - § 1 reference coded [0.33% Coverage]

Reference 1 - 0.33% Coverage

¶8: in the light of the ‘heritage industry’ of the 1980s.

<Internals\\IJHS 2002 Abstracts> - § 1 reference coded [0.39% Coverage]

Reference 1 - 0.39% Coverage

¶20: The discussion opens with a review of the term heritage, now identified as an 'industry'

<Internals\\IJHS 2009 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶49: the heritage industry

<Internals\\IJHS 2011 abstracts> - § 1 reference coded [0.10% Coverage]

Reference 1 - 0.10% Coverage

¶41: the heritage industry dedicated to it

<Internals\\IJHS 2017 abstracts> - § 2 references coded [0.12% Coverage]

Reference 1 - 0.06% Coverage

¶28: Until recently the ‘heritage industry’ in England

Reference 2 - 0.05% Coverage

¶28: into the state-funded ‘heritage industry’

Name: Nodes\\Tourism

<Internals\\Antiquity 2000 abstracts> - § 5 references coded [0.75% Coverage]

Reference 1 - 0.10% Coverage

¶86: as a backdrop for the sustained (as opposed to sustainable) drive to increase tourism

Reference 2 - 0.24% Coverage

¶248: One of the less affluent States in India, Orissa stands to benefit from tourism (FIGURE 1). The promotion seeks to appeal to all Indians and foreigners and also to prompt an image of Orissa as a distinct region.

Reference 3 - 0.20% Coverage

¶257: Resources have been invested not only in the capital city of Dhaka, but also in regional centres where there are archaeological museums and sites open for public visitation.

Reference 4 - 0.11% Coverage

¶257: of domestic tourism as a component of archaeological heritage management in developing nations

Reference 5 - 0.10% Coverage

¶385: the difficulties of the 'current' scheme and its incompatibility with visitor numbers.

<Internals\\Antiquity 2002 abstracts> - § 2 references coded [0.30% Coverage]

Reference 1 - 0.05% Coverage

¶33: cultural heritage and tourist destinations.

¶34:

Reference 2 - 0.25% Coverage

¶452: Think of Scotland. The chances are that what springs to mind is a picture of mountains, lochs, glens and coasts — an outstanding natural heritage which uplifts the spirit and overflows the pages of the tourist brochures

<Internals\\Antiquity 2011 abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶118: a pilgrimage destination for millions of global tourists

<Internals\\Antiquity 2014 abstracts> - § 1 reference coded [0.01% Coverage]

Reference 1 - 0.01% Coverage

¶144: tourism

<Internals\\Antiquity 2015 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶286: visited annually by tens of thousands of tourists,

<Internals\\Antiquity 2016 abstracts> - § 1 reference coded [0.15% Coverage]

Reference 1 - 0.15% Coverage

¶74: Most people think of Maya civilisation, if they do at all, while on vacation. A daytrip from a beach takes them to ruins nearby, crowded with tourists in correct holiday gear

<Internals\\Antiquity 2017 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶317: it is already struggling to cope as it seeks to outdo II's tally of visitors

<Internals\\Curator 2001> - § 1 reference coded [0.14% Coverage]

Reference 1 - 0.14% Coverage

¶30: ARTS, ENTERTAINMENT AND TOURISM

<Internals\\Curator 2002> - § 2 references coded [3.80% Coverage]

Reference 1 - 0.36% Coverage

¶35: A Wonder Lost or Wander Lust: Tourists Visit Monkeys in the Wild

Reference 2 - 3.44% Coverage

¶36: A pilot study was conducted on tourists' behavior in the Community Baboon Sanctuary, Belize, where tourists observed the Central American black howler monkey (Alouatta pigra). The most visited site was a 1.25-ha semi-deciduous forest fragment surrounded by private homes and tropical pine savanna. Out of 83 visits by tour groups, nine were longer than 25 minutes and six were less than two minutes. Eliminating the high and low values, an average of 12 minutes was spent by tourists viewing the monkeys (range 4.0–25.0 minutes). By comparison, great apes in captivity are also viewed for an average of 12 minutes.

<Internals\\Curator 2005> - § 1 reference coded [0.42% Coverage]

Reference 1 - 0.42% Coverage

¶70: the downturn in tourism following the terrorist attacks of September 11, 2001

<Internals\\Curator 2008> - § 1 reference coded [0.30% Coverage]

Reference 1 - 0.30% Coverage

¶55: Industrial Tourism and the Picture Postcard

¶56:

<Internals\\Curator 2010 Abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶59: Tourism

<Internals\\IJCP 2000 abstracts> - § 1 reference coded [0.39% Coverage]

Reference 1 - 0.39% Coverage

¶4: the pressures of tourism

<Internals\\IJCP 2005 Abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶22: tourism-

<Internals\\IJCP 2011 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶52: mass tourism

<Internals\\IJCP 2013 abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶45: the impact of tourism

<Internals\\IJCP 2016 abstracts> - § 1 reference coded [0.32% Coverage]

Reference 1 - 0.32% Coverage

¶20: which is relevant to, among others, the research on heritage tourism

<Internals\\IJCP 2017 ABSTRACTS> - § 1 reference coded [0.53% Coverage]

Reference 1 - 0.53% Coverage

¶10: It does so through examining a Rastafarian tour group who uses their participation in the tourism market

<Internals\\IJHS 1994-6 Abstracts> - § 7 references coded [5.61% Coverage]

Reference 1 - 0.32% Coverage

¶19: Heritage and Tourism in in 'The Global Village',

¶20:

Reference 2 - 0.20% Coverage

¶40: Tourism and Heritage Attractions

Reference 3 - 0.10% Coverage

¶56: Cultural Tourism

Reference 4 - 0.26% Coverage

¶68: Building a New Heritage: Tourism, Culture

Reference 5 - 0.58% Coverage

¶75: who came to their site, what did they see, when did they come, and where did they come from?

Reference 6 - 0.42% Coverage

¶80: The role of heritage attractions in sustainable tourism strategies

Reference 7 - 3.73% Coverage

¶81: Tourism is now a vital part of the Irish economy and recent research has demonstrated that 'Irishness'. whilst difficult to define, is the major appeal to overseas visitors. In 1989 the Irish Government challenged Bord Failte (the Irish Tourist Board) to double revenue from overseas tourists and create 25,000 new jobs. Heritage attractions formed a fundamental feature of Bord Failte's Framework Plan for Tourism. The methodology adopted for the development and interpretation of heritage attractions is evaluated in this paper, together with an assessment of the outcomes of the strategy.

<Internals\\IJHS 1996 Abstracts> - § 6 references coded [4.98% Coverage]

Reference 1 - 0.47% Coverage

¶47: Pilgrimage and tourism: Cathedral visiting in contemporary England

Reference 2 - 1.62% Coverage

¶48: This paper examines the role of cathedral visiting in contemporary England. It highlights the importance of cathedrals to the tourism economy and also considers the issue of the commercialisation of heritage within cathedrals

Reference 3 - 1.40% Coverage

¶48: It is suggested that the tension between tourism and pilgrimage is not as great as might be expected and that experience of visiting a cathedral can engender a sense of pilgrimage in the tourist.

Reference 4 - 0.22% Coverage

¶50: Heritage, Tourism and Society,

Reference 5 - 0.16% Coverage

¶58: JFK and dark tourism:

Reference 6 - 1.11% Coverage

¶65: it has been an element of tourism longer than any other form of heritage. This paper looks at the historical development of Thanatoptic elements in travel

<Internals\\IJHS 1997-8 Abstracts> - § 7 references coded [4.80% Coverage]

Reference 1 - 0.44% Coverage

¶8: Tourism and the management of cultural resources in the Pays Dogon, Mali

Reference 2 - 2.09% Coverage

¶9: Mali's leading tourist attraction receiving 6,000 visitors per year with an annual growth of 10% which may increase when a new access road is constructed. Tourism is the major source of income for the Dogon who have lived in picturesque villages clinging to the sides of the 600m cliffs of the Bandiagara escarpment since the 15th century.

Reference 3 - 0.38% Coverage

¶18: Tourist Destination Management: issues, analysis and policies

Reference 4 - 0.58% Coverage

¶33: The changing market for heritage tourism: A case study of visits to historic houses in England

Reference 5 - 0.44% Coverage

¶34: the broad appeal, to both governments and visitors, of heritage tourism

Reference 6 - 0.48% Coverage

¶55: the problems of attempting to develop a combined heritage and tourism strategy

Reference 7 - 0.39% Coverage

¶55: The development of tourism brings both opportunities and threats

<Internals\\IJHS 1998 Abstracts> - § 8 references coded [4.49% Coverage]

Reference 1 - 0.21% Coverage

¶11: developing a poldark heritage complex

Reference 2 - 0.07% Coverage

¶12: Mass tourism

Reference 3 - 0.78% Coverage

¶20: the conflicting marketing strategies adopted by various organisations for the specific purpose of increasing the profits made from tourism.

Reference 4 - 2.16% Coverage

¶34: currently threatened by very rapid growth in visitation Jrom Egypt's new tourist resorts on the Red Sea coast, less than three hours drive away. Currently, 97,000 visitors per year arrive at St Katherine, 80% of whom are day-trip visitors and many of whom stay less than half an hour. This represents a 300% increase in the last decade, projected to increase by a further 500% by 2017.

Reference 5 - 0.54% Coverage

¶34: This fieldwork-based case study summarises the current impact of tourism in the Mount Sinai area

Reference 6 - 0.14% Coverage

¶36: spawned ‘McCourt tourism’

Reference 7 - 0.29% Coverage

¶45: The Darcy effect: Regional tourism and costume drama

Reference 8 - 0.30% Coverage

¶53: Touring Cultures: Transformations of Travel and Theory

<Internals\\IJHS 1999 Abstracts> - § 12 references coded [9.99% Coverage]

Reference 1 - 0.23% Coverage

¶20: The created environment of heritage as leisure

Reference 2 - 0.29% Coverage

¶21: Heritage and gastronomy: The pursuits of the ‘new tourist’

Reference 3 - 5.96% Coverage

¶22: the relationship between gastronomy and heritage as a key motivator for travel. Gastronomy, as a central part of culture, and its influence on other aspects of culture has received scant recognition from the academic world generated by tourism. Gastronomy, heritage and tourism are old friends; the relationship between them is mutually parasitic. Gastronomy's role as a cultural force in developing and sustaining heritage tourism is addressed, as is its increasing role as a catalyst in enhancing the quality of the tourist experience. Today's consumers’ search for an individual lifestyle is changing tourism and the ‘new tourist’ is using the holiday for acquiring insight into other cultures. Recent research and current market trends are examined to reveal the increasing significance of gastronomy to holiday choice. It is argued that gastronomy brings culture and cultures together. Place and setting enhance the food experience and arguably vice-versa. Heritage and gastronomy combined make for an excellent marriage of tourist resources. The text argues that this combination is both used and viewed by the tourist. As such the tourist becomes engaged in cultural heritage to a deeper level.

Reference 4 - 0.66% Coverage

¶24: investigating the integration of tourism in small coastal settlements, introduces a multi-method research strategy for interpreting

Reference 5 - 0.14% Coverage

¶24: ephemeral tourism literature

Reference 6 - 0.28% Coverage

¶24: the perceptions of residents, tourists and key informants

Reference 7 - 0.18% Coverage

¶46: Small scale tourism ventures in Fiji

Reference 8 - 0.23% Coverage

¶50: now an historic building and open to the public

Reference 9 - 0.33% Coverage

¶51: Zoos as heritage tourism attractions: A neglected area of research?

Reference 10 - 0.82% Coverage

¶52: Zoos, however, are significant tourist attractions. There are over 10,000 zoos worldwide,2 many in major world cities and some attract millions of visitors annually.

Reference 11 - 0.58% Coverage

¶52: This article examines the aims of zoos, their nature as heritage-tourism attractions and the profile of zoo visitors.

Reference 12 - 0.28% Coverage

¶58: Tourists and Tourism: Identifying with People and Places,

<Internals\\IJHS 2000 Abstracts> - § 7 references coded [5.66% Coverage]

Reference 1 - 0.36% Coverage

¶15: the contribution of landscape planning to the development of tourism

Reference 2 - 0.48% Coverage

¶21: Behind the Scenes: tourism, and heritage, in the periphery to the French Mediterranean coast

Reference 3 - 2.62% Coverage

¶22: The aim is to assess and evaluate tourism and heritage activity in the hinterland of southern France, by contrasting it with that along the seaboard to the front. This is to produce lessons and

offer suggestions about suitable general concepts, methods and approaches for tourism in backland areas. The objectives are to show ideas and suggest guidelines for the establishment and conduct of tourism operations in a suitable manner for application in peripheral areas, and to display heritage's role.

Reference 4 - 0.10% Coverage

¶23: contemporary tourism

Reference 5 - 0.64% Coverage

¶24: the legacy of communism and revolution has become the focus of interest among Western tourists in post-communist Bucharest.

Reference 6 - 1.17% Coverage

¶24: 'communist heritage' tourism - the consumption of key sights and sites associated with the Ceausescu regime and its overthrow - has emerged as a particular form of cultural or heritage tourism for special interest tourists.

Reference 7 - 0.28% Coverage

¶26: predominantly, but not only, as touristic attractions

<Internals\\IJHS 2001 abstracts> - § 13 references coded [8.00% Coverage]

Reference 1 - 0.44% Coverage

¶4: The circumstances are discussed within the context of heritage tourism in colonial cities

Reference 2 - 0.11% Coverage

¶4: as a tourist attraction

Reference 3 - 0.60% Coverage

¶18: Heritage, Tourism and Museums: the case of the North Atlantic islands of Skye, Scotland and Prince Edward Island, Canada

Reference 4 - 2.40% Coverage

¶19: Heritage tourism, and the products and experiences related to it, represent a growing attraction in international tourism and the museum is a potential partner in the development of heritage activities for tourists. This paper explores the relationship between tourism and museums and

analyses their roles in relation to heritage. It recognises that the shared characteristics of tourism and museums provide a basis for the two to work together in the development of heritage tourism.

Reference 5 - 0.11% Coverage

¶26: Tourism in Hong Kong

¶27:

Reference 6 - 0.48% Coverage

¶27: discussed with particular reference to their representation and promotion as tourist attractions

Reference 7 - 0.06% Coverage

¶27: and tourism

Reference 8 - 0.14% Coverage

¶28: Routeing Heritage for Tourism

Reference 9 - 0.47% Coverage

¶29: Heritage routes and itineraries are mechanisms being used towards tourism needs and objectives.

Reference 10 - 2.00% Coverage

¶29: defines these routes, reviews their context, and considers some examples in Europe. It looks at the 'why' and 'how' of heritage routes being established, and shows the inputs that tourism causes and needs. The particular dimensions to routes and what they bring and require are discussed. The associated demand of networks and networking is discussed and the potential beneficial aspects are described.

Reference 11 - 0.42% Coverage

¶29: The need is suggested for more research into the use, outcomes and effects of routes.

Reference 12 - 0.35% Coverage

¶40: Robben Island is South Africa's most famous cultural tourism attraction

Reference 13 - 0.41% Coverage

¶40: combined with a rapid increase in visitors to nearly 2,000 per day in peak season,

<Internals\\IJHS 2002 Abstracts> - § 8 references coded [4.17% Coverage]

Reference 1 - 0.53% Coverage

¶8: its recent and continuing revitalisation, as heritage for tourist-leisure adaptive reuse, is discussed and illustrated

Reference 2 - 0.40% Coverage

¶8: Its relationship to naval/waterfront heritage-oriented innovation elsewhere is considered

Reference 3 - 0.40% Coverage

¶16: The proximity of Garajonay National Park to a large concentration of mass coastal tourism

Reference 4 - 0.34% Coverage

¶20: the promotion of an urban tourism destination to a wider Canada and world.

¶21:
Reference 5 - 0.17% Coverage

¶26: an application to Australian tourism

¶27:
Reference 6 - 1.04% Coverage

¶33: Heritage visitor attractions represent an integral component of the tourism product in many countries. This is particularly so in Scotland, where visitor attractions of a heritage genre continue to attract more visitors than others.

Reference 7 - 1.11% Coverage

¶40: currently one of Asia's fastest growing tourist destinations. In response to this new era, Angkor's management authorities are actively attempting to resist the 'detrimental effects of mass tourism' by promoting a desired form of cultural tourism.

Reference 8 - 0.20% Coverage

¶40: in an age of increasingly pervasive tourism.

<Internals\\IJHS 2003 Abstracts> - § 8 references coded [4.30% Coverage]

Reference 1 - 0.40% Coverage

¶6: Ethnic Heritage as a Tourist Attraction: the Peranakans of Singapore

¶7:
Reference 2 - 0.22% Coverage

¶7: in the country's destination marketing

Reference 3 - 0.36% Coverage

¶7: its actual and potential role as a tourism resource is analysed

Reference 4 - 0.26% Coverage

¶7: tourism representations also convey something

Reference 5 - 1.12% Coverage

¶9: Many former places of confinement have been transformed into publicly accessible heritage sites and museums, but visitor numbers often do not reflect the widespread public interest in confinement

Reference 6 - 0.40% Coverage

¶16: While some may be preserved as museums and become tourist attractions

Reference 7 - 0.53% Coverage

¶24: Heritage Recycled: migration and tourism as factors in the heritage of vernacular settlements

Reference 8 - 1.00% Coverage

¶25: The research on which this study is based examines the case of Santorini, a small Greek island which relies heavily on tourism and is currently in the front line of migration

<Internals\\IJHS 2005 Abstracts> - § 7 references coded [1.93% Coverage]

Reference 1 - 0.65% Coverage

¶31: Since the late 1950s, ethnic tourism in Ainu settlements has grown and Ainu hosts in traditional costumes were often seen in various tourist destinations in Hokkaido

Reference 2 - 0.45% Coverage

¶42: to situate the Historic Old Salt Development Project as part of the overall strategy to upgrade the tourism sector

Reference 3 - 0.15% Coverage

¶50: Resolving Conflicts in Heritage Tourism

Reference 4 - 0.27% Coverage

¶51: Heritage Tourism, Conflict, and the Public Interest: An Introduction

Reference 5 - 0.26% Coverage

¶55: contributes to a new impulse in the study of heritage and tourism

Reference 6 - 0.08% Coverage

¶55: international tourism

Reference 7 - 0.06% Coverage

¶56: Heritage Tourism

<Internals\\IJHS 2006 Abstracts> - § 6 references coded [1.33% Coverage]

Reference 1 - 0.45% Coverage

¶18: has been utilised as a significant supporting factor in tourism promotion, which has become an important part of the ongoing conservation processes.

Reference 2 - 0.22% Coverage

¶29: To explore this area of interface between archaeology and tourism studies

Reference 3 - 0.11% Coverage

¶33: for tourism at Asian sites like Angkor

Reference 4 - 0.14% Coverage

¶48: Out of this World: Issues of Managing Tourism

Reference 5 - 0.24% Coverage

¶49: Space tourism has become a reality and is bound to become ever more affordable.

Reference 6 - 0.18% Coverage

¶71: are among the most popular tourist destinations in the world

<Internals\\IJHS 2007 Abstracts> - § 8 references coded [3.17% Coverage]

Reference 1 - 0.19% Coverage

¶8: the imposition of an obligatory admission charge sits uneasily

Reference 2 - 0.24% Coverage

¶10: recent use by landowners and hikers' use of publicly accessible tourist cabins

Reference 3 - 0.37% Coverage

¶12: the impact of global tourism are considered. These have helped construct new forms of 'battlefield tourism' in these areas

Reference 4 - 0.26% Coverage

¶22: Cultural Tourism: Marketing Challenges and Opportunities for German Cultural Heritage

Reference 5 - 1.79% Coverage

¶23: One of the more suitable means of increasing the revenue situation on an ongoing basis is to improve and expand the cultural tourism offerings. Despite this significance of cultural tourism, an empirical study established that German heritage sites have by no means exploited the real potential of cultural tourism in a comprehensive manner. Thus, the objective of this paper is, on the basis of a well-founded delineation of the concept and demand-side situation, to demonstrate the potential success factors for developing cultural tourism and to do so from a marketing perspective.

Reference 6 - 0.11% Coverage

¶30: Heritage and Tourism in East Asia

¶31:

Reference 7 - 0.16% Coverage

¶31: tourism with reference to selected East Asian states

Reference 8 - 0.04% Coverage

¶31: and tourism.

<Internals\\IJHS 2008 Abstracts> - § 12 references coded [2.49% Coverage]

Reference 1 - 0.39% Coverage

¶45: Particular attention is devoted to the role of tourism, which is seen to act as an instrument of both development and conservation

Reference 2 - 0.14% Coverage

¶55: through Tourism in Peacetime Northern Ireland

Reference 3 - 0.48% Coverage

¶56: through an examination of various tourism initiatives. Such initiatives have been employed by a number of agents ranging from local councils and tourist boards

Reference 4 - 0.28% Coverage

¶56: I participated in a number of these tours over the course of six months in 2005/2006.

¶57: Tourism

Reference 5 - 0.28% Coverage

¶58: As a significant heritage site, Belzec's new role in Polish Holocaust tourism is examined.

¶59:
Reference 6 - 0.13% Coverage

¶60: why this matters to Malta's tourism economy

Reference 7 - 0.06% Coverage

¶65: the tourism industry

Reference 8 - 0.06% Coverage

¶68: Tourism in Cambodia

Reference 9 - 0.43% Coverage

¶69: As one of Southeast Asia's premier destinations, Angkor has also seen a 10,000% growth in international tourist arrivals in just over a decade.

Reference 10 - 0.06% Coverage

¶69: Post-colonial Tourism

Reference 11 - 0.02% Coverage

¶76: Tourism

Reference 12 - 0.17% Coverage

¶77: as recreation and tourism, in order to be able to subsist

<Internals\\IJHS 2009 Abstracts> - § 17 references coded [4.71% Coverage]

Reference 1 - 0.34% Coverage

¶4: for the city and surrounding countryside that is both a popular tourist attraction and a working agricultural area

Reference 2 - 0.04% Coverage

¶6: mass tourism

Reference 3 - 0.11% Coverage

¶11: Disciplining Memory: Heritage Tourism

Reference 4 - 0.33% Coverage

¶12: This article presents an ethnographic case study of the relationship between the development of heritage tourism

Reference 5 - 0.63% Coverage

¶12: in which heritage tourism development was not necessarily the end-goal. Nevertheless, these acts were implicated in the council's 'disciplinary programme' to produce a local infrastructure for heritage tourism.

Reference 6 - 0.04% Coverage

¶29: The Eco-tourism

Reference 7 - 0.09% Coverage

¶30: The principles of eco-tourism

Reference 8 - 0.34% Coverage

¶30: nature tourism. An operational point of departure for an Ecotourism of Cultural Heritage Management ECT-CHM model

Reference 9 - 0.28% Coverage

¶30: an operational definition of eco-tourism that acknowledges alternative resources suggested.

¶31:
Reference 10 - 0.31% Coverage

¶32: also point to the concrete impacts our research had on developing tourism on the Southern Upland Way.

¶33:
Reference 11 - 0.39% Coverage

¶41: In the ensuing years, several development projects took place in the region with the aim of reviving local economies through tourism

Reference 12 - 0.07% Coverage

¶44: Tourism, Regional Forces

Reference 13 - 0.09% Coverage

¶67: Tourism in Ethnic Communities

Reference 14 - 0.03% Coverage

¶68: by tourists

Reference 15 - 0.76% Coverage

¶68: The study is based on qualitative and quantitative data derived from primary and secondary sources and findings reveal contrasts and similarities within and between destination residents and visitors regarding attitudes to tourism and its cultural impacts

Reference 16 - 0.53% Coverage

¶68: While the cases display unique features, their analysis affords more general insights into the characteristics of this particular form of heritage tourism and its consequences.

¶69:
Reference 17 - 0.33% Coverage

¶70: In forested, sparsely populated areas, authorities are promoting tourism, especially nature and heritage tourism

<Internals\\IJHS 2010 Abstracts> - § 7 references coded [1.27% Coverage]

Reference 1 - 0.04% Coverage

¶16: or for tourism

Reference 2 - 0.12% Coverage

¶40: Coach fellas: heritage and tourism in Ireland

Reference 3 - 0.04% Coverage

¶56: and tourism

¶57:
Reference 4 - 0.29% Coverage

¶66: The present article examines the desarrollista policy aimed at creating and coordinating heritage tourism

Reference 5 - 0.43% Coverage

¶69: tourism and dynamics of change in Abondance, French Alps

¶70: Despite the opportunities offered by developing and enhancing cultural heritage in the tourism sector

Reference 6 - 0.29% Coverage

¶70: In the town of Abondance, a small ski resort being converted to cultural tourism site built around heritage

Reference 7 - 0.06% Coverage

¶76: Raj rhapsodies: tourism

<Internals\\IJHS 2011 abstracts> - § 5 references coded [1.09% Coverage]

Reference 1 - 0.09% Coverage

¶13: A snapshot of tourism in Greenland

Reference 2 - 0.61% Coverage

¶14: In the twenty-first century people are looking for exotic places to visit, places that they consider to be the last frontiers. Tourists are sometimes led to believe that these places are untouched by the globalisation of the world's economy

Reference 3 - 0.15% Coverage

¶14: The tourist who sees housing, dog sleds, and a drum dance

Reference 4 - 0.02% Coverage

¶17: tourism

Reference 5 - 0.23% Coverage

¶43: who play a crucial role in the development of heritage tourism in Langkawi Global Geopark

<Internals\\IJHS 2012 Abstracts> - § 8 references coded [0.72% Coverage]

Reference 1 - 0.12% Coverage

¶8: for the hundreds of tourists who visit the site each year.

Reference 2 - 0.09% Coverage

¶47: Inscription resulted in increasing tourism

Reference 3 - 0.10% Coverage

¶49: It receives about 1.5 million visitors annually

Reference 4 - 0.06% Coverage

¶53: through tourism management

Reference 5 - 0.07% Coverage

¶63: studies of tourism and collecting

Reference 6 - 0.02% Coverage

¶73: tourism

Reference 7 - 0.13% Coverage

¶82: From a general point of view, the British promoted tourism,

Reference 8 - 0.13% Coverage

¶84: Envisioning Eden: mobilizing imaginaries in tourism and beyond

<Internals\\IJHS 2013 abstracts> - § 15 references coded [3.19% Coverage]

Reference 1 - 0.17% Coverage

¶10: how does a desire to attract and entertain tourists mesh with ‘keeping culture alive’?

Reference 2 - 0.31% Coverage

¶10: And what happens when tourists who pay good money to see ‘traditional’ people despair that their very presence brings change, which they view as undesirable?

Reference 3 - 0.20% Coverage

¶10: in order to unpack the paradoxes raised by the practice of cultural tourism in the developing world.

¶11:
Reference 4 - 0.12% Coverage

¶13: re-thinking heritage and tourism

¶14: Numerous studies of tourism

Reference 5 - 0.14% Coverage

¶14: in Lao Peoples’ Democratic Republic are critical of the perceived impacts

Reference 6 - 0.13% Coverage

¶14: increasing uniformity as the development of tourism continues apace.

Reference 7 - 0.02% Coverage

¶14: tourism’

Reference 8 - 0.07% Coverage

¶14: with tourism something faintly alien

Reference 9 - 0.28% Coverage

¶14: by examining the interaction between global, regional and local mobilities in the context of globalisation and under the aegis of modernity.

¶15:
Reference 10 - 0.02% Coverage

¶16: Tourism

Reference 11 - 0.17% Coverage

¶30: Olympic legacy and cultural tourism: exploring the facets of Athens’ Olympic heritage

Reference 12 - 0.44% Coverage

¶31: examines the effects of the Olympic Games on Athens' cultural tourism and the city's potential to leverage the Olympic legacy in synergy with its rich heritage in order to enhance its tourism product during the post-Games period

Reference 13 - 0.35% Coverage

¶31: an empirical analysis was undertaken, by collecting official documents about the 2004 Olympics, and conducting five semi-structured interviews with tourism/administrative officials.

Reference 14 - 0.47% Coverage

¶31: The study concludes that there is a need to develop cross-leveraging synergies between the Olympic legacy and cultural tourism for the host city. Finally, a strategic planning framework for leveraging post-Games Olympic tourism is suggested

Reference 15 - 0.31% Coverage

¶51: This is interpreted by a discussion of the nature of tourist gazing and anticipation, drawing on the theoretical work of Campbell, Urry, MacCannell and Foucault

<Internals\\IJHS 2014 abstracts> - § 6 references coded [0.67% Coverage]

Reference 1 - 0.04% Coverage

¶23: tourism development.

¶24:

Reference 2 - 0.04% Coverage

¶84: tourism at a destination

Reference 3 - 0.03% Coverage

¶92: Heritage and tourism

Reference 4 - 0.18% Coverage

¶99: Cultural heritage has also become the easiest and most profitable prey for today's global tourism industry

Reference 5 - 0.16% Coverage

¶105: touristic performance of The City; London's historic heart and today's global financial centre

Reference 6 - 0.22% Coverage

¶107: I conclude by exploring some important trends for cultural heritage and heritage tourism in our age that arise from my study.

¶108:
<Internals\\IJHS 2015 abstracts> - § 10 references coded [2.29% Coverage]

Reference 1 - 0.53% Coverage

¶67: What happens when urban heritage spaces within developing countries, such as Jordan, are subject to touristic development funded by international bodies, such as the World Bank? This question is explored theoretically and practically by considering a popular local plaza in the secondary Jordanian city of Jerash that has been subject to three tourism development projects funded by the World Bank

Reference 2 - 0.08% Coverage

¶67: rather than obstacles to be 'fixed' and 'fitted' for tourism.

¶68:
Reference 3 - 0.83% Coverage

¶98: In this exploratory study the symbolic aspects of heritage tourism are considered from a consumer behaviour perspective. A qualitative study was conducted of key tourist sites in the Normandy D-Day landing region of France. Museums, cemeteries, gun batteries, beaches and plinths comprise the key significant sites of tourist visitation to the region. Using two seminal consumer behaviour models, Holt's four metaphors of consumption and Belk, Wallendorf, and Sherry's 'Sacred and Profane' dichotomy experiences and perceptions of five academics and their interaction with site visitors were compiled, compared and interpreted

Reference 4 - 0.14% Coverage

¶107: Such an approach sheds a different light on 'Holocaust tourism' and the 'pleasures' associated therewith

Reference 5 - 0.04% Coverage

¶114: tourism, and governance in China

Reference 6 - 0.07% Coverage

¶118: Tourism and cultural encounters in 'the last frontiers'

Reference 7 - 0.13% Coverage

¶119: Host-guest encounters often play a key role within tourist experiences of culture and heritage.

Reference 8 - 0.25% Coverage

¶119: In his report from early 2011, Shackel presents an example of the cultural encounter between local residents and one-day tourists arriving to the Eastern Greenlandic village of Kulusuk.

Reference 9 - 0.19% Coverage

¶119: suggests some issues to consider when discussing tourist experiences, local resistance and future tourism developments in a place like Kulusuk.

¶120:
Reference 10 - 0.02% Coverage

¶141: for ethnic tourism

<Internals\\IJHS 2016 abstracts> - § 4 references coded [0.59% Coverage]

Reference 1 - 0.10% Coverage

¶30: restorations maintained the integrity of the site as a tourist destination

Reference 2 - 0.32% Coverage

¶38: In December 2013, a replica of 'Mawson's Hut' (a historic structure in Antarctica) joined a growing list of polar tourist attractions in the Australian city of Hobart, Tasmania. Initially promoted as the city's 'latest tourist hotspot,

Reference 3 - 0.12% Coverage

¶38: We argue that the replica hut, as a key site of Hobart's Antarctic heritage tourism industry

Reference 4 - 0.04% Coverage

¶40: in an attempt to attract tourists

<Internals\\IJHS 2017 abstracts> - § 14 references coded [1.51% Coverage]

Reference 1 - 0.08% Coverage

¶17: how heritage is expected to be enacted (especially for tourists)

Reference 2 - 0.04% Coverage

¶22: Research into prison tourism

Reference 3 - 0.05% Coverage

¶29: tourism: three cities in the middle east

¶30:
Reference 4 - 0.04% Coverage

¶60: supported by the tourist industry

Reference 5 - 0.22% Coverage

¶60: This operation has been mainly effected through the territorial transformation of the vernacular space of the Inca ruins into an archaeological site for tourism consumption.

Reference 6 - 0.07% Coverage

¶62: and/or adapting a nomadic symbol for modern consumption.

Reference 7 - 0.03% Coverage

¶65: The heritage tourist

Reference 8 - 0.01% Coverage

¶67: tourism

Reference 9 - 0.15% Coverage

¶92: cultural tourism

¶93: The fascination with death and disaster has encouraged the development of distinctive tourism markets

Reference 10 - 0.49% Coverage

¶93: The increasingly stratified tourist economy and the interplay between demand and supply has also stimulated a complex set of ontological, socio-political and indifferent responses as places and interests compete to project often selective or stylised claims for recognition. This paper reviews the experiences of tourists visiting Derry/Londonderry, the UK's first City of Culture

Reference 11 - 0.10% Coverage

¶95: The commodification of heritage through the development of the tourism industry

Reference 12 - 0.04% Coverage

¶122: ecotourism in northern Laos

¶123:
Reference 13 - 0.04% Coverage

¶128: a dark (heritage) tourism context

Reference 14 - 0.15% Coverage

¶129: In the past, sites and events related to war and atrocities were viewed in the wider context of heritage tourism.

<Internals\\IJHS 2018 abstracts> - § 18 references coded [1.77% Coverage]

Reference 1 - 0.07% Coverage

¶20: 'First-Places' – Critical Dialogics of Tourism and Heritage

Reference 2 - 0.04% Coverage

¶23: through the praxis of heritage tourism

Reference 3 - 0.03% Coverage

¶23: tourism, and their interplay

Reference 4 - 0.03% Coverage

¶23: through tourism development

Reference 5 - 0.13% Coverage

¶24: An irreconcilable first-place: the precarious life of tourism and heritage in a southern European historic centre

Reference 6 - 0.38% Coverage

¶25: discusses the ambiguous relationship between heritage tourism and everyday life in the historic centre of Naples. This area, long characterised by a lower-class residential population and intermittently considered off-limits to tourists, has over the last two decades become the focus of a burgeoning heritage tourism industry

Reference 7 - 0.06% Coverage

¶25: Through three examples – a bus sightseeing tour

Reference 8 - 0.09% Coverage

¶25: local people’s perceptions of a pedestrianised piazza as a tourist contact zone

Reference 9 - 0.12% Coverage

¶27: Contemporarily, the local tourism industry constructs the Welsh as the first settlers in the region,

Reference 10 - 0.36% Coverage

¶33: In the park, the whole of the nation was represented by miniature replicas of buildings representing European Portugal and its overseas territories. Seventy-five years after its construction and with little changes to its material structures, this theme park is the most visited tourist attraction in Coimbra

Reference 11 - 0.04% Coverage

¶37: two Austen-themed literary walks

Reference 12 - 0.04% Coverage

¶135: which was developed in tourism studies

Reference 13 - 0.02% Coverage

¶135: in tourism studies.

¶136:

Reference 14 - 0.04% Coverage

¶142: The tourism and local development

Reference 15 - 0.04% Coverage

¶143: discusses the effects of tourism

Reference 16 - 0.07% Coverage

¶143: as a brand for tourism promotion and expected tourism growth

Reference 17 - 0.11% Coverage

¶143: It presents the touristic elements of the site and how other factors have impacted tourism flow

Reference 18 - 0.08% Coverage

¶150: but also consider them a conservation project and tourist attraction

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

¶12: examining a discernable expansion of cultural heritage tourism within the region; sketching scenarios for encouraging this development based on museum-orientated itineraries; and identifying a range of obstacles confronting the successful creation of such itineraries

<Internals\\JCH 2004 Abstracts> - § 2 references coded [0.37% Coverage]

Reference 1 - 0.28% Coverage

¶67: The contemporary confidence in cultural tourism is not that evident. It has to be considered and revised in relationship with local conditions

Reference 2 - 0.09% Coverage

¶93: Between April and September 2003, 1500 visitors

<Internals\\JCH 2009 Abstracts> - § 1 reference coded [0.02% Coverage]

Reference 1 - 0.02% Coverage

¶118: virtual tourism.

¶119:
<Internals\\JCH 2010 Abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶41: being magnets for tourists

<Internals\\JCH 2011 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶72: linked to opening karstic caves for tourist use

<Internals\\JCH 2013 abstracts> - § 6 references coded [0.28% Coverage]

Reference 1 - 0.03% Coverage

¶39: has become an attraction point of tourism

Reference 2 - 0.06% Coverage

¶146: has a large potential of national and international visitors as a historical and touristic area

Reference 3 - 0.14% Coverage

¶146: surrounded by boutique hotels, restaurants, cafes, souvenir shops. It is mostly like an artificial urban space, which is arranged only for visitors. It has caused the area to be a touristic space and have a limited activity

Reference 4 - 0.02% Coverage

¶146: it is mostly left to citizens

Reference 5 - 0.02% Coverage

¶148: the development of touristic attraction

Reference 6 - 0.02% Coverage

¶208: by promoting tourism industry

<Internals\\JCH 2014 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶89: have always been a major attraction for visitors to Marrakesh.

<Internals\\JCH 2015 abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶35: The Work of Tourism in Rural Ethnic China

<Internals\\JCH 2016 abstracts> - § 2 references coded [0.04% Coverage]

Reference 1 - 0.02% Coverage

¶184: as well as impacts to cultural tourism

Reference 2 - 0.02% Coverage

¶213: Many of them are popular tourist destinations.

<Internals\\JCH 2017 abstracts> - § 3 references coded [0.25% Coverage]

Reference 1 - 0.04% Coverage

¶13: It also helps to better plan the improvement of the site for touristic purposes.

¶14:
Reference 2 - 0.10% Coverage

¶115: The region of Mani, in Peloponnese, Greece, is a popular tourism destination known for its history and the beauty of its austere, stone-made built environment. In order to examine tourists' preferences and attitudes

Reference 3 - 0.12% Coverage

¶246: However, the UNESCO badge is an important marketing tool in world tourism and its presence ensures many more visitors to a site/practice that is UNESCO recognised. With increasing wealth and mobility, many more people are travelling than was possible even a decade ago.

<Internals\\JCH 2018 abstracts> - § 7 references coded [0.23% Coverage]

Reference 1 - 0.04% Coverage

¶42: are attracting more and more tourists home and abroad over the past few decades in China.

Reference 2 - 0.02% Coverage

¶84: for planning and tourism management

¶85:
Reference 3 - 0.01% Coverage

¶85: and tourism management

Reference 4 - 0.04% Coverage

¶85: This study provides the scientific foundation for the development of an effective tourism management program

Reference 5 - 0.02% Coverage

¶288: international tourism: The case of the Arab countries

Reference 6 - 0.06% Coverage

¶289: Our results indicate that WHS are a major cause of influx of tourists, especially to the Arab countries that are currently at risk of conflict.

Reference 7 - 0.05% Coverage

¶289: would cause a minimum loss of around 12% of their tourism, with Libya and Syria being the most affected countries.

Name: Nodes\\Legislation and policy\UNESCO and world heritage

<Internals\\Antiquity 1996 abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶129: Its twin hengesite in a joint World Heritage designation

<Internals\\Antiquity 1999 abstracts> - § 2 references coded [0.16% Coverage]

Reference 1 - 0.06% Coverage

¶184: Avebury World Heritage Site

Reference 2 - 0.09% Coverage

¶207: a UNESCO World Heritage site in Sri Lanka

<Internals\\Antiquity 2000 abstracts> - § 4 references coded [0.68% Coverage]

Reference 1 - 0.21% Coverage

¶125: At this time the United Nations Educational, Scientific and Cultural Organisation (UNESCO) inscribed Avebury onto the growing listof World Heritage Sites (http://www.unesco.orglwhc),

Reference 2 - 0.36% Coverage

¶125: The joint nomination of both Avebury and Stonehengeby the UK government was rational. At a timewhen no UK sites were on the list, seven UK applications were being presented to UNESCO and it was considered that there would be a better chance of both landscapes being accepted if they were considered as one site. Indee

Reference 3 - 0.05% Coverage

¶132: the massif (a designated World Heritage Site)

Reference 4 - 0.05% Coverage

¶385: of this World Heritage site and its landscape.

<Internals\\Antiquity 2002 abstracts> - § 2 references coded [0.07% Coverage]

Reference 1 - 0.02% Coverage

¶102: World Heritage site,

Reference 2 - 0.04% Coverage

¶538: The World Heritage Site's central area

<Internals\\Antiquity 2004 abstracts> - § 1 reference coded [0.37% Coverage]

Reference 1 - 0.37% Coverage

¶140: The UK has recently become a state party to the 1970 UNESCO Convention and is now introducing a package of measures designed to strengthen its treaty obligations

<Internals\\Antiquity 2005 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶150: World Heritage Site

<Internals\\Antiquity 2007 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶99: A UNESCO World heritage Site in Albania

<Internals\\Antiquity 2008 abstracts> - § 1 reference coded [0.07% Coverage]

Reference 1 - 0.07% Coverage

¶135: A UNESCO World Heritage Site in Albania

<Internals\\Antiquity 2009 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶8: in this world heritage site.

¶9:

<Internals\\Antiquity 2011 abstracts> - § 1 reference coded [0.05% Coverage]

Reference 1 - 0.05% Coverage

¶118: you only have to look at the UNESCO logo

<Internals\\Antiquity 2012 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶68: The World Heritage Site

<Internals\\Antiquity 2013 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶221: Recent UNESCO-sponsored work

<Internals\\Antiquity 2014 abstracts> - § 3 references coded [0.13% Coverage]

Reference 1 - 0.07% Coverage

¶133: approaches the issues from a World Heritage Site perspective

Reference 2 - 0.03% Coverage

¶145: UNESCO, cultural heritage

Reference 3 - 0.02% Coverage

¶145: the World Heritage

<Internals\\Antiquity 2015 abstracts> - § 1 reference coded [0.02% Coverage]

Reference 1 - 0.02% Coverage

¶48: The World Heritage

<Internals\\Antiquity 2016 abstracts> - § 2 references coded [0.19% Coverage]

Reference 1 - 0.04% Coverage

¶97: In 2014, it was added to the World Heritage List.

Reference 2 - 0.14% Coverage

¶242: As a result of this study, the unique cultural heritage of the Lovo Massif rock art has been put forward for protection under the UNESCO World Heritage list.

¶243:

<Internals\\Antiquity 2018 abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶63: its inscription as a World Heritage Site,

<Internals\\Curator 2010 Abstracts> - § 1 reference coded [0.17% Coverage]

Reference 1 - 0.17% Coverage

¶59: The Heritage-scape: UNESCO, World Heritage,

<Internals\\Curator 2013 abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶38: the UNESCO World Heritage site

<Internals\\Curator 2014 abstracts> - § 1 reference coded [0.25% Coverage]

Reference 1 - 0.25% Coverage

¶63: as well as its collaboration with UNESCO in crafting the 2003 convention

<Internals\\IJCP 1994 abstracts> - § 2 references coded [0.76% Coverage]

Reference 1 - 0.13% Coverage

¶26: for UNESCO,

Reference 2 - 0.63% Coverage

¶41: Foreign Investment and the World Heritage Convention

¶42:
<Internals\\IJCP 1995 abstracts> - § 2 references coded [3.75% Coverage]

Reference 1 - 2.11% Coverage

¶17: the ratification and the implementation of the UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.

Reference 2 - 1.64% Coverage

¶19: the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (1970)

<Internals\\IJCP 1997 Abstracts> - § 1 reference coded [2.13% Coverage]

Reference 1 - 2.13% Coverage

¶21: UNESCO: Ninth Session of the Intergovernmental Committee for Promoting the Return of Cultural Property to its Countries of Origin or its Restitution in case of Illicit Appropriation

<Internals\\IJCP 1998 abstracts> - § 2 references coded [2.06% Coverage]

Reference 1 - 1.52% Coverage

¶10: The significance of the U.S. UNESCO cultural property implementing legislation for five requesting countries and for Mexico is discussed, with a final recommendation for its emendation so as to allow the United States to respond immediately to the requests of all parties to the convention.

¶11:
Reference 2 - 0.54% Coverage

¶18: Friction between these competing interests began with the ratification of the UNESCO Convention in 1972

<Internals\\IJCP 1999 Abstracts> - § 2 references coded [2.83% Coverage]

Reference 1 - 1.73% Coverage

¶14: Despite these developments, New Zealand has yet to sign the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property.

Reference 2 - 1.10% Coverage

¶41: Second meeting of governmental experts to consider the draft convention on the protection of underwater cultural heritage, Paris

<Internals\\IJCP 2000 abstracts> - § 1 reference coded [1.22% Coverage]

Reference 1 - 1.22% Coverage

¶23: UNESCO celebrates thirtieth anniversary of its convention on illicit traffic

<Internals\\IJCP 2001 abstracts> - § 1 reference coded [2.60% Coverage]

Reference 1 - 2.60% Coverage

¶25: Thirtieth Anniversary of UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

<Internals\\IJCP 2002 abstracts> - § 8 references coded [16.02% Coverage]

Reference 1 - 1.02% Coverage

¶11: UNESCO Convention on the Protection of the Underwater Cultural Heritage

Reference 2 - 0.14% Coverage

¶14: The UNESCO

Reference 3 - 1.97% Coverage

¶19: “Putting Reform Into Action” — Thirty Years of the World Heritage Convention: How to Reform a Convention without Changing Its Regulations

Reference 4 - 7.02% Coverage

¶20: The World Heritage Convention, revolutionary in its conception thirty years ago, has today become the most widely accepted international legal instrument for the protection of cultural and natural heritage. Now, however, it requires adjustments if its successful implementation is to continue. These changes must not modify the Convention but must achieve an equivalent level of implementation. This article focuses on three issues, which are currently the subject of ongoing discussions

Reference 5 - 0.37% Coverage

¶20: of the World Heritage List

Reference 6 - 1.83% Coverage

¶20: revision of the Operational Guidelines. The author not only describes the procedures for reform and the results achieved so far

Reference 7 - 2.88% Coverage

¶22: including the recently adopted UNESCO Convention on the Protection of Underwater Cultural Heritage, are able to assist states in repatriating stolen or illegally exported underwater cultural heritage.

Reference 8 - 0.78% Coverage

¶26: World Heritage, between Universalism and Globalization

<Internals\\IJCP 2005 Abstracts> - § 10 references coded [9.43% Coverage]

Reference 1 - 0.07% Coverage

¶8: in the work of UNESCO

Reference 2 - 0.27% Coverage

¶33: and that it has been departed from in later UNESCO instruments can be challenged.

Reference 3 - 0.88% Coverage

¶33: Similarly, UNESCO's mandate has been narrowed in a way not justified by its constitution. UNESCO's later instruments, such as the 1970 Convention, do not represent an aversion to the art market, as is witnessed by its development on an international Code for Dealers

Reference 4 - 0.33% Coverage

¶52: Merryman cites three causes: the animus of UNESCO and archaeology against marketing cultural property

Reference 5 - 0.31% Coverage

¶52: National and local self-esteem are holy writ for UNESCO and other cultural property agencies.

Reference 6 - 0.24% Coverage

¶58: Convention for the Safeguarding of the Intangible Cultural Heritage 2003

Reference 7 - 1.41% Coverage

¶61: The Federal Assembly of the Swiss Confederation, Pursuant to Articles 69, para. 2 and 95, para. 1, of the Swiss Federal Constitution, in execution of the UNESCO Convention from November 14, 1970 on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property (UNESCO Convention 1970), after having examined the Message of the Federal Council dated November 21, 2001, decides.

Reference 8 - 0.24% Coverage

¶64: Regional Workshop on the UNESCO Conventions Protecting Cultural Property

Reference 9 - 3.95% Coverage

¶65: The closing years of the twentieth century and the early years of twenty-first century witnessed remarkable developments in the international attempts to protect the world's cultural heritage. For instance, in 1999 the Second Protocol to the Convention on the Protection of Cultural Property in the Event of Armed Conflict was adopted. In 2001, the Convention on the Protection of the Underwater Cultural Heritage was adopted whilst 2003 witnessed the adoption of the Convention for the Safeguarding of the Intangible Cultural Heritage. The United Nations declared 2002, as the UN Year for Cultural Heritage and appointed UNESCO as its Cultural Agent. There is no gainsaying that the UNESCO was faithfully committed to this mandate and discharged its responsibilities satisfactorily. However, the acknowledgment of the fact that lack of information and inadequate appreciation of the UNESCO Conventions on the protection of cultural property remained a formidable obstacle to the realisation of the aspiration of the UN and UNESCO informed the 2003 Abuja Workshop convened primarily to promote the UNESCO Conventions protecting Cultural Property. What follows is report on the 2003 Abuja Workshop.

Reference 10 - 1.73% Coverage

¶71: In the last decade of the twentieth century three UNESCO/ICOM regional workshops were held in Africa (Arusha, Tanzania in 1993, Bamako, Mali in 1994 and Kinshasa, Democratic Republic of Congo in 1996) on the fight against illicit trafficking of cultural property. In the first decade of this century already two UNESCO regional workshops have been held in Africa on the same theme. The first was held in Abuja, Nigeria in 2003, and the second, which is the focus of this report, in Cape Town, South Africa in September 2004.

<Internals\\IJCP 2006 Abstracts> - § 7 references coded [6.12% Coverage]

Reference 1 - 0.69% Coverage

¶10: The CPTA implements the minimal standards of the UNESCO Convention of 1970 on the Means of Prohibiting and Preventing the Illicit Import, Export, and Transfer of Ownership of Cultural Property.

Reference 2 - 0.34% Coverage

¶10: Like Switzerland, the claiming state must be a member state of the UNESCO Convention of 1970.

¶11:
Reference 3 - 0.46% Coverage

¶28: Finishing the Interrupted Voyage: Papers of the UNESCO Asia-Pacific Workshop on the Protection of the Underwater Cultural Heritage

Reference 4 - 3.29% Coverage

¶29: Almost 5 years after its adoption, the UNESCO Convention on the Protection of the Underwater Cultural Heritage has a mere six state parties. It requires 20 parties for the convention to come into force. Although there may be numerous reasons why states have failed to ratify the convention, perhaps the most common is simply because many developing states, even those rich in underwater cultural heritage, have little experience or expertise with protecting underwater cultural heritage, both practical and legal; and they are hesitant to ratify the convention without ensuring that they can implement the then-binding international obligations. This is particularly the case in the Asia-Pacific region, rich in underwater cultural heritage but as yet not represented in those states party to the convention. The need to encourage ratification of the convention in the Asia-Pacific is best described in the paper by Jeremy Green

Reference 5 - 0.94% Coverage

¶45: Effective January 3, 2004, Switzerland has ratified the 1970 UNESCO Convention on the means of prohibiting and preventing the illicit import, export, and transfer of ownership of cultural property. Furthermore the convention has been put into effect in Switzerland

Reference 6 - 0.29% Coverage

¶49: Convention on the Protection and Promotion of the Diversity of Cultural Expressions

Reference 7 - 0.12% Coverage

¶53: forms a part of the world heritage

<Internals\\IJCP 2007 Abstracts> - § 5 references coded [2.22% Coverage]

Reference 1 - 0.41% Coverage

¶13: The Protection of the Underwater Cultural Heritage: National Perspectives In Light of The UNESCO Convention 2001

¶14:
Reference 2 - 0.42% Coverage

¶14: A final essay described the ongoing effort to create an international treaty to protect UCH in international waters

Reference 3 - 0.85% Coverage

¶54: This article seeks to relate hunting practices, of which some good examples have been given in this volume, to the way such practices are dealt with in the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage 2003

Reference 4 - 0.27% Coverage

¶54: which can only be touched lightly by such an international legal instrument.

Reference 5 - 0.27% Coverage

¶62: the UNESCO Convention on the Protection of the Underwater Cultural Heritage

<Internals\\IJCP 2008 Abstracts> - § 13 references coded [5.38% Coverage]

Reference 1 - 0.08% Coverage

¶5: A New World Heritage Context

¶6:
Reference 2 - 0.14% Coverage

¶6: as manifested in the UNESCO declarations and practices

Reference 3 - 0.17% Coverage

¶6: The World Heritage Convention is continuing to evolve its definitions

Reference 4 - 0.23% Coverage

¶6: Two examples are discussed to address the shortcomings of the application of the convention

Reference 5 - 0.69% Coverage

¶45: New Zealand could fulfil its obligations under the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 and the UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects 1995.

Reference 6 - 0.69% Coverage

¶65: This meeting was stimulated by the German statute (Kulturgüterrückgabegesetz version of May 18, 2007) implementing the UNESCO convention of November 14, 1970, the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.

Reference 7 - 0.36% Coverage

¶65: stressing that the ratification and implementation of the 1970 UNESCO convention will improve the protection of cultural property in Germany.

Reference 8 - 0.47% Coverage

¶67: This statute implements for Switzerland the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.

Reference 9 - 0.45% Coverage

¶73: Guido Carducci (UNESCO, Paris) presented a comparison between the regimes of claims for recovery of antiquities under the 1970 UNESCO Convention and the 1995 UNIDROIT Convention

Reference 10 - 0.18% Coverage

¶77: for the UNESCO convention in 1970 and the UNIDROIT convention in 1995.

¶78:

Reference 11 - 0.32% Coverage

¶80: “Standard-Setting Instruments Promoting Multilingualism”: Launch of the United Nations International Year of Mother Languages

Reference 12 - 1.17% Coverage

¶81: UNESCO launched the United Nations (UN) International Year of Languages on February 21, 2008, International Mother Language Day, with an information workshop entitled “Standard-setting Instruments Promoting Multilingualism.” UNESCO is the lead agency for carrying out activities

related to the international year in view of its extensive work in the area of promoting multilingualism (in education and cyberspace, for example), safeguarding endangered languages,

Reference 13 - 0.44% Coverage

¶81: The international year is accompanied by the slogan “languages matter!” and this reflects the wider context within which it and its related activities have been conceived.

¶82:

<Internals\\IJCP 2009 Abstracts> - § 2 references coded [1.57% Coverage]

Reference 1 - 0.75% Coverage

¶61: From 29th September to 1st October, a workshop was organized in Mexico City by UNESCO on the theme, “The Protection and Safeguard of Cultural Heritage Property of the Church of Latin America and the Caribbean.”

Reference 2 - 0.82% Coverage

¶72: As an UNESCO initiative, Mexico was chosen as the country to host a seminar about the illicit trafficking of religious cultural objects. This problem is severe in the region and the idea was received with great enthusiasm by all.

<Internals\\IJCP 2010 abstracts> - § 1 reference coded [0.81% Coverage]

Reference 1 - 0.81% Coverage

¶83: the UNESCO Convention for the Protection of the Underwater Cultural Heritage, which resulted from the Committee's Buenos Aires Draft Convention on that subject. Now that the treaty is in force, the committee considered the actual and potential status of accession by maritime powers.

<Internals\\IJCP 2011 abstracts> - § 9 references coded [4.11% Coverage]

Reference 1 - 0.25% Coverage

¶6: following the adoption of the relevant convention by UNESCO in 2003

Reference 2 - 0.66% Coverage

¶6: For a number of critics, however, UNESCO's normative framework raises questions around the institutionalization of culture as a set of endangered and disappearing ways of life

Reference 3 - 0.46% Coverage

¶19: will link this discussion to measures and approaches taking place at an international level by agencies such as UNESCO.

¶20:

Reference 4 - 0.22% Coverage

¶47: The 16th Session of the UNESCO Intergovernmental Committee

Reference 5 - 0.69% Coverage

¶48: The 16th Session of the UNESCO Intergovernmental Committee for Promoting the Return of Cultural Property to Its Countries of Origin or Its Restitution in Case of Illicit Appropriation

Reference 6 - 0.36% Coverage

¶49: The Fight Against the Illicit Traffic of Cultural Property: The 1970 Convention: Past and Future

Reference 7 - 1.18% Coverage

¶50: On 15 and 16 March 2011 UNESCO held a meeting on The Fight Against the Illicit Trafficking of Cultural Objects: The 1970 Convention: Past and Future at its Paris headquarters. The meeting served two purposes: an evaluation of the 1970 Convention, 40 years after its adoption, and a meeting of delegations to UNESCO

Reference 8 - 0.23% Coverage

¶50: how UNESCO should proceed to improve the present situation.

¶51:
Reference 9 - 0.06% Coverage

¶56: as well as UNESCO

<Internals\\IJCP 2012 abstracts> - § 16 references coded [13.92% Coverage]

Reference 1 - 0.23% Coverage

¶4: the implementation of the Convention on Intangible Cultural Heritage.

¶5:
Reference 2 - 0.25% Coverage

¶18: as practiced in the historic Stone Town of Zanzibar, now a World Heritage Site

Reference 3 - 0.08% Coverage

¶33: UNESCO heritage discourse

Reference 4 - 0.27% Coverage

¶37: The 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage

Reference 5 - 0.13% Coverage

¶44: Bahia's Pelourinho World Heritage Site

¶45:
Reference 6 - 0.41% Coverage

¶45: in conjuring a particular form of cultural heritage that bears a distinct resemblance to UNESCO's immaterial patrimony programs

Reference 7 - 0.67% Coverage

¶49: Model Provisions on State Ownership of Undiscovered Cultural Objects Explanatory Report with model provisions and explanatory guidelines: Expert Committee on State Ownership of Cultural Heritage, UNESCO-UNIDROIT

Reference 8 - 0.15% Coverage

¶50: convened by the UNESCO and Unidroit Secretariats

Reference 9 - 0.66% Coverage

¶53: in application of the November 14, 1970 UNESCO Convention on the Means of Prohibiting and Preventing Illicit Import, Export and Transfer of Ownership of Cultural Property, to which both countries are a party

Reference 10 - 0.26% Coverage

¶64: Expert Meeting on the 20th Anniversary of UNESCO's Memory of the World Programme

Reference 11 - 2.74% Coverage

¶65: The meeting of experts in Warsaw is one of the activities marking the 20th anniversary of the Memory of the World (MoW) program. The events started on 1 April and were held throughout 2012, including a MoW Exhibition at the UNESCO headquarters that focused on items that are listed on MoW Register (national, regional, and international) and an international conference held 26–28 September 2012 in Vancouver, Canada, on Memory of the World in the Digital Age: Digitization and Preservation. The challenges and solutions relating to the impact of the technological advances for the preservation and accessibility of the documentary heritage have occupied the attention of UNESCO for some time, culminating in the adoption of the Charter on the Preservation of the Digital Heritage by the 32nd session of the General Conference of UNESCO on 17 October 2003.

Reference 12 - 0.60% Coverage

¶67: which certainly goes beyond the United Nations Educational, Social and Cultural Organization (UNESCO), as the international organization entrusted with, among other things, cultural affairs

Reference 13 - 0.55% Coverage

¶67: In scholarship, too, there appears to be increasing specialization, which carves out topics and subtopics, such as the UNESCO versus the World Trade Organization (WTO) clash

Reference 14 - 3.34% Coverage

¶69: Fourteen years after the 1995 UNIDROIT Convention came into force, the first special meeting as envisaged under Article 20 of the Convention was held at the UNESCO headquarters in Paris on 19 June 2012. Article 20 provides that "The President of the International Institute for the Unification of Private Law (UNIDROIT) may at regular intervals, or at any time at the request of five Contracting states, convene a special committee in order to review the practical operation of this Convention." Appropriately, the first special committee meeting took place at UNESCO's head office, preceding by a day the second meeting of States Parties to the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership Cultural Property, which convened in Paris on 20–21 June 2012. The UNIDROIT Convention was initiated at the request of UNESCO to fill the gap in the 1970 Convention relating to the private law aspects of the return and restitution of stolen or illegally exported cultural property.

Reference 15 - 0.59% Coverage

¶70: Second Meeting of the States Parties to the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

Reference 16 - 2.99% Coverage

¶71: The UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property was adopted in Paris on 14 November 1970. It came into force on 24 April 1972. It took over 30 years for the first Meeting of States Parties to the Convention to take place on 15 October 2003. The second meeting, the subject of this report, took place after a shorter period of about nine years, on 20–21 June 2012. A Meeting of States Parties to a treaty is primarily a forum to discuss and agree on measures that can be taken to improve its effectiveness and the realization of the aims and objectives of the instrument. Accordingly, the meeting was tasked with examining in depth the impact of the measures taken by States Parties to the Convention in order to optimize its implementation, and also to consider and approve whatever efficacious measures should be taken for its best functioning.

<Internals\\IJCP 2013 abstracts> - § 19 references coded [7.96% Coverage]

Reference 1 - 0.26% Coverage

¶8: following American museums' acceptance of the 1970 UNESCO Convention

Reference 2 - 0.03% Coverage

¶14: UNESCO

Reference 3 - 0.11% Coverage

¶14: the Fate of the World Heritage

Reference 4 - 0.36% Coverage

¶15: in conjunction with the 24th session of UNESCO's World Heritage Committee in Cairns, Australia

Reference 5 - 0.27% Coverage

¶15: within or comprising sites now designated as World Heritage properties.

Reference 6 - 0.13% Coverage

¶15: within the World Heritage system.

Reference 7 - 0.42% Coverage

¶28: following the inscription of the historic inner city of Paramaribo on the World Heritage List of UNESCO in 2002

Reference 8 - 0.08% Coverage

¶38: The UNESCO Convention

Reference 9 - 0.20% Coverage

¶38: An Appraisal Five Years after Its Entry into Force

¶39:
Reference 10 - 3.01% Coverage

¶39: was agreed upon with an overwhelming majority and after the swiftest ratification process in the history of the UNESCO entered into force on 18 March 2007. Now, five years later and with some 130 Members committed to implementing the convention, not only observers with a particular interest in the topic but also the broader public may be eager to know what has happened and in how far has the implementation progress advanced. This is the question that animates this article. It seeks to answer it by giving a brief background to the UNESCO Convention, clarifying its legal status and impact, as well as by looking at the current implementation activities in domestic and international contexts. The article sets this analysis in the frame of international regime complexity insights.

¶40:
Reference 11 - 0.15% Coverage

¶41: addresses the shortcomings of UNESCO’s

Reference 12 - 0.45% Coverage

¶41: Contrary to its original intentions, by prioritizing national perspectives and interests on heritage, UNESCO's program

Reference 13 - 0.20% Coverage

¶41: despite those documents submitted by Turkey to UNESCO

Reference 14 - 0.24% Coverage

¶41: I conclude by arguing that UNESCO's intangible heritage program

Reference 15 - 0.32% Coverage

¶43: looking specifically at international conventions made under the auspices of UNESCO

Reference 16 - 0.18% Coverage

¶45: the World Heritage Site of the Theban Necropolis

Reference 17 - 0.08% Coverage

¶48: UNESCO-BREDA Workshop

Reference 18 - 0.66% Coverage

¶49: Extraordinary Meeting of States Parties to the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

Reference 19 - 0.80% Coverage

¶50: First Session of the Subsidiary Committee of the Meeting of States Parties to the Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

<Internals\\IJCP 2014 abstracts> - § 17 references coded [10.13% Coverage]

Reference 1 - 0.50% Coverage

¶5: Legislative and Administrative Implementation of 1970 UNESCO Convention by African States: The Failure to Grasp the Nettle

Reference 2 - 0.58% Coverage

¶7: At the same time, it holds that the application of the Convention Concerning the Protection of the World Cultural and Natural Heritage of 1972

Reference 3 - 0.55% Coverage

¶7: It examines the different social contexts of World Heritage in these areas and concludes that the traditional vision of World Heritage

Reference 4 - 0.56% Coverage

¶7: This conclusion is reached through a proactive vision defending the use of these UNESCO World Heritage Sites to improve management models

Reference 5 - 0.09% Coverage

¶18: Whose World Heritage?

Reference 6 - 0.08% Coverage

¶18: UNESCO's Delisting

Reference 7 - 0.09% Coverage

¶18: the Dresden Elbe Valley

Reference 8 - 0.38% Coverage

¶19: examines the events leading up to, surrounding, and following UNESCO's controversial removal

Reference 9 - 0.27% Coverage

¶19: Germany's Dresden Elbe Valley from the World Heritage List in 2009

Reference 10 - 1.13% Coverage

¶19: World Heritage. Yet despite the bridge, Dresden supposedly maintains World Heritage worthiness, even if it no longer enjoys that title. The author attempts to make sense of these contradictions in order to discover lessons applicable to the World Heritage program as a whole.

¶20:
Reference 11 - 0.15% Coverage

¶36: Seven Years of Implementing UNESCO's

Reference 12 - 0.18% Coverage

¶36: Honeymoon Period or the “Seven-Year Itch”?

¶37:
Reference 13 - 0.26% Coverage

¶37: aims to examine how far our experience of implementing UNESCO’s

Reference 14 - 0.50% Coverage

¶37: which was adopted in 2003 and entered into force in April 2006, over the last seven years has transformed our understanding

Reference 15 - 2.07% Coverage

¶37: There have been, of course, both positive and negative impacts thus far as well as both unexpected and, thus far, unknown outcomes. The Convention broke new ground, introducing new terminology and new definitions of existing terms and requiring a reexamination of some approaches to international and national law making and policymaking. When considering the impact of the 2003 Convention internationally, we need to look, inter alia, at its impact on international policymaking (including cultural policy,

Reference 16 - 0.58% Coverage

¶37: On the national level, we should consider how the Convention may have contributed to creating a new paradigm for identifying and safeguarding

Reference 17 - 2.18% Coverage

¶37: redefining the role of non-state actors vis-à-vis state authorities in this process and, even, moving the idea of national heritage away from a purely state-driven concept. Important questions to consider include whether the Convention has resulted in the development of new national policy strategies for (a) promoting the function of ICH in society and (b) integrating ICH into planning and development programs and how effectively Parties have managed to engage communities, groups, and individuals in the aforementioned activities

<Internals\\IJCP 2015 abstracts> - § 13 references coded [4.96% Coverage]

Reference 1 - 0.34% Coverage

¶12: under UNESCO’s Intangible Cultural Heritage Convention: Problems in the Online Inventories

Reference 2 - 0.64% Coverage

¶13: Article 12 of the Convention on the Safeguarding of the Intangible Cultural Heritage, 2003, provides that the States Parties are under obligation at the national level

Reference 3 - 0.29% Coverage

¶13: Indonesia has been a State Party to the Convention since 2007, but until now

Reference 4 - 0.08% Coverage

¶13: jointly with UNESCO,

Reference 5 - 0.35% Coverage

¶14: Shipwrecked Heritage: A Commentary on the UNESCO Convention on Underwater Cultural Heritage

Reference 6 - 0.54% Coverage

¶34: the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

Reference 7 - 0.10% Coverage

¶47: World Heritage Regionalism

Reference 8 - 0.10% Coverage

¶47: UNESCO from Europe to Asia

Reference 9 - 0.44% Coverage

¶48: UNESCO World Heritage regions are historically constructed categories that do not easily map onto global geographies

Reference 10 - 0.12% Coverage

¶48: in the World Heritage Committee

Reference 11 - 0.59% Coverage

¶48: We include the recent controversy over uneven regional representation in elections to the Committee and the measures adopted to remedy this for the future.

Reference 12 - 1.04% Coverage

¶48: in many aspects of World Heritage. We go on to examine overall trends from annual sessions of the World Heritage Committee from its start in 1977 to 2014 in terms of site inscription on the World Heritage List, membership on the Committee and size of national delegations

Reference 13 - 0.32% Coverage

¶48: how some Asian delegations see their increased role and visibility in World Heritage.

<Internals\\IJCP 2016 abstracts> - § 2 references coded [1.58% Coverage]

Reference 1 - 0.49% Coverage

¶8: the domestic implementation of the 2003 Convention for the Safeguarding of Intangible Cultural Heritage

Reference 2 - 1.10% Coverage

¶47: especially in light of the UN Educational, Scientific and Cultural Organization's recent (2013) invitation to the United Kingdom (UK) to accept mediation on the matter and the UK's even more recent (2015) rejection of the invitation

<Internals\\IJCP 2017 ABSTRACTS> - § 4 references coded [0.79% Coverage]

Reference 1 - 0.10% Coverage

¶15: UNESCO on the Ground

Reference 2 - 0.12% Coverage

¶26: UNESCO in Southeast Asia

Reference 3 - 0.24% Coverage

¶26: World Heritage Sites in Comparative Perspective

Reference 4 - 0.33% Coverage

¶40: Although the 1970 UNESCO Convention was accepted in China in 1989

<Internals\\IJCP 2018 abstracts> - § 21 references coded [15.10% Coverage]

Reference 1 - 0.15% Coverage

¶5: to have the United Nations

Reference 2 - 0.69% Coverage

¶7: In 2003, the Convention for the Safeguarding of Intangible Cultural Heritage (UNESCO ICH Convention) formalized provision

Reference 3 - 1.19% Coverage

¶7: To much commentary and critique, the United Kingdom (UK) infamously decided not to ratify the UNESCO ICH Convention. This article examines the implications of the UK's decision not to ratify the Convention for

Reference 4 - 0.62% Coverage

¶7: this article makes two observations: first, that the UK's absence from the Convention establishes a precedent

Reference 5 - 1.02% Coverage

¶7: and, second, that despite this, limitations in current provisions in the UNESCO ICH Convention would provide the group with little additional protection than they currently have.

Reference 6 - 0.53% Coverage

¶7: Finally, we consider the extent to which the current provisions of the UNESCO ICH Convention

Reference 7 - 0.66% Coverage

¶9: whose "cultural space" was declared by the United Nations Education, Scientific and Cultural Organization (UNESCO)

Reference 8 - 0.43% Coverage

¶9: to garner recognition from state and transnational organizations like UNESCO

Reference 9 - 0.83% Coverage

¶10: Approaching Human Rights at the World Heritage Committee: Capturing Situated Conversations, Complexity, and Dynamism in Global Heritage Processes

Reference 10 - 1.47% Coverage

¶11: Social scientists are increasingly approaching the World Heritage Committee itself as an entry-point to understanding global heritage processes and phenomena. This article explores the subject of human rights in the operations of the World Heritage Committee

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¶11: the decision-making body established by the 1972 UNESCO World Heritage Convention. It seeks to address the epistemological and methodological implications of approaching the World Heritage Committee

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¶11: during the Thirty-Ninth World Heritage Committee session held in Bonn, Germany, in June 2015.

¶12: In this article, we discuss the methodological and ontological implications of studying rights discourses in the context of World Heritage events and processes.

Reference 13 - 0.75% Coverage

¶13: Human Rights-Based Approaches to World Heritage Conservation in Bagan, Myanmar: Conceptual, Political, and Practical Considerations

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¶14: in the context of preparations for the world heritage nomination

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¶27: World Heritage

Reference 16 - 0.22% Coverage

¶28: between the World Heritage Convention

Reference 17 - 1.60% Coverage

¶28: This article focuses on how their insistence on the right to participate effectively in decision-making and centrality of free, prior, and informed consent as defined in the UNDRIP exposes the limitations of existing United Nations Educational, Scientific and Cultural Organization

Reference 18 - 0.20% Coverage

¶28: World Heritage Convention processes

Reference 19 - 0.52% Coverage

¶28: and the World Heritage Convention from their drafting and adoption to their implementation,

Reference 20 - 0.90% Coverage

¶36: but also inconstant with international developments in the form of the 2001 United Nations Convention of the Protection of the Underwater Cultural Heritage.

¶37:
Reference 21 - 0.29% Coverage

¶37: UNESCO–European Union Capacity-Building Conference

<Internals\\IJHS 1994-6 Abstracts> - § 1 reference coded [1.01% Coverage]

Reference 1 - 1.01% Coverage

¶29: The desire by ecologists in the mid-1980s to have cultural landscapes inscribed on the World Heritage list caused a re-assessment of the World Heritage Criteria

<Internals\\IJHS 1997-8 Abstracts> - § 1 reference coded [0.39% Coverage]

Reference 1 - 0.39% Coverage

¶9: designated a joint Natural/Cultural World Heritage Site in 1989

<Internals\\IJHS 2000 Abstracts> - § 2 references coded [1.10% Coverage]

Reference 1 - 0.60% Coverage

¶41: The World Heritage categorisation provides the basis for a brief review of the range of such landscapes in Britain,

Reference 2 - 0.50% Coverage

¶41: concludes by noting a number of British cultural landscapes recognisable in World Heritage terms

<Internals\\IJHS 2001 abstracts> - § 1 reference coded [0.41% Coverage]

Reference 1 - 0.41% Coverage

¶40: was designated in December 1999 as one of South Africa's first World Heritage sites

<Internals\\IJHS 2002 Abstracts> - § 20 references coded [13.51% Coverage]

Reference 1 - 0.14% Coverage

¶14: the politics of World Heritage

¶15:
Reference 2 - 0.37% Coverage

¶15: World Heritage on a Tourist Island: the case of Garajonay National Park, La Gomera

¶16:
Reference 3 - 1.58% Coverage

¶16: the World Heritage Site of Garajonay National Park on the island of La Gomera (Canary Islands). It is based on a research project carried out during 1999-2000 that explored the circumstances surrounding its declaration as a National Park and inclusion into the World Heritage List, in conjunction with the consequences for local communities which ensued.

Reference 4 - 0.14% Coverage

¶16: in this 'world heritage space'.

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¶17: World Heritage as a Model for Citizenship: the case of Cyprus

Reference 6 - 0.37% Coverage

¶18: explores the imaginative spaces in which world heritage is constructed and consumed

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¶18: links these two aspects of 'World Heritage' to two contrasting models of citizenship

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¶19: Living in a World Heritage City: stakeholders in the dialectic of the universal and particular

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¶20: An assessment of the historic quarter, a World Heritage Site

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¶20: the realities of living in a World Heritage City

Reference 11 - 0.51% Coverage

¶21: A Critical Evaluation of the Global Accolade: the significance of World Heritage Site status for Maritime Greenwich

Reference 12 - 0.54% Coverage

¶22: World Heritage Site (WHS) status is becoming a highly valued accolade in both developed and developing countries alike.

Reference 13 - 3.60% Coverage

¶22: and expansion of the World Heritage List has led to a more inclusive and representative approach to both designation and inscription. Although this could be perceived as a positive development, questions should still be raised about the meaning and significance of WHS status given the apparently indefinite expansion of the List. The paper will firstly examine the motivations, which appear to underpin the quest for WHS status in an international context, before proceeding to an analysis of Maritime Greenwich, which was inscribed on the List in 1997. Although it is acknowledged that generalisations about the significance of this global accolade are not always useful, the chosen case study exemplifies some of the generic impacts that WHS status can bring in its wake, particularly in historic towns.

Reference 14 - 0.32% Coverage

¶23: Zanzibar Stone Town Joins the Imagined Community of World Heritage Sites

Reference 15 - 1.20% Coverage

¶24: In 2000, Zanzibar Stone Town was added to UNESCO's World Heritage List after a long campaign whose start date may be taken as 1988. In view of the difficulties, one might ask why places such as Zanzibar should undertake such initiatives. Without recognition from UNESCO

Reference 16 - 1.93% Coverage

¶24: This paper argues that the supporters of Zanzibar's application to UNESCO were responding to a message that they detected in the formulation of the World Heritage Convention, namely that designated sites belong to a kind of international body which may be likened to an 'imagined community'. World Heritage Sites (WHSs) are, in theory, part of global heritage and are thus subject to the policies and laws of an international order.

Reference 17 - 0.51% Coverage

¶24: it may be more useful to think of WHSs as an 'Imagined Community' in Anderson's sense, a kind of pre-state entity.

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¶27: The framework, developed from a study of World Heritage values of the Great Sandy Region, Australia

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¶40: The World Heritage Site of Angkor, in Cambodia

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¶40: and World Heritage Sites

<Internals\\IJHS 2004 Abstracts> - § 2 references coded [0.56% Coverage]

Reference 1 - 0.31% Coverage

¶11: was a key outcome from the UNESCO/ICOM 'Round Table of Santiago' in 1972

Reference 2 - 0.25% Coverage

¶31: Robben Island became a World Heritage Site in December 1999

<Internals\\IJHS 2005 Abstracts> - § 7 references coded [1.23% Coverage]

Reference 1 - 0.37% Coverage

¶9: the case of the ongoing debate about the nomination of the Wadden Sea as a UNESCO Heritage Site

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¶9: the public debate in Northern Friesland about the UNESCO heritage

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¶9: challenges the UNESCO heritage conception

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¶20: itself a World Heritage Site.

Reference 5 - 0.14% Coverage

¶54: Keeping World Heritage in the Family

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¶55: the World Heritage

Reference 7 - 0.11% Coverage

¶55: at a World Heritage Site.

¶56:
<Internals\\IJHS 2006 Abstracts> - § 19 references coded [4.01% Coverage]

Reference 1 - 0.14% Coverage

¶17: Quedlinburg—10 Years on the World Heritage List

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¶18: The town's World Heritage status since 1994

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¶29: inscribed UNESCO World Heritage Sites

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¶32: Potential for Filling World Heritage Gaps

Reference 5 - 0.07% Coverage

¶33: World Heritage listing

Reference 6 - 0.56% Coverage

¶38: there have been many conservation guidelines in the form of charters, recommendations and resolutions that have been introduced and adopted by international organisations such as UNESCO

Reference 7 - 0.76% Coverage

¶38: and by UNESCO in 1968 UNESCO. 1968. Recommendation Concerning the Preservation of Cultural Property Endangered by Public or Private Works. 15th Session of the General Conference. 1968, Paris as 'cultural property' to include both movable and immovable

Reference 8 - 0.13% Coverage

¶38: The different terminology between the UNESCO

Reference 9 - 0.12% Coverage

¶38: at the World Heritage Convention 1972.

Reference 10 - 0.15% Coverage

¶62: the Case of Shirakami-sanchi World Heritage Area

¶63:
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¶63: according to a UNESCO definition

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¶63: Using a case study of Shirakami-sanchi World Heritage Area

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¶63: leading to the World Heritage nomination

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¶70: Narratives of World Heritage in Travel Guidebooks

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¶71: World Heritage Sites

Reference 16 - 0.16% Coverage

¶71: are, by UNESCO definition, exceptional heritage places

Reference 17 - 0.09% Coverage

¶71: New visions of World Heritage

Reference 18 - 0.38% Coverage

¶71: Thus it might be expected that cultural World Heritage Sites would be presented in ways that signal their 'universal' status.

Reference 19 - 0.49% Coverage

¶71: While practical problems and lack of awareness may be one explanation for this, the inherent difficulties of conceiving and presenting narratives of world heritage

<Internals\\IJHS 2007 Abstracts> - § 6 references coded [1.56% Coverage]

Reference 1 - 0.07% Coverage

¶46: Natural World Heritage

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¶47: Using the Mont-Saint-Michel bay case study and the National Park of Banc d'Arguin registered on the UNESCO World Heritage List

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¶62: World Heritage Cultural Landscapes

¶63:
Reference 4 - 0.16% Coverage

¶63: In the 1990s, the World Heritage Committee adopted

Reference 5 - 0.63% Coverage

¶63: as part of its strategy to broaden the scope of World Heritage listings. By July 2006, there were 53 properties inscribed on the World Heritage List and officially recognised as being cultural landscapes.

Reference 6 - 0.21% Coverage

¶63: as well as sharing others with World Heritage properties in general.

<Internals\\IJHS 2008 Abstracts> - § 16 references coded [5.48% Coverage]

Reference 1 - 0.30% Coverage

¶15: The UNESCO Concept of Safeguarding Intangible Cultural Heritage: Its Background and Marrakchi Roots

Reference 2 - 0.67% Coverage

¶16: In 1998 UNESCO started a programme for the proclamation of 'Masterpieces of the oral and intangible heritage of humanity', a pre-project for the new UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage

Reference 3 - 0.30% Coverage

¶16: proclaimed by UNESCO in 2001. This paper examines the genesis and history of this new UNESCO concept

Reference 4 - 0.28% Coverage

¶16: The Spanish writer Juan Goytisolo gave the decisive impulse for the new UNESCO concept in 1996

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¶16: Goytisolo asked UNESCO to proclaim the square

Reference 6 - 0.49% Coverage

¶16: the existing Convention for the Protection of the World Cultural and Natural Heritage on the other, can be seen as two reference points for the new UNESCO concept.

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¶23: Implications of the World Heritage Convention

¶24:
Reference 8 - 0.35% Coverage

¶24: in the World Heritage Convention since 1992 but the adoption for World Heritage inscription is different among regions

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¶24: The article first takes an overview of the World Heritage List

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¶24: The final discussion concludes by addressing the discourse on applying the World Heritage Convention

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¶53: Climate Change: How Should the World Heritage Convention Respond?

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¶54: The World Heritage Convention has been considering how best to respond to the impacts of climate change

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¶54: The Convention is not accustomed to addressing broad, interdisciplinary matters beyond World Heritage

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¶54: it has not historically had strong links with other conventions outside UNESCO

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¶54: it has relatively few resources; and climate change will result in escalating change, whereas the World Heritage Convention is based upon a presumption of relative stability and manageable change. Responding to climate change in the longer term will require a clear definition of the role of the World Heritage Convention in this area, and new types of expertise within the Convention process.

Reference 16 - 0.10% Coverage

¶69: The World Heritage Site of Angkor

<Internals\\IJHS 2009 Abstracts> - § 6 references coded [1.40% Coverage]

Reference 1 - 0.07% Coverage

¶42: Protecting World Heritage

Reference 2 - 0.41% Coverage

¶43: This paper contemplates whether, and in what ways, proprietary interests in land and land usage are affected by a World Heritage listing

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¶43: to the implementation of the World Heritage listing

Reference 4 - 0.17% Coverage

¶43: in a World Heritage site of ‘outstanding universal value’.

Reference 5 - 0.11% Coverage

¶64: In 2002, the World Heritage Committee

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¶64: that challenges contemporary World Heritage management practice. This paper draws on a content analysis of six industrial UK World Heritage Site management plans.

<Internals\\IJHS 2010 Abstracts> - § 8 references coded [2.83% Coverage]

Reference 1 - 0.08% Coverage

¶16: under the world heritage ideal

Reference 2 - 0.29% Coverage

¶28: A new paradigm for the identification, nomination and inscription of properties on the World Heritage List

Reference 3 - 0.57% Coverage

¶29: This paper reviews the current procedure for identifying and listing cultural and natural heritage properties under UNESCO's 1972 World Heritage Convention, analyses its shortcomings and posits a new approach

Reference 4 - 0.46% Coverage

¶29: through a system of international cooperation and, therefore, it does not contribute effectively to realising a representative, balanced and credible World Heritage List.

Reference 5 - 1.17% Coverage

¶29: of identifying, nominating and including properties on the World Heritage List. It envisages a progressive inscription process with an enhanced and proactive role for the intergovernmental World Heritage Committee to prioritise, at an early stage of the process, sites meriting inclusion on the World Heritage List, thus enabling it to effectively guide the achievement of the Global Strategy for the World Heritage programme.

¶30:
Reference 6 - 0.15% Coverage

¶55: with world heritage sites like the Sydney Opera House.

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¶56: The heritage-scape: UNESCO

Reference 8 - 0.04% Coverage

¶56: world heritage

<Internals\\IJHS 2011 abstracts> - § 21 references coded [3.21% Coverage]

Reference 1 - 0.08% Coverage

¶3: UNESCO's World Heritage List

¶4:
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¶4: The paper questions UNESCO cultural heritage policy

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¶4: to the World Heritage List

Reference 4 - 0.17% Coverage

¶4: offers a recommendation for future treatment of similar cases.

¶5:
Reference 5 - 0.07% Coverage

¶43: as a UNESCO Global Geopark.

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¶71: World Heritage hot spots

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¶72: UNESCO’s 207 natural heritage World Heritage Properties are at risk from climate change

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¶72: those changes may threaten their World Heritage status.

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¶72: on the World Heritage List most at risk.

¶73:
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¶73: at the World Heritage Site

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¶74: The World Heritage Site

Reference 12 - 0.06% Coverage

¶74: Røros as World Heritage.

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¶74: This exposes a discussion about cultural heritage management practices at World Heritage Sites.

¶75:
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¶87: The paper explores whether the recognition of the 1992 World Heritage Cultural Landscape categories

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¶87: the 2005 merging of cultural and natural criteria for World Heritage purposes

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¶90: through World Heritage

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¶91: through world heritage listing since 1988

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¶92: East Rennell World Heritage Site: misunderstandings, inconsistencies and opportunities in the implementation of the World Heritage Convention in the Pacific Islands

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¶93: through a case study of East Rennell World Heritage site, the first site to be inscribed based on natural criteria under customary ownership and management

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¶93: a tension between the conservation and 'beauty pageant' functions of the World Heritage List.

¶94:
<Internals\\IJHS 2012 Abstracts> - § 48 references coded [8.10% Coverage]

Reference 1 - 0.08% Coverage

¶18: investigating the UNESCO proclamation

Reference 2 - 0.07% Coverage

¶19: on UNESCO's list of Masterpieces

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¶19: when UNESCO proclaimed the area part of the tangible heritage of humanity in 1985

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¶19: that are included in the reports and applications to UNESCO

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¶19: Investigating the process of heritage inscription

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¶21: complementing the adoption of the Convention for the Safeguarding of the Intangible Cultural Heritage by UNESCO

Reference 7 - 1.07% Coverage

¶28: questioning the spatial regulation of a World Heritage property

¶29: Since the early 1970s, the proliferation of World Heritage (WH) properties across the globe has strengthened the conservation and protection of natural and cultural heritage. As the listing of the 1000th WH property approaches, it is timely to review how the ideals of protection expressed in international agreements such as the World Heritage Convention transfer to land use planning regimes at the local, property-specific, level

Reference 8 - 0.21% Coverage

¶29: Buffer zones, in particular, are a favoured tool in WH site management to protect the core property

Reference 9 - 0.19% Coverage

¶29: the WH property at Angkor, Cambodia. Reflecting on the circumstances of Angkor's listing,

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¶33: Human rights and World Heritage

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¶35: in World Heritage related work

Reference 12 - 0.11% Coverage

¶39: the evaluation and management of World Heritage sites

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¶39: it will then analyse the evolving concepts of culture in UN and United Nations Educational, Scientific, and Cultural Organization policy.

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¶40: World Heritage

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¶41: with World Heritage

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¶41: argues the importance of approaching World Heritage as a process

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¶41: Exploring the ways in which World Heritage sites are brought into existence

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¶41: making visible the cultural gaze of World Heritage institutions and processes.

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¶45: The discourse and practice about protected areas and World Heritage sites

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¶45: The fifth strategic objective of the World Heritage Committee encourages States Parties

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¶45: in the identification, nomination and protection of World Heritage sites

Reference 23 - 0.03% Coverage

¶46: world heritage

Reference 24 - 0.37% Coverage

¶47: The inscription of the historic kernel (core) of Lhasa as World Heritage (1994, extended 2000 and 2001) confirmed international and national recognition of Tibetan culture.

Reference 25 - 0.09% Coverage

¶49: inscribed on the World Heritage List in 1999

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¶50: World heritage sites

Reference 27 - 0.21% Coverage

¶51: It will focus on the role of Palestinian local organisations in conserving World Heritage sites.

Reference 28 - 0.10% Coverage

¶51: inscribed as World Heritage in Danger in 1982

Reference 29 - 0.19% Coverage

¶51: which is included in the Tentative List proposed by the Palestinian Authority in 2004.

Reference 30 - 0.11% Coverage

¶53: inscribed on UNESCO’s World Heritage List in 1988

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¶53: The Timbuktu World Heritage Site

Reference 32 - 0.13% Coverage

¶53: are some of the challenges faced by the World Heritage Site

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¶53: in the implementation of the World Heritage Convention

Reference 34 - 0.13% Coverage

¶54: East Africa World Heritage Network and stakeholder priorities

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¶55: perceive the relevance and potential of World Heritage status.

Reference 36 - 0.07% Coverage

¶55: are both World Heritage Cities.

Reference 37 - 0.12% Coverage

¶55: An East Africa World Heritage Network was established

Reference 38 - 0.29% Coverage

¶55: This has bridged gaps between UNESCO expectations of World Heritage management standards and the resources and skills available on Ilha

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¶55: World Heritage designated buildings

Reference 40 - 0.17% Coverage

¶57: Although heritage agencies responsible for the management of world heritage sites

Reference 41 - 0.37% Coverage

¶69: Secondly maritime heritage and its importance for overarching themes in human history are juxtaposed to with World Heritage nominations and their role in present-day society

Reference 42 - 0.14% Coverage

¶69: Thirdly the development of standard setting instruments at UNESCO

Reference 43 - 0.64% Coverage

¶69: In discussing ways of improving the future management of maritime heritage in international waters it is argued that much depends on the inclusive interpretation of the concept of ‘a verifiable link’ according to the 2001 UNESCO Convention. The Convention builds on sharing of responsibilities.

Reference 44 - 0.21% Coverage

¶74: analyses the relationship between the material world of heritage of a UNESCO World Heritage Site

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¶90: the World Heritage–listed

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¶91: in the World Heritage

Reference 47 - 0.04% Coverage

¶93: promoted by UNESCO

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¶93: The joint inscription of the two historic Straits cities of Melaka and George Town on UNESCO's World Heritage List in 2008

<Internals\\IJHS 2013 abstracts> - § 13 references coded [1.78% Coverage]

Reference 1 - 0.04% Coverage

¶14: World Heritage site

Reference 2 - 0.07% Coverage

¶14: within the World Heritage boundaries

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¶40: case for self determination in World Heritage nomination processes

¶41:
Reference 4 - 0.20% Coverage

¶41: outlines a case for the inclusion of free prior informed consent in World Heritage nomination processes

Reference 5 - 0.27% Coverage

¶41: The authors' reflexive engagement within this case offers insights into the praxis of developing a World Heritage nomination consent process

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¶41: the power of veto needs to have formal recognition in the nomination process

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¶41: by helping address the issues that will be raised during a World Heritage nomination process.

¶42:
Reference 8 - 0.08% Coverage

¶49: its nomination to the World Heritage list

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¶65: Workers' Assembly Halls as a Proposition for UNESCO's World Heritage

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¶66: UNESCO's World Heritage List

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¶66: to be included in a transnational serial nomination for the Tentative List to World Heritage.

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¶94: Using examples from the cultural list of World Heritage Sites in mainland Britain

Reference 13 - 0.13% Coverage

¶94: From the analysis of published documentation available from UNESCO

<Internals\\IJHS 2014 abstracts> - § 13 references coded [1.76% Coverage]

Reference 1 - 0.40% Coverage

¶11: This role reflects the pivotal function accorded to heritage in post-conflict settings within the international heritage doctrine, while re-assessing the crucial role of culture in 'building peace in the minds of men and women' (UNESCO)

Reference 2 - 0.17% Coverage

¶11: As I will argue, one fundamental pitfall of the international heritage doctrine fashioned by UNESCO

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¶14: Bafa Zon: localising World Heritage

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¶15: critically examines local reactions and responses to the design and implementation of the buffer zone for a World Heritage property held under customary tenure

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¶15: Chief Roi Mata's Domain (CRMD) in the Republic of Vanuatu.

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¶15: rendering the globalised theory and praxis of buffering in a local context.

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¶15: it may prove possible to realise simultaneously the objectives of World Heritage conservation

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¶99: especially if elements of this repertoire are branded ‘UNESCO World Heritage’

Reference 9 - 0.05% Coverage

¶103: officially safeguarded by UNESCO

Reference 10 - 0.02% Coverage

¶103: on UNESCO’s

Reference 11 - 0.06% Coverage

¶103: including its representative list

Reference 12 - 0.13% Coverage

¶103: Whereas the UNESCO YouTube videos posted on the online representative list

Reference 13 - 0.09% Coverage

¶103: which was officially safeguarded by UNESCO in 2005.

¶104:
<Internals\\IJHS 2015 abstracts> - § 32 references coded [4.91% Coverage]

Reference 1 - 0.12% Coverage

¶10: World Heritage as discourse: knowledge, discipline and dissonance in Fujian Tulou sites

Reference 2 - 0.09% Coverage

¶11: examines the official discourse of World Heritage Fujian Tulou in China

Reference 3 - 0.18% Coverage

¶11: I find that although, textually, the former is antithetical to the latter by emphasising the harmony between human habitat and nature

Reference 4 - 0.02% Coverage

¶27: World Heritage

Reference 5 - 0.38% Coverage

¶28: Over the past two decades, the World Heritage Committee has sought to address the current and future credibility of the World Heritage List through capacity-building programmes in regions currently under-represented on the List, including the Pacific Islands, to support States Parties

Reference 6 - 0.25% Coverage

¶28: Since 2004, the Pacific 2009 World Heritage Programme has been successful in contributing to a dramatic increase in the number of World Heritage site in the independent Pacific Island nations

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¶28: on the World Heritage List

Reference 8 - 0.14% Coverage

¶35: We explore the role of an expert NGO in the recent inclusion of the MD in the UNESCO Representative List

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¶37: the World Heritage system

Reference 10 - 0.08% Coverage

¶37: which was the focus of large-scale interventions by UNESCO

Reference 11 - 0.21% Coverage

¶37: Overall, this paper finds that at the time of the site's nomination for inscription on the World Heritage List, the obligatory use of World Heritage criteria

Reference 12 - 0.16% Coverage

¶43: examines the practical implications of applying the UNESCO Convention for the Safeguarding of Intangible Heritage to TM

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¶43: combined with the fundamental principles of the Convention render the Convention significant

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¶64: Multilateralism and UNESCO World Heritage: decision-making, States Parties and political processes

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¶65: Why have deliberations over World Heritage sites

Reference 16 - 0.31% Coverage

¶65: Across UN platforms, the failures of multilateralism are increasingly evident. We suggest that decision-making within the World Heritage Committee is no different given that politicisation is now rife throughout their deliberations

Reference 17 - 0.39% Coverage

¶65: Specifically we ask how have multipolarity and fragmentation developed within United Nations Educational, Scientific and Cultural Organisation's (UNESCO) World Heritage programme, an organisation dedicated to peace building, tolerance and mutual understanding and international co-operation?

Reference 18 - 0.22% Coverage

¶65: examines trends from the last decade of UNESCO's World Heritage Committee meetings, specifically the nominations of properties for inscription on the World Heritage List

Reference 19 - 0.11% Coverage

¶65: Our findings suggest that the recommendations presented by UNESCO's Advisory Bodies

Reference 20 - 0.12% Coverage

¶65: are increasingly at odds with the final decisions adopted by the World Heritage Committee.

Reference 21 - 0.24% Coverage

¶65: We go on to outline the regional and geopolitical trends at work in the Committee and to question whether site inscription is affected by a State Party's presence on the Committee

Reference 22 - 0.03% Coverage

¶76: UNESCO, cultural heritage

Reference 23 - 0.02% Coverage

¶76: the World Heritage

Reference 24 - 0.41% Coverage

¶109: UNESCO's World Heritage Convention has become a global policy for natural and cultural conservation and in particular the intricate relation between the two. This article presents two cases, Laponia and the Lofoten Islands, put forward as mixed World Heritage Sites by the governments of Sweden and Norway

Reference 25 - 0.11% Coverage

¶109: Comparing the processes of promoting Laponia and Lofoten as World Heritage Sites,

Reference 26 - 0.22% Coverage

¶109: by asking what comprises local involvement and co-management at mixed World Heritage Sites. Why does the implementation of management at mixed World Heritage Sites

Reference 27 - 0.08% Coverage

¶113: Residents in the World Heritage Town of Bhaktapur, Nepal,

Reference 28 - 0.04% Coverage

¶132: 'Patenting' Karagöz: UNESCO

Reference 29 - 0.11% Coverage

¶133: The 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage

Reference 30 - 0.34% Coverage

¶133: encourages States Parties to submit joint, multinational, nominations to its lists when a cultural element is commonly found in their territory. Despite such encouragement, there have been very few multinational inscriptions on the Convention's lists so far

Reference 31 - 0.07% Coverage

¶133: While the Convention calls for international cooperation

Reference 32 - 0.09% Coverage

¶133: States Parties may treat the Convention as a 'patent approval system'

<Internals\\IJHS 2016 abstracts> - § 14 references coded [2.13% Coverage]

Reference 1 - 0.15% Coverage

¶19: Since the 2001–2005 Proclamations of Masterpieces and the highly successful 2003 Convention, the UNESCO paradigms

Reference 2 - 0.23% Coverage

¶19: While existing literature addresses the theoretical shortcomings of UNESCO's approach, the purpose of this article was to examine the ways in which they unfold in real life

Reference 3 - 0.09% Coverage

¶19: a site addressed in the earliest rounds of the UNESCO ICH project.

Reference 4 - 0.04% Coverage

¶26: a UNESCO World Heritage Site.

Reference 5 - 0.19% Coverage

¶30: It argues that while ignoring the structural disintegration of Khami would have resulted in possible delisting from the World Heritage List,

Reference 6 - 0.11% Coverage

¶41: Heritage designation and scale: a World Heritage case study of the Ningaloo Coast

Reference 7 - 0.33% Coverage

¶42: utilises this definition of scale to analyse heritage designation first through consideration of changing World Heritage processes, and then through a case study of the world heritage designation of the Ningaloo Coast region in Western Australia.

Reference 8 - 0.12% Coverage

¶68: inscribed on the UNESCO's list of Representative Intangible Cultural Heritage of Humanities.

Reference 9 - 0.18% Coverage

¶68: However, because Guadeloupe remains a French overseas department without a seat at the UN, the petition to add gwoka to the ICH list

Reference 10 - 0.13% Coverage

¶68: Following a successful bid, gwoka is now listed as representative of the culture of a French region

Reference 11 - 0.05% Coverage

¶115: A designated UNESCO World Heritage Site

Reference 12 - 0.08% Coverage

¶133: to which UNESCO's 2003 Convention on intangible heritage

Reference 13 - 0.12% Coverage

¶133: after its inscription in the Convention's Representative List on behalf of Turkey in 2011

Reference 14 - 0.30% Coverage

¶133: Examined together, these cases demonstrate that while the Convention strongly influences the current processes of heritagization of food in Western Asia, these processes do not primarily serve the Convention's purposes

<Internals\\IJHS 2017 abstracts> - § 39 references coded [4.32% Coverage]

Reference 1 - 0.02% Coverage

¶29: World heritage

Reference 2 - 0.03% Coverage

¶38: World Heritage listing and

Reference 3 - 0.03% Coverage

¶38: a case study in West Lake

Reference 4 - 0.05% Coverage

¶39: World Heritage themes and frameworks

Reference 5 - 0.12% Coverage

¶39: Due to the influence of UNESCO, and the persuasiveness of the heritage discourses it authorises

Reference 6 - 0.13% Coverage

¶39: explores the changes in the political role of heritage during the process of World Heritage listing

Reference 7 - 0.07% Coverage

¶39: explore their purposes in seeking World Heritage listing

Reference 8 - 0.02% Coverage

¶39: those of UNESCO

Reference 9 - 0.17% Coverage

¶39: used the World Heritage 'brand' and policies to construct national and local narratives during and after the World Heritage listing.

Reference 10 - 0.03% Coverage

¶39: into UNESCO's conception

Reference 11 - 0.15% Coverage

¶39: as the Chinese government must not, in order to maintain the WH listing, deviate too much from the rules of the game.

¶40:

Reference 12 - 0.14% Coverage

¶44: destroyed UNESCO Cultural World Heritage Sites

¶45: The destruction of UNESCO Cultural World Heritage Sites (WHS)

Reference 13 - 0.15% Coverage

¶45: 'If a World Heritage property is destroyed and later reconstructed, could it still be recognised as World Heritage?'

Reference 14 - 0.14% Coverage

¶45: In this paper, I argue that the Operational Guidelines for the Implementation of the World Heritage Convention

Reference 15 - 0.25% Coverage

¶45: An oxymoron, perhaps, but it may sustain the culture of World Heritage inscription in conflict and post-conflict zones. A new category, in concert with three qualifying conditions, is proposed.

¶46:
Reference 16 - 0.25% Coverage

¶58: The UNESCO Historic Urban Landscape recommendation, offers a new angle from which to observe this process of change. The underlying argument of this article is that HUL can provide a platform

Reference 17 - 0.09% Coverage

¶62: its nomination by the Mongolian State Party on the Representative List

Reference 18 - 0.09% Coverage

¶63: Modern roads as UNESCO World Heritage sites: framework and proposals

Reference 19 - 0.19% Coverage

¶64: There has been noticeable development in the protection of linear infrastructure by UNESCO, whether on its cultural, technological or historical merits

Reference 20 - 0.01% Coverage

¶64: and UNESCO

Reference 21 - 0.26% Coverage

¶64: Finally, to contribute to the debate on the definition, characterisation and assessment of modern roads as world heritage assets, both intrinsically and in relation to established heritage categories.

Reference 22 - 0.02% Coverage

¶67: World heritage

Reference 23 - 0.01% Coverage

¶67: inscription

Reference 24 - 0.03% Coverage

¶88: UNESCO in Southeast Asia

Reference 25 - 0.06% Coverage

¶88: World Heritage Sites in comparative perspective

¶89:
Reference 26 - 0.08% Coverage

¶94: The inscription of Qhapaq Ñan on UNESCO's World Heritage List

Reference 27 - 0.04% Coverage

¶95: In June 2014, UNESCO inscribed

Reference 28 - 0.22% Coverage

¶95: on the World Heritage List, the first time six countries (Argentina, Bolivia, Chile, Colombia, Ecuador, and Peru) had submitted a petition in common for the same cultural site

Reference 29 - 0.14% Coverage

¶95: on the complexity of issued involved in the inscription of a cultural site on the World Heritage List (WHL).

Reference 30 - 0.03% Coverage

¶95: in the listing process.

¶96:
Reference 31 - 0.15% Coverage

¶97: The United Nations Educational, Scientific and Cultural Organisation has commemorated several cultural heritage sites

Reference 32 - 0.06% Coverage

¶97: by inscribing them on the World Heritage List.

Reference 33 - 0.12% Coverage

¶105: 40 years World Heritage Convention popularizing the protection of cultural and natural heritage

Reference 34 - 0.12% Coverage

¶120: 40 Jahre Welterbekonvention. Zur Popularisierung eines Schutzkonzeptes für Kultur- und Naturgüter

Reference 35 - 0.14% Coverage

¶151: Universal heritage meets local livelihoods: 'awkward engagements' at the world cultural heritage listing in Bali

Reference 36 - 0.45% Coverage

¶152: In 2012 the UNESCO World Heritage Committee added to its World Heritage List the 'Cultural Landscape of Bali Province: the subak system as a manifestation of the Tri Hita Karana Philosophy'. Barely a year later, UNESCO had become sufficiently concerned about reports of various problems that it advised the Government of Indonesia of these concerns.

Reference 37 - 0.13% Coverage

¶152: Beginning with the premise that the gulf of understanding between the global World Heritage system

Reference 38 - 0.08% Coverage

¶152: left to their own devices to manage the World Heritage site.

¶153:
Reference 39 - 0.04% Coverage

¶181: World heritage on the ground

<Internals\\IJHS 2018 abstracts> - § 13 references coded [1.36% Coverage]

Reference 1 - 0.09% Coverage

¶15: Lights and shadows over the Recommendation on the Historic Urban Landscape

Reference 2 - 0.11% Coverage

¶16: The 2011 Recommendation on the Historic Urban Landscape (HUL) is the most recent incorporation

Reference 3 - 0.07% Coverage

¶16: that was triggered by the 1972 World Heritage Convention.

Reference 4 - 0.22% Coverage

¶16: Five years since the publication of the Recommendation, it is clear that, despite UNESCO's efforts, opportunities for the implementation of the HUL on a global level have been scarce.

Reference 5 - 0.45% Coverage

¶16: Our paper provides a critical evaluation of the positive and negative aspects which have arisen from the implementation of HUL Recommendation with regards to charters and theory. We have also taken into consideration the risks that are concomitant to its ambitious holistic approach, as well as the ambiguities with regards to the definition of landscape on which the HUL is based

Reference 6 - 0.08% Coverage

¶16: may offer for the successful implementation of the HUL approach.

¶17:

Reference 7 - 0.03% Coverage

¶142: world heritage context

Reference 8 - 0.04% Coverage

¶143: in the context of World Heritage sites

Reference 9 - 0.05% Coverage

¶143: It analyses the use of 'World Heritage'

Reference 10 - 0.02% Coverage

¶143: UNESCO policies

Reference 11 - 0.08% Coverage

¶143: Furthermore, it examines the implementation of World Heritage policies

Reference 12 - 0.03% Coverage

¶149: World Heritage Site, Tanzania

Reference 13 - 0.10% Coverage

¶150: Using in-depth data from 22 residents in Kilwa Kisiwani World Heritage Site in Tanzania

<Internals\\JCH 2000 abstracts> - § 1 reference coded [0.11% Coverage]

Reference 1 - 0.11% Coverage

¶155: Successively, another series of structural changes were made on the basis of advice furnished by UNESCO,

<Internals\\JCH 2003 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶8: and the United Nations Educational, Scientific and Cultural Organisation (UNESCO), are discussed.

<Internals\\JCH 2008 Abstracts> - § 3 references coded [0.30% Coverage]

Reference 1 - 0.11% Coverage

¶150: Asia Conserved: Lessons Learned from the UNESCO Asia-Pacific Heritage Awards for Culture Heritage Conservation (2000–2004)

Reference 2 - 0.02% Coverage

¶192: for a World Heritage site

Reference 3 - 0.16% Coverage

¶210: The list was published 4 years after part of the old urban center of Tel Aviv was nominated as World Heritage Site for its architectural uniqueness (Tel Aviv the White City).

<Internals\\JCH 2009 Abstracts> - § 3 references coded [0.14% Coverage]

Reference 1 - 0.03% Coverage

¶11: UNESCO World Heritage List since 1986

Reference 2 - 0.04% Coverage

¶73: are included in the UNESCO World Heritage List

Reference 3 - 0.06% Coverage

¶149: were later registered as Memory of the World by Unesco in October 1997

<Internals\\JCH 2010 Abstracts> - § 2 references coded [0.11% Coverage]

Reference 1 - 0.07% Coverage

¶4: is currently under European Heritage Site and World Heritage Site

Reference 2 - 0.04% Coverage

¶4: declaration process by the UNESCO.

¶5:
<Internals\\JCH 2011 abstracts> - § 5 references coded [0.34% Coverage]

Reference 1 - 0.06% Coverage

¶60: the Lalibela UNESCO's world heritage site are made of?

¶61:
Reference 2 - 0.06% Coverage

¶61: included in the UNESCO's world heritage list since 1978

Reference 3 - 0.09% Coverage

¶68: For this real case, which was listed as a UNESCO World Cultural Heritage site

Reference 4 - 0.07% Coverage

¶72: declared as a part of a World Human Heritage Site in 2008.

Reference 5 - 0.05% Coverage

¶117: included in the UNESCO's World Heritage List

<Internals\\JCH 2012 Abstracts> - § 4 references coded [0.26% Coverage]

Reference 1 - 0.07% Coverage

¶18: Unesco's World Heritage list covers four zones located in this historical peninsula in Istanbul

Reference 2 - 0.05% Coverage

¶28: declared a World Heritage Site by UNESCO in 1986, in Syria.

¶29:
Reference 3 - 0.07% Coverage

¶56: are part of a UNESCO World Heritage Site. Our group has been collaborating with UNESCO in a project

Reference 4 - 0.07% Coverage

¶87: The site has been on UNESCO's First World List of Cultural and Natural Heritage since 1978.

<Internals\\JCH 2013 abstracts> - § 11 references coded [0.57% Coverage]

Reference 1 - 0.04% Coverage

¶49: This palace complex was declared a World Heritage Site by UNESCO in 1987

Reference 2 - 0.02% Coverage

¶87: priceless World Heritage values

Reference 3 - 0.02% Coverage

¶120: which is one of the world heritage sites

Reference 4 - 0.03% Coverage

¶197: Integrity in UNESCO World Heritage Sites.

Reference 5 - 0.06% Coverage

¶198: the standard by which United Nations Educational Scientific and Cultural Organization (UNESCO)

Reference 6 - 0.03% Coverage

¶198: evaluates world cultural heritage site suitability

Reference 7 - 0.02% Coverage

¶198: The sites worthy of UNESCO preservation

Reference 8 - 0.03% Coverage

¶198: for which UNESCO provides no definitional protocol,

Reference 9 - 0.13% Coverage

¶198: After reviewing the UNESCO approach, we focused on the international scientific debate on the meaning and application of integrity. We designed and conducted a comparative study of UNESCO rural landscapes

Reference 10 - 0.03% Coverage

¶198: selected from the 2011 World Heritage List

Reference 11 - 0.15% Coverage

¶198: We demonstrated that UNESCO assigns a high value to the following parameters: historical features, traditional crops and local products, land-use and agricultural practice permanence, and the presence of architecture related to agricultural activity.

<Internals\\JCH 2014 abstracts> - § 5 references coded [0.27% Coverage]

Reference 1 - 0.04% Coverage

¶19: preserving the attributes of a world heritage site

Reference 2 - 0.03% Coverage

¶20: UNESCO world cultural heritage sites

Reference 3 - 0.10% Coverage

¶20: This paper applies discrete choice experiments to the Alto Douro Wine Region, classified by UNESCO as world heritage site.

Reference 4 - 0.04% Coverage

¶124: which is a cultural heritage monument protected by UNESCO

Reference 5 - 0.06% Coverage

¶126: where the main monuments of this UNESCO World Heritage site were studied.

¶127:
<Internals\\JCH 2015 abstracts> - § 7 references coded [0.29% Coverage]

Reference 1 - 0.09% Coverage

¶4: The University of Coimbra was granted World Heritage Status by UNESCO at the 37th session of the UNESCO World Heritage Committee in June 2013.

Reference 2 - 0.03% Coverage

¶48: UNESCO World Cultural Heritage city since 1988

Reference 3 - 0.03% Coverage

¶112: is a UNESCO World Heritage Site in Turkey.

Reference 4 - 0.03% Coverage

¶176: which is included in the UNESCO World Heritage List

Reference 5 - 0.04% Coverage

¶178: which was inscribed on World Heritage List by UNESCO in 1987.

¶179:
Reference 6 - 0.02% Coverage

¶180: belonging to World Cultural Heritage

Reference 7 - 0.06% Coverage

¶184: while some of them are also listed in the UNESCO catalogue of World Cultural Heritage sites

<Internals\\JCH 2016 abstracts> - § 8 references coded [0.30% Coverage]

Reference 1 - 0.06% Coverage

¶18: a place inscribed on the UNESCO World Heritage List since 1993 (the Sassi and the Park of the Rupestrian Churches of Matera)

Reference 2 - 0.07% Coverage

¶44: included in China's 2012 World Cultural Heritage Tentative List together with eight city walls of Ming and Qing Dynasties in China.

¶45:
Reference 3 - 0.07% Coverage

¶75: to let a group of Unesco-appointed experts consider the possible inscription of the property on the list of “World Heritage in Danger”

Reference 4 - 0.02% Coverage

¶97: World Heritage Site, Derbyshire, UK.

Reference 5 - 0.02% Coverage

¶103: Petra World Heritage Site in Jordan

Reference 6 - 0.02% Coverage

¶211: UNESCO as cultural and historical treasures

Reference 7 - 0.01% Coverage

¶276: UNESCO in Southeast Asia

Reference 8 - 0.02% Coverage

¶276: World heritage sites in comparative perspective

<Internals\\JCH 2017 abstracts> - § 10 references coded [0.53% Coverage]

Reference 1 - 0.02% Coverage

¶17: today in the tentative UNESCO list.

Reference 2 - 0.01% Coverage

¶129: UNESCO site

Reference 3 - 0.02% Coverage

¶203: a culturally protected (World Heritage) urban zone

Reference 4 - 0.16% Coverage

¶245: Is UNESCO World Heritage recognition a blessing or burden? Evidence from developing Asian countries

¶246: To both acknowledge and protect many cultural heritage expressions, sites and practices, UNESCO has instituted three conventions; Tangible Heritage, Intangible Heritage and Diversity of Cultural Expression. If a site/practice receives this UNESCO badge

Reference 5 - 0.01% Coverage

¶246: So, is the UNESCO recognition

Reference 6 - 0.11% Coverage

¶246: This paper addresses the challenges that ensue from the UNESCO conventions by considering three UNESCO World Heritage case study sites in Asian developing countries. In particular, it seeks to understand the extent to which UNESCO's World Heritage approach

Reference 7 - 0.01% Coverage

¶254: whose area is UNESCO's site –

Reference 8 - 0.02% Coverage

¶256: As the only World Culture Heritage in Chongqing,

Reference 9 - 0.03% Coverage

¶317: world heritage sites

¶318: Many UNESCO world heritage (WH) properties

Reference 10 - 0.14% Coverage

¶318: Results showed that a range of 39% (according open-access data) to 46% (according site managers) of world heritage properties are exposed to at least one of the four aforementioned geological hazards. When considering results from both datasets, the number of WH sites exposed to geohazards raise to 60%.

<Internals\\JCH 2018 abstracts> - § 10 references coded [0.35% Coverage]

Reference 1 - 0.01% Coverage

¶84: a world heritage site

Reference 2 - 0.01% Coverage

¶85: the Altamira World Heritage site

Reference 3 - 0.04% Coverage

¶148: is one of the World Cultural Heritage sites with splendid ancient murals and sculptures

Reference 4 - 0.01% Coverage

¶198: two World Heritage buildings

Reference 5 - 0.02% Coverage

¶261: the most representative World Heritage Site in China,

Reference 6 - 0.11% Coverage

¶277: is an obligation of mankind and dictated by international treaties like the Convention on the Protection of the Underwater Cultural Heritage that fosters and encourages the use of “non-destructive techniques and survey methods in preference over the recovery of objects”

Reference 7 - 0.01% Coverage

¶289: World Heritage Sites (WHS)

Reference 8 - 0.06% Coverage

¶289: However, the literature has not clarified the benefit of having the nominations that UNESCO grants to the places that house such valuable cultural patrimony

Reference 9 - 0.04% Coverage

¶289: Our analysis finds that the disappearance of those sites classified as “in danger” by UNESCO

Reference 10 - 0.04% Coverage

¶291: The index is constructed using data from UNESCO for 207 countries from all continents.

Name: Nodes\\Material conservation\Urban design

<Internals\\Antiquity 2017 abstracts> - § 1 reference coded [0.18% Coverage]

Reference 1 - 0.18% Coverage

¶63: Running north to south, a new avenue or boulevard called the Charbagh (K̲iyābān-e Čahārbāğ) was also constructed (AD 1595–1596) (Figure 1), serving as both a leisure or tourist attraction outside the city walls, and to connect some of the new capital's institutions.

<Internals\\IJCP 2012 abstracts> - § 1 reference coded [0.09% Coverage]

Reference 1 - 0.09% Coverage

¶59: Historic Urban Landscapes,

<Internals\\IJCP 2014 abstracts> - § 1 reference coded [0.13% Coverage]

Reference 1 - 0.13% Coverage

¶18: Dresden’s Waldschlößchen Bridge

<Internals\\IJHS 1994-6 Abstracts> - § 5 references coded [2.41% Coverage]

Reference 1 - 0.71% Coverage

¶10: Heritage has come to play a very significant, though largely unrecognised, role in the evolution of urban design.

Reference 2 - 0.09% Coverage

¶27: urban heritage

Reference 3 - 0.35% Coverage

¶32: The conservation and management of historic urban space

Reference 4 - 0.50% Coverage

¶33: an active role in the protection of spatial elements of the historic townscape.

Reference 5 - 0.76% Coverage

¶33: they may have played an equally important role in the evolution of our towns and are an integral part of the urban form.

<Internals\\IJHS 1996 Abstracts> - § 1 reference coded [0.24% Coverage]

Reference 1 - 0.24% Coverage

¶67: Urban Landscapes as Public History

<Internals\\IJHS 1997-8 Abstracts> - § 1 reference coded [0.71% Coverage]

Reference 1 - 0.71% Coverage

¶51: Renewed views of the changes in, and the attention to, the roles that heritage plays or could play in the urban area

<Internals\\IJHS 1998 Abstracts> - § 2 references coded [1.05% Coverage]

Reference 1 - 0.79% Coverage

¶6: Originally a company town developed by a benevolent industrial dictator in an era when government took little responsibility for its citizens

Reference 2 - 0.26% Coverage

¶8: an introduction to Pullman's built environment

<Internals\\IJHS 1999 Abstracts> - § 3 references coded [3.39% Coverage]

Reference 1 - 2.72% Coverage

¶24: a well-known resort area on the east coast of Australia demonstrates the dynamic relationship between patterns in the landscape narrative and patterns in the built environment of small coastal settlements. In Noosa, a distinctive built form has evolved in parallel with the narrative of the place as a relaxed but stylish resort village dominated by nature. Both the narrative and physical landscape have been shaped by local and external processes of constant comparison and contrast with well known Australian and international coastal resorts.

Reference 2 - 0.17% Coverage

¶24: key urban design/planning decisions

Reference 3 - 0.50% Coverage

¶31: City Center to Regional Mall: Architecture, the Automobile, and Retailing in Los Angeles, 1920–1950,

<Internals\\IJHS 2000 Abstracts> - § 2 references coded [1.79% Coverage]

Reference 1 - 0.09% Coverage

¶34: Urban Conservation

Reference 2 - 1.69% Coverage

¶60: In various disciplines, a renewed attention to history and the past can be discerned, not least in the field of urban analysis and urban planning. To understand the ways in which heritage can contribute to the functioning of cities today and tomorrow we need insight into the meanings of heritage for the cities? residents.

<Internals\\IJHS 2001 abstracts> - § 3 references coded [2.98% Coverage]

Reference 1 - 0.35% Coverage

¶5: Viewing Urban Development from the Evolution of the Social Environment

Reference 2 - 0.51% Coverage

¶6: explains the evolution of the social environment which influences the development of urban construction

Reference 3 - 2.13% Coverage

¶6: Here, a highly developed awareness of social culture has been specially emphasised as the soul of modern urban construction; that is, the organic integration of historic culture with the culture of modern urban development and the persistent, scientific and healthy development of human civilisation. Our goal is to construct modern civilised cities with character and then to cultivate people through ?environmental education?.

<Internals\\IJHS 2002 Abstracts> - § 1 reference coded [0.85% Coverage]

Reference 1 - 0.85% Coverage

¶8: examines the historical and present-day role of the Royal Naval Dockyard, a globally motivated waterfront development of recurrent local dominance in the affairs of a small island community.

<Internals\\IJHS 2004 Abstracts> - § 2 references coded [1.90% Coverage]

Reference 1 - 0.36% Coverage

¶20: the characteristics of creativity in comparison with the requirements for conformity

Reference 2 - 1.54% Coverage

¶20: There is no pretence in providing a survey of museum cultural or creative quarters throughout the world or analysis of the theoretical and conceptual frameworks that may be associated with this approach to urban regeneration. It is unashamedly a detailed analysis of a major cultural development, which may have value for the future management of similar projects

<Internals\\IJHS 2005 Abstracts> - § 3 references coded [1.43% Coverage]

Reference 1 - 0.76% Coverage

¶20: It serves as the reference for the city's character. This is especially so in Cairo, where historic quarters still act as the city's most influential social and cultural source of inspiration.

Reference 2 - 0.30% Coverage

¶37: New agencies created to materialise the rejuvenation of historic urban space,

Reference 3 - 0.37% Coverage

¶42: on urban generation based on a particular case study (Historic Old Salt Development Project)

<Internals\\IJHS 2006 Abstracts> - § 1 reference coded [0.08% Coverage]

Reference 1 - 0.08% Coverage

¶16: in both their landscapes

<Internals\\IJHS 2008 Abstracts> - § 4 references coded [2.10% Coverage]

Reference 1 - 0.20% Coverage

¶16: Jemaa el Fna Square in Marrakech was one of the first Masterpieces

Reference 2 - 0.21% Coverage

¶21: A Methodology for Assessing the Heritage of Planned Urban Environments

Reference 3 - 1.28% Coverage

¶22: Although urban planning has made strategic and notable contributions to the production of the built environment, these are under-represented in heritage discourse. Planned environments deserve more attention as a particular class of place because a better understanding of planning and planning excellence can inform best heritage practice. A stepwise methodology for the heritage assessment of planned environments is presented

Reference 4 - 0.40% Coverage

¶22: The analytical approach is capable of adaptation to diverse settings in which the heritage contribution of planning may be recognised.

<Internals\\IJHS 2013 abstracts> - § 9 references coded [3.27% Coverage]

Reference 1 - 0.04% Coverage

¶19: capturing transition

¶20:
Reference 2 - 0.34% Coverage

¶20: As part of the Creative Campus Initiative, we undertook a project based on the broad themes of water, London and the Olympics that would give voice to the changes taking place

Reference 3 - 0.61% Coverage

¶29: Based on archival research, the paper explores the dialectical relationship between the demonstrated ability of city councils to declare designated 'Olympic' spaces as functionally 'ready' to absorb massive new infrastructures and questions posed by whatever physical infrastructure remains after a bid has failed.

Reference 4 - 0.72% Coverage

¶29: this relationship between presences and absences is mediated not just with the help of possible futures in the form of Olympic sites but has had to validate and justify the choice of terrain as well. The paper concludes with a brief meditation on the relationship between present urban heritage and possible futures in the context of mega-events like the Olympic Games.

¶30:
Reference 5 - 0.42% Coverage

¶31: The findings indicate that the Olympiad contributed significantly to Athens' built and human heritage, revealing the dimensions of new venues/facilities, infrastructure, transportation and aesthetic image of the city

Reference 6 - 0.14% Coverage

¶35: Contextualising the periphery. New conceptions of urban heritage in Rome

Reference 7 - 0.57% Coverage

¶36: A polycentric urban development will arguably bring a vitalisation to the outskirts of the city. The contextual concept 'history in progress' is introduced; it has a new methodological aim, an amalgamation of the earlier dialectic strategies conservation–transformation and OBS history-project.

Reference 8 - 0.32% Coverage

¶45: It was also found that there were considerable differences between the two areas in spite of their close proximity. The reasons for those differences are outlined.

Reference 9 - 0.10% Coverage

¶97: the production of Bopiliao Historic District, Taipei

<Internals\\IJHS 2014 abstracts> - § 2 references coded [0.30% Coverage]

Reference 1 - 0.25% Coverage

¶70: illustrate how brecciation enhances an understanding of the sites and enables to evaluate the practices of urban heritage in recent urban initiatives

Reference 2 - 0.05% Coverage

¶82: the city of Skopje, Macedonia.

<Internals\\IJHS 2016 abstracts> - § 2 references coded [0.16% Coverage]

Reference 1 - 0.04% Coverage

¶18: the Jemaa el Fnaa, Marrakech

Reference 2 - 0.12% Coverage

¶126: Villagizing the city: turning rural ethnic heritage into urban modernity in southwest China

<Internals\\IJHS 2017 abstracts> - § 6 references coded [0.61% Coverage]

Reference 1 - 0.21% Coverage

¶22: has not taken enough time to understand how historical change has left impacts in urban contexts, which sometimes continues even after the prisons are decommissioned.

Reference 2 - 0.04% Coverage

¶25: the Jewellery Quarter, Birmingham

Reference 3 - 0.02% Coverage

¶29: urban design

Reference 4 - 0.16% Coverage

¶58: Urban heritage conservation in China has been subject to severe criticism, although there is now a sense of paradigm shift

Reference 5 - 0.16% Coverage

¶127: The Jaffa case study suggests that more attention should be paid to the delicate role of urban planners in facilitating change

Reference 6 - 0.02% Coverage

¶133: the Spice Market.

<Internals\\IJHS 2018 abstracts> - § 3 references coded [0.89% Coverage]

Reference 1 - 0.74% Coverage

¶58: Using a survey of heritage professionals' attitudes towards visualisations as a starting point, this article addresses tensions between the expressed usefulness of visualisations and critical attitudes towards the lack of 'objectivity' of visual representation and the risk of manipulation for strategic purposes. Moving from the survey, the article discusses how visual representations of development proposals became part of a Norwegian public dispute over the expansion of a shopping centre in a historic town. Furthermore, our aim is to introduce a social semiotic approach for analysing visualisations at historic sites.

Reference 2 - 0.06% Coverage

¶60: one of the fastest growing urban areas in Europe.

Reference 3 - 0.09% Coverage

¶67: Urban social change and large-scale demolitions in the name of urban renewal

<Internals\\JCH 2008 Abstracts> - § 1 reference coded [0.06% Coverage]

Reference 1 - 0.06% Coverage

¶209: The case of the silicate brick and urban planning in Tel Aviv-Jaffa

¶210:
<Internals\\JCH 2011 abstracts> - § 1 reference coded [0.03% Coverage]

Reference 1 - 0.03% Coverage

¶27: Liberty Square in Novi Sad

<Internals\\JCH 2012 Abstracts> - § 1 reference coded [0.04% Coverage]

Reference 1 - 0.04% Coverage

¶198: the historical pattern of Diyarbakır Hasan Pasha Khan

<Internals\\JCH 2013 abstracts> - § 7 references coded [1.33% Coverage]

Reference 1 - 0.34% Coverage

¶56: while putting an end to the limitless extension of the cities. The danger facing not only Romanian cities but most European ones as well, is loss of their centrality directly through neglect, abandonment of the central areas, gradual taking over of the public space by private use, or indirectly as a consequence of the territorial urbanization in any point of the region, by decentralizing living, commerce and office areas. The centralizing strategy applied in the case of the city of Timisoara, to the central areas took place on three levels

Reference 2 - 0.18% Coverage

¶56: The relationship between the central historical area and the universities around it make it ideal for housing student spin outs, major generators of innovation and forming knowledge centres or creative hubs which are not only promising growth industries but also as catalysts for urban regeneration

Reference 3 - 0.15% Coverage

¶56: Without a well made strategy, its profound understanding by the local authorities and its coherent application, the city's public urban areas may collapse despite funds, creative efforts, dedication and expertise invested in their rehabilitation.

¶57:
Reference 4 - 0.11% Coverage

¶146: the rest of the peninsula is most likely to be dedicated to the urban daily life. The tangible potential of the district such as bazaars, inns, street fountains, mosques, houses etc.

Reference 5 - 0.11% Coverage

¶146: nevertheless the main point of the plan, which is only focused on the touristic district, is to make the district a pedestrian zone, which will make it more artificial and limited.

Reference 6 - 0.11% Coverage

¶146: interventions at the urban space should be planned at first in order to increase the number and variety of activities in the area which is considered as an open-air museum.

¶147:
Reference 7 - 0.32% Coverage

¶200: The study refers to the visual representation of the coastal front of the historical center of Thessaloniki in northern Greece and its changes that have occurred through the years. Most of the old town was destroyed by fire on August 18, 1917. A few years later, the French architect and archeologist Ernest Hébrard proposed the reconstruction of the city centre, but his plans were never fully implemented. Since then, a series of interventions changed the form of the old town and consequently the coastal cityscape.

<Internals\\JCH 2014 abstracts> - § 3 references coded [0.92% Coverage]

Reference 1 - 0.07% Coverage

¶178: Urban regeneration in the context of post-Soviet transformation: Lithuanian experience

Reference 2 - 0.20% Coverage

¶179: Our research concentrates on the countries, which had emerged after the collapse of the Soviet bloc, and the possible distinctive influence of the social and institutional environment of these countries on the process and outcomes of city center regeneration.

Reference 3 - 0.65% Coverage

¶179: In the section of results we had elaborated and discussed the hypothesis that these features affect the image and treatment of the historic built environment and especially of historic urban centers. Further we distinguish three dimensions – features of urban space, governance structures, and social milieu – and, based on literature and Lithuanian experience, distinguish what features of these dimensions and how make it easier or inhibit the urban regeneration. In the concluding sections we outline the basic findings and further research proposals and present the summary matrix of strengths, weaknesses, opportunities, and threats of urban regeneration in the context of post-Soviet transformation. The matrix could be useful both for the future research and for the decision making in practice of city center regeneration

<Internals\\JCH 2015 abstracts> - § 1 reference coded [0.68% Coverage]

Reference 1 - 0.68% Coverage

¶170: Beyond the historical logic of the urban scene and its functional nature, the city is sensed through the spaces, which it creates and configures. The spaces of the historical city represent the soul of its history and the final result of its development. Through the architectural configuration of these spaces, we can visualize the historical and vital logic that underlies the city, the heritage of the people and cultures that make it up. The Study for the Recovery of Urban Spaces in Valencia Historical Center is an interdisciplinary project of intervention in patrimonial architecture, aiming to recover the original image of spaces in the historical city center. This is a project started in 1995 and ended in 2013, which is formed by a series of activities in which both, the Polytechnic University of Valencia as a research institution and the public administrations involved in the processes of regeneration and restoration of the historic center, take part. The aim of the project has been the start-up of a dynamic restoration process of the city's historic urban centre and its landscape value

<Internals\\JCH 2017 abstracts> - § 1 reference coded [0.12% Coverage]

Reference 1 - 0.12% Coverage

¶203: The rehabilitation of an historic city centre is approached in this investigation through a multi-criteria decision-making methodology. The methodology assists a panel of experts to take key decisions on rehabilitation options. The viability of the methodology is verified