

## Name: Antiquity 1994 abstracts

¶1: Antiquity 1994

¶2: Issue 1

¶3: Editorial

¶4: Christopher Chippindale

¶5: The Iceman reviewed

¶6: Two-and-a-half years ago, in September 1991, a mummified body was discovered in a high snowfield on the Italian-Austrian border. It dates to about 3200 BC. Several sources and accounts, mostly in German, now exist of 'Ötzi the Iceman', but there is no collected report in English. We invited Lawrence Barfield, himself a specialist on the region and period, and co-author of one of the first Ötzi books, to review these accounts of a great prehistoric discovery.

¶7: The territory of ritual: cross-ridge boundaries and the prehistoric landscape of the Cleveland Hills, northeast England

¶8: On the North Yorkshire Moors, in northeast England, is a series of linear boundaries which are characteristically placed across upland spurs and promontories. Survey and excavation suggest that 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.

¶9: Birds of the Grotte Cosquer: the Great Auk and Palaeolithic prehistory

¶10: Striking among the figures of the Grotte Cosquer, the Palaeolithic painted cave newly discovered in Mediterranean France, are some waterbirds. They are identified as Great Auks, the great and extinct 'penguin' of the northern ocean.

¶11: Preliminary investigation of the plant macro-remains from Dolní Věstonice II, and its implications for the role of plant foods in Palaeolithic and Mesolithic Europe

¶12: For the most part the Pleistocene, and even the earliest post-glacial, is a blank when it comes to evidence of humans eating plants. No wonder the old men's stories, of chaps who hunt great mammals and eat their meat, still dominate our unthinking visions of hunter-gathering in that period. Some real evidence, slight though it is, from a classic European Upper Palaeolithic site provides a more balanced view.

¶13: The chronology of the introduction of pastoralism to the Cape, South Africa

¶14: A careful survey of reports of early sheep in southernmost Africa combines with new radiocarbon dates to revise our knowledge of early pastoralism in the Cape. The new chronology shows the keeping of domestic stock and the making of pottery are not simultaneous and intertwined but separate events in a more complex history.

¶15: A taphonomy of palaeoart

¶16: As one digs back through the archaeological record, art and other evidence of symbolic behaviour becomes scarcer, so it is much disputed just when human marking behaviour and human

language began. Is the fading away a real fact of prehistory, or a distorting effect of selective survival?

¶17: Technological organization and settlement in southwest Tasmania after the glacial maximum

¶18: A growing quantity of data about the late Pleistocene sequence in Tasmania has not been matched by an equivalent clear understanding of just what are the patterns of its lithic record. A new model is developed.

¶19: The archaeology of the Phuthiatsana-ea-Thaba Bosiu Basin, Lesotho, southern Africa: changes in Later Stone Age regional demography

¶20: Field survey of an unexplored zone of southern Africa enlarges and develops knowledge of the region's prehistory.

¶21: Acorn eating and agricultural origins: California ethnographies as analogies for the ancient Near East

¶22: Since cereals and legumes were successful domesticates, archaeologists and botanists have investigated early domestication with particular emphasis on these plants. What about other foods, which may have been staples in their own time, for which we have no simple continuity into a later subsistence in the classic region of Near Eastern domesticates? The mediterranean climate, and the lifeways, of California provide an analogy.

¶23: Pharaonic quarrying and mining: settlement and procurement in Egypt's marginal regions

¶24: Across the rocky landscapes of Egypt lies evidence for pharaonic quarrying and mining; fresh fieldwork at neglected sites, such as the Hatnub travertine quarries and the Wadi el-Hudi amethyst mines, now tells us more. The surviving remains of quarrying and mining settlements suggest subtle adaptations in versatile response to changing economic and geographical parameters.

¶25: Destruction of a common heritage: the archaeology of war in Croatia, Bosnia and Hercegovina

¶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. Here is a report on some of the specifics and some of the generalities.

¶27: DNA in charred wheat grains from the Iron Age hillfort at Danebury, England

¶28: The genetic history of wheat is the story of the world's temperate staple food. Archaeologically, charred grains are the common way wheat is preserved. Study of burnt spelt wheat from the British Iron Age shows DNA is present, and begins to show the wheat's character.

¶29: A pyre and grave goods in British cremation burials; have we missed something?

¶30: There is more to a cremation than the human bone — turned white and blue-grey by the fire, enough to fill a fair-sized hat — because so much may go on the pyre with the corpse.

¶31: 'Running ahead of time' in the development of Palaeolithic industries

¶32: Palaeolithic people could foresee their technological future no more, or even less, than we are able to. They never said, 'The Middle Palaeolithic has gone on quite long enough — now we'd better get on with a transition to the Upper.' So what is one to make of those precocious lithic industries which prefigure key features of later innovations, the industries which 'run ahead' of their own time?

¶133: Anthropomorphic figurines from the north Caucasus

¶134: A report on human representations in cast bronze and terracotta from a Late Bronze Age cemetery near Grozni in the Chechen region of the northwest Caucasus.

¶135: Static scenes at the Globe and the Rose Elizabethan theatres

¶136: In 1989, we reported the state of affairs at the Rose, and in 1992 at the Globe, the two Elizabethan theatres in London which survive archaeologically. They are the unique remnants of a unique and uniquely valued kind of building, Shakespeare's workplaces. On December 1993, Sam Wanamaker died, whose inspired scheme to re-make a Shakespearean Globe using evidence from these remnants is at last being built. We asked Andrew Gurr, co-author of our two reports, to tell us what is happening at both original theatre sites. His story is of scenes that are, by Shakespeare's standards, most static.

¶137: Direct dating of rock art at Laurie Creek (NT), Australia: a reply to Nelson

¶138: D.E. Nelson (1993), in the last *ANTIQUITY*, declared doubts about an old date for rock art in northern Australia we published in 1990. T.H. Loy, another co-author of the original paper, confirms his continuing confidence in the determination.

¶139: Serving our fellows

¶140: Seven ways of seeing rock art

¶141: The landscape of imperialism

¶142: Rome and Barbaricum: recent work on the Roman period in Poland

¶143: Housing culture: traditional architecture in an English landscape.

¶144: Representations in archaeology.

¶145: All natural things: archaeology and the green debate. (

¶146: From Kostenki to Clovis: upper Palaeolithic-palaeo-Indian adaptations. L

¶147: From Carnac to Callanish: the prehistoric stone rows and avenues of Britain, Ireland, and Brittany.

¶148: The history of ancient Palestine from the Palaeolithic period to Alexander's conquest.

¶149: The Basse-Yutz find: masterpieces of Celtic art.

¶150: Hundert Meisterwerke keltischer Kunst: Schmuck und Kunsthandwerk zwischen Rhein und Mosel. (Schriftreihe des Rheinischen Landesmuseums Trier 7.)

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

¶152: Contacts across the Baltic Sea during the Late Iron Age (5th-12th centuries).

¶153: The archaeology of Pacific Nicaragua.

¶154: Ancient mining.

¶155: Issue 2

¶156: Editorial

¶157: Christopher Chippindale

¶158: Natural wonders and national monuments: a meditation upon the fate of The Tolmen

¶159: Christopher Evans (a1)

¶160:

¶161: A key place in the 19th-century view of the British prehistoric landscape was taken by an ancient wonder which was not a human or artificial device at all. An account of this anomaly is called for.

¶162: Mons Claudianus and the problem of the 'granito del foro': a geological and geochemical approach

¶163: Granito del foro is a distinctive igneous rock, in fact a granodiorite rather than a granite, long known and named for its use in buildings of the Roman Forum. Exactly what is it? Where does it come from? Where else was it used and not used? What does the granito del foro say about ownership and empire?

¶164: Unwelcome companions: ancient rats reviewed

¶165: The commensal rats — notably the black rat *Rattus rattus* and the brown R. *norvegicus* — are among mankind's most destructive and dangerous enemies, and have spread relentlessly with humans across the globe. A decade after an important ratty meeting at the Natural History Museum, London, in 1981, this noxious rodent pest is again reviewed.

¶166: Of Lightning Brothers and White Cockatoos: dating the antiquity of signifying systems in the Northern Territory, Australia

¶167: 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. Excavation of deposits under the painted surfaces allows the age of the paintings to be estimated, by linking across to these deposits and their dateable contexts. One can begin to assess the antiquity of those systems of knowledge and of 'signifying'.

¶168: Making the most of radiocarbon dating: some statistical considerations

¶169: 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.

¶170: The late medieval mint workshops at the Archbishop's Palace, Trondheim

¶171: Recent excavations at the Archbishop's Palace in the city of Trondheim, Norway, have brought to light mint workshops of the period 1458/1483–1537. Surviving internal arrangements, analogous with features portrayed in contemporary illustrations, are uniquely illuminative of late medieval minting.

¶172: A new approach to interpreting late Pleistocene microlith industries in southwest Asia

¶173: Archaeologists have long assumed that morphological variability in microliths primarily reflects cultural differences among the makers. This forms the basis for differentiating major cultural/temporal traditions in the late Epipalaeolithic of southwest Asia. An alternative explanation

for morphological variability is proposed which emphasizes the dynamic aspects of lithic technology in hunter-gatherer societies and questions current explanations of culture change.

¶174: City and state in pre-Roman Spain: the example of Ilici

¶175: What is the nature of the cities and chiefdoms, the states or proto-states or would-be states that fringe the Roman Empire? Modern Spain, like other regions that were first outside and then inside Empire, shows social transformations that were as important as they are now hard to judge from enigmatic evidence.

¶176: Heritage management as postprocessual archaeology?

¶177: The postmodern, or 'postprocessual', tendency in contemporary archaeology pays much attention in its rhetoric to that wider public, that wider constituency whose views of the past may not match much or at all with the academics. What happens when the realities of archaeology in the real world meet with those of postmodern theory?

¶178: Palaeoenvironmental evidence for human colonization of remote Oceanic islands

¶179: Not every first footstep on a virgin shore leaves enduring trace, nor every first human settlement an enduring deposit that chances to survive, and then chances to be observed archaeologically. Good environmental evidence from Mangaia Island, central East Polynesia, gives — it is contended — a fairer picture of the human invasion of remote Oceania than the short and sceptical chronology recently published in *ANTIQUITY*.

¶180: A Grooved Ware wooden structure at Knowth, Boyne Valley, Ireland

¶181: A new find at Knowth, the site in eastern Ireland famous for its complex of Neolithic passage-tombs, of a wooden structure associated with that enigmatic later Neolithic material, Grooved Ware.

¶182: Ancient Maya subsistence diversity: root and tuber remains from Cuello, Belize

¶183: A first notice of the mushy element in the subsistence base of the Maya realms.

¶184: Radiocarbon and archaeomagnetic dates from Konispol Cave, Albania

¶185: Albania, isolated from Europe for nearly half a century, was closed to absolute archaeological dating during that time. New dates from an unusual large cave-site in southern Albania go beyond the single first radiocarbon date published for the country in *ANTIQUITY* in 1991, and permit the establishment of a radiocarbon and archaeomagnetic sequence.

¶186: Radiocarbon determinations, luminescence dating and Australian archaeology

¶187: The September 1993 editorial (*ANTIQUITY* 65: 44–5) made comment on recent Australian dates, by luminescence techniques, significantly older than radiocarbon determinations from elsewhere in Australia and New Guinea, which formed a single continent in the late Pleistocene. (There are hints also from the Americas of a discrepancy between dates by the two methods.) The period involved, c. 30–60,000 years ago, is crucial also in the Old World mainland, where the beginning of the European Upper Palaeolithic is usually set at c. 35,000 years ago by radiocarbon determinations.

¶188: The creative use of bias in field survey

¶189: A modest experiment explores what is seen and what is not seen in field survey, and what can be done about it.

¶90: Cuneiform inscriptions made visible on bronze plates from the Upper Anzaf Fortress, Turkey

¶91: X-ray study of bronze plates from a fortress of the 1st millennium BC reveals cuneiform inscriptions on metal surfaces that are now wholly hidden by corrosion.

¶92: Antiquities in the market-place: placing a price on documentation

¶93: To those of us who wish there was no commercial trade in antiquities, colleagues — and those themselves active in the market — say there always has been one and always will be. Since concern largely arises from destruction of context and loss of information, may there be a way forward that both permits the trade and preserves the context?

¶94: Are collectors the real looters?

¶95: More on the vexed question of collectors, looting, and on the right relationship between museums, researchers and the antiquities market.

¶96: The Oxus Civilization: the Bronze Age of Central Asia

¶97: Central Asia in the Bronze Age: sedentary and nomadic cultures

¶98: Production evidence for the origins of the Oxus Civilization

¶99: Temples of Bronze Age Margiana: traditions of ritual architecture

¶100: The Bronze Age khanates of Central Asia

¶101: The Central Asian dimension of the symbolic system in Bactria and Margiana

¶102: My strange quest for Leroi-Gourhan: structuralism's unwitting hero

¶103: Late/post Pleistocene hunter-gatherer adaptations: a New World and Old World divide

¶104: Reading Mesoamerican scripts

¶105: Constructing life from death in Iron Age Italy

¶106: Palaeoethnobotany: what's in a name?

¶107: Excavating Schliemann: collected papers on Schliemann.

¶108: Society and polity at Bronze Age Pella: an Annales perspective.

¶109: Greek sanctuaries: new approaches.

¶110: From pasture to polis: art in the age of Homer.

¶111: Corpus Vasorum Antiquorum

¶112: Les arpenteurs Romains: théorie et pratique.

¶113: Southeast Asian archaeology 1990:

¶114: The Cambridge history of Southeast Asia 1: From early times to c. 1800.

¶115: Inca architecture and construction at Ollantaytambo.

¶116: The American southwest and Mesoamerica: systems of prehistoric exchange

¶117: Ecology and ceramic production in an Andean community.

¶118: Domestic wooden artefacts in Britain and Ireland from Neolithic to Viking times.

¶119: Soils in archaeology: landscape evolution and human occupation.

¶120: Fire-clearance husbandry: traditional techniques throughout the world.

¶121: Technological choices: transformation in material cultures since the Neolithic.

¶122: ISSUE 3

¶123: Editorial

¶124: Christopher Chippindale

¶125: The earliest occupation of Europe: a short chronology

¶126: A reappraisal of the artefactual and chronological evidence for the earliest occupation of Europe — with proper attention to its limitations and its reliability — makes for a short chronology. The first solid traces of hominid activities in this part of the world are around 500,000 years old.

¶127: As a prescription to rule: the royal tomb of Mala'e Lahi and 19th-century Tongan kingship

¶128: The tangled dynastic history of Tonga, celebrated kingdom of western Polynesia, offers a rare chance to study the place of monumental burial-places in a chieftains' society. Disentangling the story, at a remove of not many centuries, is not a simple business.

¶129: Tin sources for prehistoric bronze production in Ireland

¶130: Ireland is important in the early metallurgy of northwest Europe, for it has given us a large majority of the Early Bronze Age artefacts from the whole British Isles. Is there tinore to have been mined in early Ireland to produce this bronze or must it have come from elsewhere?

¶131: Forms of power: dimensions of an Irish megalithic landscape

¶132: 'What must it have been like to be here in ancient times?' — where 'here' is inside one of the Great Zimbabwe enclosures or a Mesoamerican ball-court. An architectural approach to built spaces may make coherent that felt experience, here applied to the Loughcrew chamber-tombs, classic built spaces of Irish prehistory.

¶133: Orientation and Etruscan ritual

¶134: The cosmology of the Etruscans, like so much else Etruscan, hovers on the edge of historical visibility. By exploring Etruscan temple alignments measured in situ and with the helpful context of the *Disciplina Etrusca*, factors are found that might affect temple orientation, and connections with the Greek and Roman record are explored.

¶135: Early agriculture in southeast Asia: phytolith evidence from the Bang Pakong Valley, Thailand

¶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. They give a new view of early rice in southeast Asia.

¶137: Towards an archaeology of navy huts and settlements of the industrial revolution

¶138: Around any great construction enterprise, whether Victorian railway viaduct or contemporary motorway, there will be a passing scatter of huts and buildings, swept away when the project is

complete and the builders have moved on. In the unmechanized age, this meant large numbers of hands and large settlements, which have their archaeological trace.

¶139: Contemporaneity of Clactonian and Acheulian flint industries at Barnham, Suffolk

¶140: New field evidence challenges an old-established fundamental of the Lower Palaeolithic sequence in Britain.

¶141: A grave error concerning the demise of 'Hunstanton Woman'

¶142: 'Hunstanton Woman', a skeleton found in 1897 within glacial gravels at Hunstanton on the east English coast, has now been carbon-dated. She turns out to be yet another intrusive burial, rather than an 'Ice Age' person.

¶143: Barland's Farm, Magor, Gwent: a Romano-Celtic boat

¶144: Recent excavations on the Gwent Levels, in the wetlands of the Severn Estuary, south Wales, have recovered substantial remains of a waterlogged boat, of probable late 3rd- to early 4th-century AD date.

¶145: 35,000-year-old sites in the rainforests of West New Britain, Papua New Guinea

¶146: The growing story of early settlement in the northwest Pacific islands is moving from coastal sites into the rainforest. Evidence of Pleistocene cultural layers have been discovered in open-site excavations at Yombon, an area containing shifting hamlets, in West New Britain's interior tropical rainforest. These sites, the oldest in New Britain, may presently stand as the oldest open sites discovered in rainforest anywhere in the world.

¶147: Beyond the radiocarbon barrier in Australian prehistory

¶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.

¶149: A visit to General Pitt-Rivers

¶150: The biographer of Flinders Petrie (*Flinders Petrie: a life in archaeology*, 1985), looking at Petrie family letters, came across this one. It comes not from exotic Egypt, but from domestic Dorset, when the Petries visited the Pitt-Rivers estate; and it offers a lively picture of Pitt-Rivers and his ménage, instructive for those whose view of the old man is perhaps a little austere.

¶151: The change in metal production from the Chalcolithic period to the Early Bronze Age in Israel and Jordan

¶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.

¶153: Who creates the past in Germany?

¶154: Shifting paradigms in Classical art history

¶155: Neanderthals in perspective

¶156: The onymous dead



¶157: Accordia: past, present and future

¶158: The rape of Tutankhamun.

¶159: House and households: a comparative study.

¶160: Timewalkers: the prehistory of global colonization.

¶161: Fonctionnement social de l'âge du fer: opérateurs & hypothèses pour la France.

¶162: Archaic bookkeeping: writing and techniques of economic administration in the ancient Near East.

¶163: History of civilizations of Central Asia I: The dawn of civilization: earliest times to 700 BC.

¶164: China, Korea and Japan: the rise of civilization in East Asia.

¶165: Cahuachi in the ancient Nasca world.

¶166: The art and mystery of historical archaeology: essays in honor of James Deetz.

¶167: Personal discipline and material culture: an archaeology of Annapolis, Maryland, 1695–1870.

¶168: Landscape: politics and perspectives. (Explorations in Anthropology.)

¶169: Death in towns: urban responses to the dying and the dead, 100–1600.

¶170: The landscape of industry: patterns of change in the Ironbridge Gorge.

¶171: ISSUE 4

¶172: Editorial

¶173: Christopher Chippindale

¶174: On a Pleistocene human occupation at Pedra Furada, Brazil

¶175: The last decades of fieldwork have not decisively upset the long-held view that the settlement of the Americas occurred in the very latest Pleistocene, as marked in North America by the Clovis archaeological horizon at about 11,200 years ago, and by a variety of contemporaneous South American industries. Yet there are several sites that may prove to be older, among them Pedra Furada, in the thorn forest of northeastern Brazil, a large and remarkable rock-shelter, whose Pleistocene deposits have been interpreted as containing clear evidence of human occupation.

¶176:

¶177: This paper offers a considered view of Pedra Furada from three archaeologists with a wide range of experiences in sites of all ages in the Americas and elsewhere, but who also share a special interest and expertise in the issues Pedra Furada has raised: Meltzer from long study of the peopling of the Americas and the frame of thinking within which we address that issue (Meltzer 1993a; 1993b); Adovasio from his intensive excavations and analysis of the Meadowcroft Rockshelter in Pennsylvania, the prime North American pre-Clovis candidate (Adovasio et al. 1990; Donahue & Adovasio 1990); and Dillehay from his work at the Monte Verde site in Chile, a site in which extraordinary preservation has produced a rich archaeological record with radiocarbon ages in excess of 12,500 years b.p. (Dillehay 1989a; in press). At the invitation of the Pedra Furada team, the three travelled to Brazil last December to participate in an international conference on the peopling of the Americas, and see first-hand the evidence from Pedra Furada.

¶178: The 'Obanian Iron Age': human remains from the Oban cave sites, Argyll, Scotland

¶179: While the caves round Oban, on the west coast of Scotland, are famous for their Mesolithic artefacts, they have also produced Bronze Age finds and numerous burials. Radiocarbon dates on human bones from one cave show these to be Iron Age, suggesting the Obanian assemblages are composites accumulated over millennia.

¶180: Early urbanization in the Eastern Zhou in China (770—221 BC): an archaeological view

¶181: Take six early Chinese cities from the key Eastern Zhou period, study their shape and topography, see how their development represents both migration into the urban centres and the established structures of the ruling class.

¶182: Twelve centuries of occupation of a river-bank setting: old Sisatchanalai, northern Thailand

¶183: The story of a city that was built close by a river must be a watery one. Here is an archaeological and geomorphological study of a medieval Thai city that experienced flooding and sedimentation throughout its life.

¶184: Forensic archaeology in Britain

¶185: Forensic archaeology is a relatively recent development in the UK but has already shown its worth on a number of scenes of crime; it has a particular role to play in the location and recovery of buried remains, notably in homicide investigations. This paper explores the overlap between archaeology and criminal investigation and considers areas of mutual interest, experience and potential.

¶186: Pottery and p-values: 'Seafaring merchants of Ur?' re-examined

¶187: A 1977 ANTIQUITY paper included a study of Neutron Activation Analyses of Ubaid pottery from Mesopotamia and the Arabian Gulf (Oates et al. 1977). A re-examination finds that the interpretation of the statistical analysis was mistaken and shows that the data do not prove the existence of 'seafaring merchants of Ur' in the Ubaid period.

¶188: Seeing stars: character and identity in the landscapes of modern Macedonia

¶189: In 1978, the excavation of the Macedonian royal tombs at Vergina in north Greece gave a more physical aspect to the historical place of Philip and of Alexander the Great. 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.

¶190: Aerial reconnaissance in England 1994

¶191: The summer of 1994 in Britain started cold and wet, with the spring growing season distinctly late, and then turned very hot. Each summer, with its own personality, makes for a different flavour to the air photography.

¶192: Reducing the effects of heavy equipment compaction through in situ archaeological site preservation

¶193: Salvage archaeology in anticipation of destruction is an accepted response to a site in the way of a pipe-line or other development. But is it right in principle? — a 'full and fair' record is not quite the same as survival of the actual site. And if techniques to protect a site during construction work are well designed, may they not also be cheaper?

¶194: The Monuments At Risk Survey: an introduction

¶195: Another step has started in trying to figure out just what the collected archaeology of England amounts to — this time, with its change in mind.

¶196: Early Bronze Age lead — a unique necklace from southeast Scotland

¶197: Excavation of an Early Bronze Age cist cemetery at West Water Reservoir, Peeblesshire, has uncovered a unique two-strand necklace, with one string of cannel coal disc beads and another of lead beads, buried around the neck of a young child. This is the earliest evidence for the use of metallic lead in Britain and Ireland.

¶198: Changing perspectives on hunter-gatherers in Continental and in Anglo-American archaeology

¶199: How different are the intellectual traditions of Continental and of Anglo-American archaeology, and how is each changing? Counting papers in the standard journals which address aspects of hunter-gatherer archaeology may show.

¶200: Using radiocarbon: an update

¶201: A note in the 1990 ANTIQUITY volume dealt with 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'). Here is an update.

¶202: Archaeological aspects of D-Day: Operation Overlord

¶203: The September Editorial (68: 477–9) noticed how the Normandy invasions of D-Day 1944 are, and are not, archaeologically visible. The author of the pioneering book on the pillbox defences of Britain in the Second World War explains what little there is surviving in southern England. Static defences, we see, leave traces in a way a mobile attack does not.

¶204: Palaeoenvironmental evidence of island colonization: a response

¶205: More on whether evidence of prehistoric environment on the Pacific island of Mangaia does or does not demonstrate an early human presence there.

¶206: Are Bayesian statistics useful to archaeological reasoning?

¶207: An ANTIQUITY paper used 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: Identifying Great Auks and other birds in the Palaeolithic art of western Europe: a reply to d'Errico

¶209: The craft of bird-watching lies in the distinctive look any bird has, so it may be recognized even from a passing glimpse. That may help with identifying the prehistoric birds captured as passing glimpses for us in Palaeolithic pictures.

¶210: Great Auks of the Cosquer Cave again: a reply to McDonald

¶211: The end of the beginning in Maya scholarship

¶212: Mixed signals from Hoxne

¶213: Agricultural origins, beginnings and transitions: the quest continues

¶214: Voyages into pictured pasts

¶215: 'An extraordinarily ungrateful conceit': a western publication of important Soviet field-studies

¶216: Iron and steel in ancient China: origins and technical change

¶217: The desert past.

¶218: Fenland survey: an essay in landscape and persistence.

¶219: Sahul in review: Pleistocene archaeology in Australia, New Guinea and Island Melanesia.

¶220: The origins of the first New Zealanders.

¶221: Ceramics and ideology: Salado Polychrome pottery.

¶222: Gender and material culture: the archaeology of religious women.

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

¶224: The Aegean Bronze Age.

¶225: Cultural transformations and interactions in eastern Europe.

¶226: Isle of the saints: monastic settlement and Christian community in early Ireland.

¶227: Another country: a season in archaeology.

¶228:

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¶230:

¶231:

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¶1: Antiquity 1995 abstracts

¶2: ISSUE 1

¶3: The Troy treasures in Russia

¶4: The treasures from Troy, removed from Berlin to be kept quietly in Moscow and—it now proves—in St Petersburg these last 50 years, are now being seen. Here is a first first-hand report on just what they amount to.

¶5: What happened at WAC-3?

¶6: We asked Sarah Colley, who teaches Aboriginal archaeology and heritage management at the University of Sydney, Australia, to give an account of the 3rd World Archaeological Congress, held at New Delhi, India, 4–11 December 1994, as she experienced it.

¶7: The Balkans in prehistory: the Palaeolithic archaeology of Greece and adjacent areas

¶8: Thirty years ago, the finding of a single hand-axe in Greece was remarkable enough to have its own note in ANTIQUITY. A recent conference is occasion to review the regional picture, now broad as well as deep enough for patterns to emerge which look more like early prehistoric realities than the chance consequence of where the pioneers have been looking.

¶9: St Kildas: stone tools, dolerite quarries and long-term survival

¶10: St Kilda, the little group of islands far offshore from northwest Scotland, was known for its seabird subsistence in the period before its evacuation in 1930. Recent discoveries suggest that the importance of agriculture in the prehistoric period (before the 16th century AD) may have been underestimated.

¶11: Survival and detection of blood residues on stone tools

¶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: Fishing in Port Jackson, New South Wales—more than met the eye

¶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? Fish remains from a shell midden provide an opportunity to investigate.

¶15: Multivariate approaches to site location on the Northwest Coast of North America

¶16: The American Northwest Coast, famously rich as an environment for hunter-gatherers, is not an easy landscape to inhabit. Field survey of the Tebenkof Bay region, Kuiu Island, southeast Alaska, identifies the pattern of site positions. Mathematical modelling explores which considerations directed the placing of settlements in that landscape.

¶17: Goddesses, Gimbutas and New Age archaeology

¶118: 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.

¶119: Our own engendered species

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

¶121: The contamination of Pleistocene radiocarbon determinations in Australia

¶122: Previous articles in ANTIQUITY have taken different views of the dating pattern for the human settlement of Australia. 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.

¶123: Archaeology and the ecodynamics of human-modified landscapes

¶124: 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. But can the world of human affairs with its numerous reversals and unintended consequences really be captured by such models? Recent advances in the natural sciences have demonstrated the central role of non-linear phenomena, discontinuities and unpredictable breaks from established patterns and events. It is argued that such findings can form the basis for a new theoretical framework, human ecodynamics.

¶125: Zhukaigou, steppe culture and the rise of Chinese civilization

¶126: Zhukaigou, a late prehistoric site in Inner Mongolia, stands in an important zone, the region where the steppe cultures meet the settled farming civilization of China. As elsewhere across the Asian steppes, that zone where each tradition meets its other is observed both from its archaeology and from such clues as we have to ancient perceptions of significant others.

¶127: Late Jomon cultigens in northeastern Japan

¶128: The subsistence basis for Japanese civilization has always been intensive rice cultivation. What was grown there before the introduction of paddy technology? A glimpse of the plant cultigens in the later Jomon begins to tell.

¶129: The working of pigment during the Aurignacian period: evidence from Üçagizli cave (Turkey)

¶130: New finds from the Upper Palaeolithic of Anatolia, and the mineralogical analysis of their colours, extends evidence of a precocious interest in pigments from the western European heartland of Palaeolithic painting into the Near East.

¶131: Tilley's and Morrison's triremes—evidence and practicality

¶132: The designer of the reconstructed Greek trireme, *Olympias*, first proposed by John Morrison and now built and tested at sea, takes issue with Alec Tilley's divergent ideas and proposals about these ships, together with their practicality. The author is a naval architect.

¶133: On the significance of the crania from the River Thames and its tributaries

¶134: Bradley & Gordon, writing in *ANTIQUITY* in 1988, reported a distinct pattern in the distribution and dates of the many human crania that have been found in the River Thames. Issue is taken with that view, and the insight it promised in relating human remains to the prehistoric British interest in watery places

¶135: Digging into our genes

¶136: Timely interventions

¶137: From modernism to manure: perspectives on Classical archaeology

¶138: Field survey of an asteroid

¶139: Purple prose: some recent work on early Phoenicia

¶140: Coming of age? historical archaeology of the Chesapeake

¶141: The incomparable hallmark of the Divine image

¶142: Electric gold: re-opening the amber route

¶143: Architecture & order: approaches to social space

¶144: The archaeology of rank.

¶145: Vertebrate taphonomy.

¶146: Environment and ethnicity in the Middle East.

¶147: Radiocarbon dating and Italian prehistory.

¶148: Megalithic culture of south India: socio-economic perspectives.

¶149: Flintknapping: making and understanding stone tools.

¶150: Foraging and farming in the eastern woodlands

¶151: Pagan Celtic Ireland: the enigma of the Irish Iron Age.

¶152: Houses and society in Pompeii and Herculaneum.

¶153: Centre and periphery in the Hellenistic world

¶154: Roman Pompeii: space and society

¶155: ISSUE 2

¶156: Cave art without the caves

¶157: It is over a decade since Palaeolithic parietal art was first spotted in Europe on exposed open-air surfaces—cave art without the caves. Now the major site in Portugal is threatened by the lake behind a river-dam under construction. Here is a report on what cave art outside the caves amounts to, and of the confrontations over the Côa site that were in the headlines early this year.

¶158: From a science future to a fantasy past

¶159: Once upon a time the characteristic way to transport the reader into another and different world was by science-fiction, through tales set into a supposed future. Now that genre is being swallowed by another, the fantasy fiction of sagas placed in a pretended past, whose usual descent is by California out of medieval, with Jean Auel's tales of Palaeolithic Europe as a prehistoric variant. This new area of dominance for the past is worth an archaeological attention.

¶160: Why teach Heisenberg to archaeologists?

¶161: The archaeological department at the University of Bradford is the only one in Britain to be called a Department of Archaeological Sciences. Its Professor—whose own background was in physics and then chemistry before archaeology—explores the relationship of archaeology to the sciences in a contribution adapted from his talk given at Harvard University on Science and archaeology.

¶162: Recent academic development at the London Institute of Archaeology

¶163: David Harris, its Director, reports on recent academic developments at the Institute of Archaeology, 10 years after its incorporation into University College London.

¶164: Local histories and global theories in Colombian Pacific coast archaeology

¶165: The Pacific Coast of Colombia has a complex history of change and upheaval. How is one to reach to it, with the variety of its human experiences? And how to grasp it from the diverse and often fragmentary sources that are its archaeology?

¶166: Mesolithic mortuary ritual at Franchthi Cave, Greece

¶167: Mesolithic sites are rare in the Aegean, and Mesolithic burials are uncommon throughout Europe. The Mesolithic human remains from Franchthi Cave, that remarkable, deeply stratified site in southern Greece, offer a rare glimpse into the burial practices of early Holocene hunter-gatherers of the Mediterranean.

¶168: Beyond lifetime averages: tracing life histories through isotopic analysis of different calcified tissues from archaeological human skeletons

¶169: Stable-isotopic analyses of human bone, 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.

¶170: A site in history: archaeology at Dolní Věstonice/Unterwisternitz

¶171: Dolní Věstonice, a classic Palaeolithic site, is a crucial place for our understanding of human settlement in glacial Europe. 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. Dolní Věstonice is presently located in the Czech Republic, a state founded in 1993: it remains a site alive in history as well as in prehistory.

¶172: The Cleaven Dyke: a Neolithic cursus monument/bank barrow in Tayside Region, Scotland



¶173: A linear earthwork in lowland Scotland, known a couple of centuries and often thought to be connected to Roman military operations on this far north frontier, is shown to be a Neolithic feature of a kind more often seen further south in Britain.

¶174: Pacbitun (Belize) and ancient Maya use of slate

¶175: As well as jade, obsidian, chert and limestone, the Classic Maya of Central America were accomplished workers of another stone—slate. Recent research at the site of Pacbitun, Belize, where a possible slate workshop has come to light, is cause to look closely at Maya slate-working and the scientific means to study it.

¶176: A cache of hippopotamus ivory at Gao, Mali; and a hypothesis of its use

¶177: The hippopotamus is a large beast with large teeth—large enough for hippopotamus ivory, then and now, to be a useful alternative to elephant ivory (there are both kinds in the Aegean Bronze Age, as well as the little tusks of wild boar). A newly found cache of hippopotamus ivory at Gao, medieval city of the south Saharan edge, opens a wider place for the material in contact across the great north African desert.

¶178: Accelerator radiocarbon dating of the initial Upper Palaeolithic in southeast Siberia

¶179: Across Eurasia and Africa new studies are encouraging archaeologists to rethink the age of the Middle to Upper Palaeolithic transition. In the Lake Baikal region of southeast Siberia, new radiocarbon determinations on sites of difficult history suggest that the earliest Upper Palaeolithic emerged there as early as 39,000 years ago, 6000 years earlier than previously thought.

¶180: The end of Mithraism

¶181: 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. The singularly uniform class of Mithraic temples came to an end in several ways, by abandonment, burning, deliberate destruction, even by planned and careful sealing. Comparison of these circumstances can shed light on the different ways in which pagan worship came to cease.

¶182: The Passio Sanctorum Quattuor Coronatorum: a petrological approach

¶183: A geological look at the hard evidence of Roman stone in central Europe illuminates a major documentary source for the human experience of Roman quarrying.

¶184: Microburins and microliths of the Levantine Epipalaeolithic: a comment on the paper by Neely & Barton

¶185: Issue is taken with the arguments offered by Neeley & Barton to explain interassemblage variability in the Epipalaeolithic. The techno-typological attributes they discuss do, indeed, mark cultural/temporal traditions and there are no grounds for viewing them as representing stages within a reduction sequence.

¶186: Dromedaries in antiquity: Iberia and beyond

¶187: A handful of finds of camel bones from Iberia now illuminate the faint story of camels in Roman and Muslim Europe—and hint at why the dromedary never became established as a domesticate in the peninsula.

¶188: Macedonia then and now: a comment on Brown

- ¶189: Technology or typology?: a response to Neeley & Barton
- ¶190: On not breaking the Indus code
- ¶191: Archeology and the longue durée
- ¶192: Cruising along the Andes: A true adventure among pirates
- ¶193: Bones, bangles and barbarians: towards the perfect cemetery report
- ¶194: The archaeology of V. Gordon Childe: contemporary perspectives
- ¶195: Interpreting the axe trade: production and exchange in Neolithic Britain
- ¶196: The domestication of the proto-Villanovan mind
- ¶197: Reconstructing prehistory: scientific method in archaeology.
- ¶198: What shipwrecks can tell us
- ¶199: Whither environmental archaeology?
- ¶100: Development and decline in the Mediterranean Bronze Age.
- ¶101: Women's work: the first 20,000 years, Women, cloth and society in early times
- ¶102: From farmers of pharaohs: mortuary evidence for the rise of complex society in Egypt.
- ¶103: Ploughing implements and tillage practices in Denmark from the Viking Period to about 1800: experimentally substantiated.
- ¶104: Lukurmata: household archaeology in prehispanic Bolivia.
- ¶105: The Judean desert monasteries in the Byzantine period.
- ¶106: Advances in monastic archaeology.
- ¶107: The culture of the English people: Iron Age to the Industrial Revolution.
- ¶108: The Trinitaria Order in England: excavations at Thelford Priory.
- ¶109: ISSUE 3a
- ¶110: Expanding middle-range theory
- ¶111: The obscure and ugly language of theoretical archaeology conceals as well as reveals fundamentals that no real practice of archaeology can actually escape. In this paper, revised from a plenary address at the TAG conference at Bradford last year, one of the carriers of the old hands puts some of those fundamentals into proper place.
- ¶112: Politics and archaeology in the Canary Islands
- ¶113: The Canary Islands, 1000 km southwest into the Atlantic from Iberia, are close to the African coast; at the latitude of southern Morocco, they are far southern outliers to Europe as presently defined by its nation-states. The archaeology of their indigenous people, the Guanches, is caught up now in the contemporary politics of the Islas Canarias.
- ¶114: The earliest farmers in Europe

¶115: Some 9000 years ago the first European farmers established themselves in the empty plains of Thessaly, the only region in Greece that provided a reasonably assured harvest and was large enough for significant population growth. They flourished there and after more than a thousand years spread to the Balkans and beyond. The recognition that their success may have depended on the natural irrigation of river and lake floodplains leads us to a modified version of the wave-of-advance model of demic diffusion.

¶116: The evidence for early writing: utilitarian or ceremonial?

¶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. It seems to have more to do with archaeological preservation—the better survival in archaeological contexts of the durable materials preferred as vehicles for ceremonial texts—than with any deep-seated differences in the function of the scripts. It may well be that the earliest Chinese, Egyptian or Mesoamerican texts were largely as utilitarian in their application as those of Mesopotamia.

¶118: Archaeology, ethnohistory and exchange along the coast of Ecuador

¶119: An account from Francisco Pizarro's expedition tells of a trading raft encountered along the coast of Ecuador. It gives a rare first-hand record of the established exchange of fine craftwork along the north-western coast of South America. The excavation in 1992–3 of a Manteño-period workshop in Manabí Province gives a corresponding archaeological view of the making of these luxury goods.

¶120: More on the origins of Venice

¶121: Three years ago, ANTIQUITY reported a first archaeological insight into the origins of Venice. The city's historical records, famously good and full for its flourishing, say very little about the beginnings. This second report includes direct evidence from Piazza San Marco, the heart of the city.

¶122: Fallow deer in prehistoric Greece, 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. The status of the fallow deer in prehistoric Greece is explored from this viewpoint.

¶124: Subjective vision and the source of Irish megalithic art

¶125: A timely book now in press explores 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.

¶126: Cist burials of the Kumaun Himalayas

¶127: In the Kumaun region of Uttar Pradesh, India, on the southern slopes of the Himalaya are cist burials, as well as megalithic monuments. Radiocarbon dates from the cists now hint at their going back to the 3rd millennium BC, and linguistic affinities would associate them with early Indo-European migrations into the western and central Himalaya regions.

¶128: The Cetina group and the transition from Copper to Bronze Age in Dalmatia

¶129: Dalmatia, on the eastern shore of the Adriatic Sea, is a region of contact between the several worlds of the early metal ages—the Danube region inland, the Adriatic coasts and beyond towards the sea. New finds from caves and burial mounds, and new radiocarbon dates help tease out complexities in the region's cultural order.

¶130: Horse, wagon & chariot: Indo-European languages and archaeology

¶131: New discoveries across the steppe zone of eastern Europe, and new dates relating to those discoveries, keep that oldest of archaeological puzzles, the Indo-European question, happily unanswered. A version of this paper was given at a 1994 meeting, on 'Language, culture and biology in prehistoric central Eurasia'—its title a reminder that the biological view of Indo-European may again be a growing interest.

¶132: Bronze-casting and organization of production at Kalnik-Igrišće (Croatia)

¶133: Recent excavations at the Late Bronze Age settlement site of Kalnik-Igrišće, northwestern Croatia, have brought to light evidence of small-scale bronze-casting. From that evidence, and the pattern of similar evidence from other sites in the southwestern part of the Middle Danubian Basin, conclusions can be drawn about circulation of metal and its control by an élite.

¶134: New light on Atlantic seaboard passage-grave chronology: radiocarbon dates from La Hougue Bie (Jersey)

¶135: A series of dates for La Hougue Bie, the Jersey passage-grave, shows its complex history of abandonment as well as construction. People were a long time leaving, as well as making, this sacred place.

¶136: Archaeological data, subcultures and social dynamics

¶137: The archaeological record is dominated by the repeated object and the repeated event, so we search for patterns that explain the regular in general terms. But human societies are not like that; the mass is actually made up of individuals, and the engine of change more often at the margin than at the centre.

¶138: Radiocarbon dates for two crannogs on the Isle of Mull, Strathclyde Region, Scotland

¶139: Crannogs, the artificial island habitations of the Scottish lochs and lakes, are once more a lively field of research. Following our 1993 report on the crannogs of southwest Scotland and their dates, here is news of crannogs on the Isle of Mull, again with striking dates.

¶140: 'This does not compute': the All-American Pipeline Project revisited

¶141: In 1989, ANTIQUITY published the ambitions and methods of a remarkable project 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, and questions whether those ambitions were well chosen.

¶142: A brief reinterpretation of the pollen record from Khok Phanom Di, central Thailand, and its archaeological significance

¶143: In 1989 and again in 1992, Antiquity reported evidence for early rice cultivation in central Thailand. A brief supplement clarifies the story.

¶144: Human and natural agency: some comments on Pedra Furada

¶145: In the December 1994 issue, we published a view by Meltzer, Adovasio & Dillehay of Pedra Furada, the large cave-shelter in northeast Brazil whose deposits may show a precocious human occupation of the New World. This further comment addresses natural and human agencies there, and how the research community can choose between several interpretations becoming available.

¶146: Comment on Pedra Furada

¶147: An issue in the status of the flaked stones from Pedra Furada, Brazil is whether they are artefacts or fractures naturally made on falling stone. An experiment by other researchers is pertinent.

¶148: Mind over matter?

¶149: A hunter-gatherer Pompeii

¶150: Art and diffusion

¶151: Sparkling stuff?

¶152: Beyond bricolage

¶153: Metal detecting and archaeology in England.

¶154: Archaeology on the World Wide Web

¶155: The world system: five hundred years or five thousand?

¶156: Sex and eroticism in Mesopotamian literature.

¶157: Ancient Nubia: Egypt's rival in Africa.

¶158: Pharaoh's workers: the villagers of Deir el Medina.

¶159: Olduvai Gorge 5: Excavations in Beds III, IV and the Masek Beds, 1968–1971.

¶160: Domestic plants and animals: the Egyptian origins.

¶161: Meaningful architecture: social interpretations of buildings.

¶162: Money and government in to Roman Empire.

¶163: Sacred sites, sacred places.

¶164: Tropical archaeobotany: application and new developments.

¶165: ISSUE 3b

¶166: The Australian transition: real and perceived boundaries

¶167: The Pleistocene to Holocene transition is both a reality of climate history, and a notion of the prehistorian. A century of approaches to Australian archaeology guides the frameworks of the issue today.

¶168: Riverine, biological and cultural evolution in southeastern Australia

¶169: The rise of cemeteries, extreme biological diversification, size decrease, increased violence, disappearance of megafauna, exploitation of different resources, evolution of rivers to an expanded system of microenvironments, changes in occupation. How are these features of Australian

Aboriginal societies in the great river-systems of the southeast related? From evidence of geomorphology, skeletal biology and other aspects of the archaeological record, a sharp disjunction between two different and relatively stable states is seen: a transforming transition rather than a gradual change.

¶170: Arnhem Land prehistory in landscape, stone and paint

¶171: Western Arnhem Land is a small area (by Australian standards) on the north coast where remarkable sequences of sediment illuminate its complex landscape history. Matching the environmental succession is an archaeological sequence with lithic sites running back into the Pleistocene. 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. By 'bridging' between these three themes, a rare and perhaps unique synthesis can be built.

¶172: Tasmania: archaeological and palaeo-ecological perspectives

¶173: Tasmania, at the south of the land-mass, experienced the Glacial Maximum as a properly cold affair. Recent archaeological work, some in country now difficult of human access, has developed an intricate story of changing adaptations. At the Pleistocene-Holocene boundary, a major reorganization of Aboriginal adaptation strategies is seen in the archaeological record, argued to follow late-Pleistocene environmental amelioration.

¶174: Environmental change in Greater Australia

¶175: Australia, a dry island continent in mid latitude, spans from tropical to cold temperate regions; long isolation has given it its own flora and fauna. Environmental changes in the late Quaternary have had their own and special courses in the continent and its several regions. The role of fires set by people is an important issue in the changing 'natural' landscape.

¶176: Themes in the prehistory of tropical Australia

¶177: The wetter tropical zones of northern Australia are linked by their monsoonal climates. Their archaeology shows its own distinctive pattern as well, and rock-art is an important source of evidence and insight. This study focusses on a part of Queensland, setting this local sequence alongside Arnhem Land (reported by the paper of Taçon & Brockwell) and in the northern pattern as a whole.

¶178: Aridity and settlement in northwest Australia

¶179: An element in the changing pattern of Australian archaeology has been the filling-in of great blanks on the archaeological map, once survey and excavation has begun to explore them. The dry lands of the great central and western deserts of Australia, a hard place for humans to this day, have in the last couple of decades come to find a large place in the transitional story.

¶180: Stone artefacts and the Transition

¶181: Stone artefacts are made central in Australian prehistory by their dominance in the material we have from the field. Their contribution to this prehistory comes in the form of an unchanging tradition that spans the transition and changes only in the mid Holocene. This makes the Australian record almost unique in the world; but it is a uniqueness that may owe more to archaeological methods than cultural conservatism.

¶182: The Transition on the coastal fringe of Greater Australia

¶183: Australia, with its wide continental shelves, is a difficult region for the study of coastal adaptations over the Transition, as so much land was drowned by the post-glacial sealevel rise. What can be discerned has a place in a larger and longer-term pattern of adaptation.

¶184: Broad spectrum diets in arid Australia

¶185: A characteristic feature of human subsistence as the last glaciation ended was the turn towards new food sources, in a 'broad spectrum' transformation. Australia took an unusual course, and the trajectory in its arid zone is especially striking. What were the broad spectrum diets in arid Australia? Why did they arise so late? Did they arise late?

¶186: The development of Sahul agriculture with Australia as bystander

¶187: The distribution of food-plants—both potential and actually exploited — reflects the natural history of contact across the seas and through the region, often long before Pleistocene times. The later and the human contribution has to be discerned from varied lines of evidence. The inventive process of early domestication leading to cultivation in the Sahulian north (New Guinea) was not a part of plant adaptation in the south (Australia). Neither did species diffusion result in adoption of agriculture or stimulation towards domestication among the Aboriginal hunter-gatherers.

¶188: Late Quaternary change in the mountains of New Guinea

¶189: At the south and north limits of our region are mountainous areas very different from the open arid spaces of the Australian continent between. In the north, the high country of New Guinea offers a complex and well-studied environmental sequence as the arena for early and puzzling human adaptations, precursor of the extraordinary societies of the island today.

¶190: Arboriculture and agriculture in coastal Papua New Guinea

¶191: A central issue in the regional prehistory over the Transition — and therefore of this whole set of papers — is the different life-ways that came to be followed in Papua New Guinea and in Australia itself; the one became agricultural, the other hunter-gatherer. There is more to the story than that divide; this is a story of a human and created world, rather than a simple response to directing environment.

¶192: Early agriculture in New Guinea and the Torres Strait divide

¶193: The high and low islands of Torres Strait, scattered between the tip of Queensland and the coast of Papua New Guinea, make a unique frontier in later world prehistory: between a continent of hunter-gatherers and the majority world of cultivators. Consideration of just what archaeology there is in the Torres Strait Islands, and of its date, improve on the conventional question: was the Strait a bridge or a barrier?

¶194: Human reactions to the Pleistocene–Holocene transition in Greater Australia: a summary

¶195: In this concluding discussion the editors explore and summarize issues in the human story of the book's Transitions.

¶196: ISSUE 4

¶197: The forced repatriation of cultural properties to Tasmania

¶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: The World Archaeological Congress in India: politicizing the past

¶200: The wider context to events at the World Archaeological Congress — 3, held in New Delhi late 1994, that were reported in the March 1995 ANTIQUITY.

¶201: The age of the Côa valley (Portugal) rock-art: validation of archaeological dating to the Palaeolithic and refutation of 'scientific' dating to historic or proto-historic times

¶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. Their Upper Palaeolithic characteristics, and therefore their likely late Pleistocene age, are consistent with their archaeological context.

¶203: The Côa petroglyphs: an obituary to the stylistic dating of Palaeolithic rock-art

¶204: The Côa petroglyphs, seen in the established framework of rock-art studies, belong in the corpus of west European parietal art of late Pleistocene age, as found in scores of caves and some open-air locations. 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: Mousterian fires from Grotte XVI (Dordogne, France)

¶206: A new study from the Dordogne decisively identifies and confirms the use of fires in a Mousterian context; and the thick ashy deposit, identified as the remains of burnt lichen, clarifies the real nature of those distinctive deposits, known from other sites of the era.

¶207: Cultural resources management at the Pueblo of Zuni, New Mexico, USA

¶208: As once-colonial countries recognize the special claim of indigenous peoples to their own history, so archaeology is becoming more a partnership between researcher and community. The next step, of indigenous people directing their own archaeology, was taken long ago by the Zuni people of New Mexico, in a programme that is an example and model for others. The authors have worked in the Zuni programmes for over 15 years.

¶209: The Epi-Palaeolithic of Öküzini cave (SW Anatolia) and its mobiliary art

¶210: Late and Epi-Palaeolithic sequences are well known from field work and publications in southeast Europe and the Levant. Current research in Anatolia promises to shed new light on the vast region that connects these two areas. At Öküzini cave a detailed sequence of Terminal Pleistocene and Early Holocene assemblages contributes greatly to our understanding.

¶211: Offshore islands and maritime explorations in Australian prehistory

¶212: The settlement of mainland Australia at an early (and uncertainly known) date required a water-crossing. What about the settlement of the islands — neither numerous nor large compared with the island continent itself — that are offshore from Australia? The evidence reviewed shows a late settlement for nearly all of them, and a perplexing lack of pattern.

¶213: On the question of silk in pre-Han Eurasia



¶214: When was silk first brought across the steppe from far China towards the European world? There is silk from the Middle Bronze Age of Uzbekistan, in Scythian burials of Siberia and among the Hallstatt grave-goods of western Europe. Teasing out the story of silk depends on identifying the textile, and distinguishing its several varieties apart.

¶215: Getting to the core of the problem: petrological results from the Irish Stone Axe Project

¶216: When a distribution map of Neolithic stone axes in Ireland was published in *ANTIQUITY* (Grogan & Cooney 1990), the new Irish Stone Axe Project (ISAP) was mentioned. Stone axes, it turns out, are unusually common in Ireland. Here Project progress is outlined, with special attention being given to those axes identified as having been moved across the Irish Sea.

¶217: Aerial reconnaissance in England, summer 1995

¶218: Britain in 1995 enjoyed a dry summer, with the longest hot spell since weather records began. The air photographers enjoyed a good year. This report from the Royal Commission on the Historical Monuments of England sketches both their own work and that of the independent fliers.

¶219: The date of Pevensey and the defence of an 'Imperium Britanniarum'

¶220: New work at the late Roman fort at Pevensey has recovered oak foundation piles. The precision of a tree-ring date for them is occasion to look again at the pattern of coastal forts of which Pevensey is a part.

¶221: Early Upper Palaeolithic in the Russian Plain: Streletskayan flaked stone artefacts and technology

¶222: The artefact assemblages from early Upper Palaeolithic sites in eastern European Russia contain flint tools of more Middle Palaeolithic type. With these artefacts are bifacially thinned triangular forms that may represent the first use of this technology in the area, and perhaps anywhere in Europe.

¶223: An 8th-century Mercian bridge over the Trent at Cromwell, Nottinghamshire, England

¶224: Heavyweight civil engineering in Romanized Europe means Roman, one thinks naturally enough. A tree-ring date now identifies a timber-framed bridge pier, previously thought Roman, as dating to the first half of the 8th century AD — Mercian, and the earliest known Saxon bridge in Britain.

¶225: Ethno-history and 'reverse chronology' at Ti'innik, a Palestinian village

¶226: Archaeological attention in Palestine, as the Holy Land, has focused on research related to the biblical story. The overlooked Ottoman period offers a special opportunity to look back from contemporary knowledge into the archaeological past, explored here in a single village settlement whose full story spans five millennia.

¶227: Chlorine-36 dating and the bluestones of Stonehenge

¶228: The bluestones of Stonehenge on Salisbury Plain continue to attract controversy. 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. Here Olwen Williams-Thorpe and colleagues, who have argued for the glacial transport theory, show that the Chlorine-36 dates have been misinterpreted.

¶1229: Additional comments on blood residue analysis in archaeology

¶1230: A complement to a paper early in this year's volume of ANTIQUITY reports experience with searching for blood-residue traces with the services of a commercial testing laboratory.

¶1231: Palaeolithic images and the Great Auk

¶1232: In this final contribution on the identification of the birds painted in the Palaeolithic Grotte Cosquer as Great Auks, it is noticed that the birds need to be seen within a Palaeolithic hunter-gatherer's view of the world, which is not the same as that of a modern natural historian or taxonomist.

¶1233: Acorn-eating and ethnographic analogies: a reply to McCorrison

¶1234: Joy McCorrison's paper in the March 1994 ANTIQUITY, on acorn-eating and agricultural origins, used California ethnographies as analogues for the ancient Near East. This reply explores some issues of analogy and explanation that go beyond the important specifics of the matter.

¶1235: Women in archaeology: perils and progress

¶1236: A tomb with a view

¶1237: Return of the living dead: mortuary analysis and the New Archaeology revisited

¶1238: The illustrated history of humankind: archaeology by (extended) sound bite

¶1239: Childe and Australia: archaeology, politics and ideas.

¶1240: East is east and west is west, and never the two shall meet? new books on South Asian archaeology

¶1241: Industrious and fairly civilized: the Glastonbury lake village.

¶1242: Europe in the first millennium BC.

¶1243: Irish prehistory: a social perspective.

¶1244: The Viking-Age gold and silver of Scotland (AD 850–1100).

¶1245: Sagas and popular antiquarianism in Icelandic archaeology.

¶1246: Tripolitania.

¶1247: The art of Roman Britain.

¶1248: Settlement and society in the Early Bronze I & II southern Levant: complementarity and contradiction in a small-scale complex society.

¶1249: Origins of the bronze age oasis civilization in central Asia.

## **Name:** Antiquity 1996 abstracts

¶1: Antiquity 1996 abstracts

¶2: ISSUE 1

¶3: Stonehenge saved?

¶4: As was noticed in the December 1995 ANTIQUITY, the present surroundings of Stonehenge — premier monument of European prehistory — are unhappy. Geoffrey Wainwright, head of archaeology at English Heritage, reports the current proposals to make a fit setting for Stonehenge, and what may happen now.

¶5: Genetics, archaeology and the wider world

¶6: Molecular biology is prompting a renewed interest in genetic histories of ancient peoples. What are the old 'ethnic units' of these modern studies?

¶7: An embarrassment of professors?

¶8: The judgements shaping archaeology and every subject in British universities (see remarks in the Editorial above) are based on certain presumptions about how research and teaching can best be done. Some of these premisses are noted.

¶9: Childeish questions

¶10: The criteria used in the British universities' current assessment of research quality prompt the question: how would Gordon Childe have fared, if assessed that way?

¶11: Portraits, the cult of relics and the affirmation of hierarchy at an early medieval monastery: San Vincenzo al Volturno

¶12: San Vincenzo al Volturno is an early medieval monastery in the high province of Molise, southeast of Rome, and site of most substantial excavations over the last 15 years. The publication of portrait wall-paintings from the crypt of its great church, San Vincenzo Maggiore, is occasion to examine the place of the individual in that religious society.

¶13: Pots, trade and the archaic Greek economy

¶14: Fine painted pottery is the archaeological trade-mark of the Greek presence overseas. Since other materials of exchange in the Classical world — soft things like grain, oil and slaves — are less archaeologically visible, a fresh look at issues in the archaic Greek economy revolves once more around patterns in the ceramics.

¶15: On archaeological value

¶16: The present system of English resource management relies on legal protected status given to a pre-designated group of monuments. When it is replaced by an adversarial debate between social values, hosted by the planning system, archaeology will need to arm itself with a definition of 'archaeological value'. The new management system would favour research rather than monumentality as the principal asset of the heritage.

¶17: Brochs and Iron Age society: a reappraisal

¶118: The brochs, great stone towers of Iron Age Scotland, are famously puzzling. Who inhabited these strongholds (if habitations they were)? New fieldwork at the broch of Dun Vulan, on South Uist in the Western Isles, prompts reappraisal of the geographical and social context of the brochs, by developing untapped sources of social evidence.

¶119: East Chisenbury: ritual and rubbish at the British Bronze Age—Iron Age transition

¶120: The repertoire of site-types for later English prehistory has not changed for a generation. Now, from East Chisenbury on Salisbury Plain, a new type is defined, a midden of refuse so large and strange it re-defines the concept of 'rubbish' and its 'disposal'.

¶121: Was there really a Neolithic in Norway?

¶122: For temperate Europe, the transition to the Neolithic is still both defined by a shift from a hunter-gatherer to a farming economy and archaeologically recognized by its characteristic artefacts of pottery and polished-stone axes. But what should be the criteria in the far north of Nordic Europe, where the definition of a Neolithic is a less straightforward issue?

¶123: Bioarchaeological and climatological evidence for the fate of Norse farmers in medieval Greenland

¶124: Greenland, far north land of the Atlantic, has often been beyond the limit of European farming settlement. One of its Norse settlements, colonized just before AD 1000, is — astonishingly — not even at the southern tip, but a way up the west coast, the 'Western Settlement'. Environmental studies show why its occupation came to an end within five centuries, leaving Greenland once more a place of Arctic-adapted hunters.

¶125: Style and function in East Polynesian fish-hooks

¶126: The concepts of style and function are theoretically defined from a neo-Darwinian perspective and the expected spatial-temporal distributions of each kind of trait outlined. Fish-hook assemblages from Aitutaki, Cook Islands, are examined using this framework and related to previously studied collections. Emerging stylistic patterns support notions of interaction between certain East Polynesian archipelagos around the 14th century AD.

¶127: Antiquities as symbolic capital in modern Greek society

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

¶129: Pattern in the Epipalaeolithic of the Levant: debate after Neeley & Barton

¶130: The ANTIQUITY paper by Neeley & Barton (1994) — hereafter 'N&B' — prompted responses published in the June number last year: Fellner (1995) and Kaufman (1995). Here are more (all shorter than the full versions received), together with a response from Barton & Neeley (B&N) that rounds off the present discussion. The debaters have seen others' contributions, so there is some cross-comment within them. The questions and the issues are old fundamentals of lithic research and analysis, which one cannot expect to end with this debate.

¶131: Square pegs into round holes: a critique of Neeley & Barton

¶132: The Levantine Epipalaeolithic, c. 20,000–10,000 BP, represents one of the most intensively studied periods in prehistoric research in the past 30 years, with literally hundreds of sites being discovered and many systematically investigated. The researchers involved come from a diverse range of backgrounds and national 'schools', and include American, Australian, British, French and Israeli scholars. Some, myself included, see its variability in chipped stone tool morphology, techniques of manufacture and specific means of hafting to reflect, in addition to functional factors, the stylistic traditions of specific groups in the landscape (Bar-Yosef 1991a; Goring-Morris 1987; 1995). This evidence is further bolstered by chrono-stratigraphy, settlement patterns, inter- and intra-site organization and patterning, as well as other material culture residues (Goring-Morris 1989a; 1989b; 1991).

¶133: Functional minimalism versus ethnicity in explaining lithic patterns in the Levantine Epipalaeolithic

¶134: The relationship between raw material availability, economizing behaviours and technological procedures undoubtedly influenced the configurations of Levantine Epipalaeolithic assemblages, as has been well recognized for over 20 years (Bar-Yosef 1970; Henry 1973). Other 'functional factors' have also been examined — environmental settings, settlement mobility and provisioning strategies. While each factor has been shown to have influenced the specific configurations of Epipalaeolithic assemblages, none (other than broad environmental settings) has been shown to account for the large-scale patterned variability that distinguishes the three major taxa, the Geometric Kebaran, Natufian, and Mushabian complexes. This is why most prehistorians working in the region hold that ethnicity, at some scale, provides the most robust explanation for the patterned variability observed and for the temporal and geographic distributions at the taxonomic level of 'complex'.

¶135: The real nature of variability of Levantine Epipalaeolithic assemblages

¶136: N&B, incorrectly attributing variability in these assemblages as representing strategies in lithic reduction, give as an example the differentiation between the Mushabian and the Geometric Kebaran complexes. Their thinking the microburin technique was used by the Geometric Kebarans but is masked by retouch on these trapeze/rectangles (sic!) suggest to me they have either never seen Geometric Kebaran and Mushabian microliths (although I understand that Neeley visited Goring-Morris' laboratory) or they cannot recognize microburin scars when they see them. In my original publication on the Mushabian (Phillips & Mintz 1977), they would see microburin scars on lamelles scalènes which were partially retouched in the Mushabian. 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.

¶137: Plus français que les Français

¶138: The reactions to the N&B essay tell more about epistemological concerns (or lack thereof) than they do about construals of pattern and of what pattern might mean in Levantine Epipalaeolithic archaeology.

¶139: Phantom cultures of the Levantine Epipalaeolithic

¶140: We thank those whose interest in the Levantine Epipalaeolithic has led them to comment on our research. Such public discussion of differing interpretations is vital to understanding the past. In this article, we briefly respond to some of the points raised by those writing in this issue (G.A. Clark, N.

Goring-Morris, D.O. Henry and J.L. Phillips) and in a previous issue (Fellner 1995; Kaufman 1995) of ANTIQUITY.

¶141: The Swahili and the Mediterranean worlds: pottery of the late Roman period from Zanzibar

¶142: Mortimer Wheeler famously tied together the worlds of ancient Rome and ancient India by finding Roman ceramics stratified into levels at Arikamedu, in south India. Late Roman pottery from far down the East African coast now permits the same kind of matching link from the Mediterranean to a distant shore, this one in the Swahili world.

¶143: A mutilated human skull from Roman St Albans, Hertfordshire, England

¶144: A skull excavated from a 2nd-century AD pit in the Roman city of St Albans shows evidence for violent injury and displays cut-marks which seem to indicate deliberate defleshing. The find appears to be without close parallel in Roman Britain.

¶145: A remote analogy?: from Central Australian tjurunga to Irish Early Bronze Age axes

¶146: Our interpretation of Bronze Age metalwork is based, for the most part, on common-sense ideas of what is functional and what is not, which items were intended to be recovered, which were gifts to other worlds. A more considered source of analogy than our limited experience is available at a certain distance. Remote in terms of measured miles, the analogy is nevertheless effective in expanding current definitions of how ritual is expressed through material culture.

¶147: Rethinking the quest for provenance

¶148: One of the larger — and more expensive — present programmes of study in archaeological science explores the provenance of prehistoric bronzes from the Mediterranean. What are the bases of research? What will the findings tell us about the real place of metal as it moved in the ancient world?

¶149: Ancient Celts and modern ethnicity

¶150: In September 1994 the European Association of Archaeologists held its inaugural meeting in 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 identity were much in evidence. Here a classic case-study in defining an ancient European entity is explored from a fresh starting-point in contemporary Australia; it was first developed in the Ljubljana session on 'Contemporary myth of the past'.

¶151: The diffusion of light by translucent media in antiquity: à propos two alabaster window-pane fragments from ed-Dur (United Arab Emirates)

¶152: From a University of Copenhagen excavation in the United Arab Emirates come two fragments of sheet alabaster, from a large private house dated to the 1st century AD. They prompt consideration of alabaster's use for windows and of provision for natural lighting in the ancient buildings of the broad region, using ethnohistoric observations, medieval literary sources and ancient epigraphic evidence.

¶153: Ritual or fluvial? A further comment on the Thames skulls

¶154: Further (and final) comment on the origin of ancient human skulls from the River Thames (ANTIQUITY 62 (1988): 503–9; 69 (1995): 162–9) is prompted by comparison with the skulls from the London Thames tributary, the Walbrook.

¶155: Irrigation, raised fields and state management: Wittfogel redux?

¶156: Apes and ancestors

¶157: Survey at any price?

¶158: Fields of view in landscape archaeology

¶159: Palestine: social transitions, diverse concerns

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

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

¶162: The archaeology of Northeast China: beyond the Great Wall.

¶163: Early metal mining and production.

¶164: Ancient Mesopotamian materials and industries, the archaeological evidence.

¶165: Honor among thieves: a zoo-archaeological study of Neandertal ecology.

¶166: Mousterian lithic technology: an ecological perspective.

¶167: Diversity and complexity in prehistoric maritime societies: a Gulf of Maine perspective.

¶168: The absolute chronology of the Aegean Early Bronze Age: archaeology, radiocarbon and history. (Monographs in Mediterranean Archaeology 1.)

¶169: ISSUE 2

¶170: Elusive Phoenicians

¶171: One hundred and thirty-two years after a first survey of their archaeology appeared, the Phoenicians remain the forgotten people of the ancient Mediterranean world. The October 1995 Cádiz conference provides occasion to review Phoenician studies then and now.

¶172: The 1996 Research Assessment Exercise in British universities: views from the judging and the judged

¶173: ANTIQUITY invited a member of the Research Assessment panel for archaeology in British universities to write about the exercise. He declined; as the matter was sub judice, he must be silent. Perhaps that phrase defines the colleague as judge, rather than as peer-reviewer.

¶174: Fortunately, Barry Cunliffe, chairman of the archaeology review panel (and of ANTIQUITY'S trustees), made public his views in his Presidential Anniversary Address to the Society of Antiquaries of April 1995 —before the current assessment got under way. We reprint it with permission. Professor Cunliffe starts with a brisk reminder—overlooked by our coverage in the March ANTIQUITY—of the real benefits of asking just what researchers do for their money in the supposedly tranquil and desirable échelons of our universities.

¶175: Medicinal and hallucinogenic plants identified in the sediments and pictographs of the Lower Pecos, Texas Archaic

¶176: 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. Study of plant remains in associated middens gives a new aspect to understanding of the images.

¶177: Thematic changes in Upper Palaeolithic art: a view from the Grotte Chauvet

¶178: Trustworthy dates on charcoal from the classic European painted caves have given a sharper view of images and their making in the later Palaeolithic. The new Grotte Chauvet has its own original themes, revealing a striking and an unexpected Aurignacian art with — again — dates from charcoal in which one can have confidence.

¶179: Of gods, glyphs and kings: divinity and rulership among the Classic Maya

¶180: The ANTIQUITY prize-winning article in the last volume addressed writing, its varying nature and role in early states. Now that the decipherment of Maya writing is well advanced, we can know more of the records of kingship. 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'.

¶181: Sheep, stockyards and field systems: Bronze Age livestock populations in the Fenlands of eastern England

¶182: When Francis Pryor excavated the settlement complex on the dry gravels at Fengate, east England, he was a full-time archaeologist. Now that he is working at the adjacent wetland site of Flag Fen, he has also become a sheep-farmer. That practical experience leads him to a new view of what created the pattern of these planned later prehistoric landscapes.

¶183: Sites from the Thames estuary wetlands, England, and their Bronze Age use

¶184: This paper presents the recent discovery of extensive and intensive middle Bronze Age exploitation of the marshland along the northeastern bank of the River Thames and its tributaries within a wider regional context. It also develops a site location model, and explores reasons for the presence of these sites.

¶185: Antlers, bone pins and flint blades: the Mesolithic cemeteries of Tévéc and Hoëdic, Brittany

¶186: The late Mesolithic sites of Tévéc and Hoëdic, located on what are now small islands off the Breton coast, provide evidence for elaborate burial practices, and may be precursors of the megalithic tradition of Brittany and western Europe in general. This paper briefly summarizes what is known of the sites and examines patterning in the distribution of grave inclusions. Differences as well as similarities between the sites are found. When examined carefully and critically, older excavation reports can yield much new information.

¶187: The politics of house shape: round vs rectilinear domestic structures in Déla compounds, northern Cameroon

¶188: Building floor plans are frequently recovered by archaeologists. A common first sorting of the shapes of small domestic buildings is between round houses and rectangular houses. What do these differences mean? Why do social groups change their building form from one to the other? An ethnoarchaeological study from northern Cameroon illustrates how four ethnic groups in a single community use building shape to blur or define group boundaries for political self-interests.

¶189: Ploughzone sampling in Denmark: isolating and interpreting site signatures from disturbed contexts

¶190: Are sites in lowland Europe destroyed when they are ploughed many times? In north Denmark, many Neolithic and Early Bronze Age sites are now reduced to just lithic scatters, but distinctive 'site signatures' persist. A lithic economic prehistory from the ploughsoil is possible and instructive.



¶191: Evidence for vines and ancient cultivation from an urban area, Lattes (Hérault), southern France

¶192: From Lattes, an ancient port on the low Languedoc coast of Mediterranean France, comes the material for an archaeobotanical study of the last centuries BC and the first AD. It illustrates the complexity of ways in which seeds are incorporated into urban deposits, where they are informative about cereals and vines in the town and in the countryside.

¶193: Nature and age of the deposits in Pedra Furada, Brazil: reply to Meltzer, Adovasio & Dillehay

¶194: The archaeological evidence of the Pedra Furada rock-shelter (northeastern Brazil), showing a long sequence of dated layers from 50,000 years b.p., was questioned in a paper presented by Meltzer, Adovasio & Dillehay, who visited the region at the end of 1993, in volume 68 of ANTIQUITY (1994). This paper presents the reply of the team directly involved in the research programme in this key area of American prehistory.

¶195: Falsehood or untruth?

¶196: In December 1993 Brazilian, European and American researchers joined forces in São Raimundo Nonato, Piauí, Brazil, to analyse the state of research on the peopling of the Americas (conference proceedings in press).

¶197: Pedra Furada in Brazil and its 'presumed' evidence: limitations and potential of the available data

¶198: Recent prehistoric and palaeoanthropological debate is focusing new interest on the peopling of the Americas — an old and difficult research-case. Proponents of new sites need to submit their putative 'new and revolutionary' discoveries to a wider judgement, mainly contra sceptics and partisans of more conservative theories. Such a review is helpful, and we are grateful to our colleagues for their considered assessment of the evidence proposed in our Brazilian research. Nevertheless their view of the Pedra Furada evidence has gaps, misunderstandings and ambiguities.

¶199: A Late Classic lime-plaster kiln from the Maya centre of Copan, Honduras

¶100: Under and behind the splendours of Maya ceremonial buildings are the craft skills of the artisans who put them up. A first find of a lime-plaster kiln, from Copan in Honduras, illuminates one of those technologies, the burning of lime in a closed oven rather than on an open-air pyre.

¶101: More from the cutting edge: further discoveries of Clactonian bifaces

¶102: An important step in our knowledge of the British Lower Palaeolithic has been the finding that its two recognized components, 'Clactonian' and 'Acheulean', are not ranged into a simple sequence; the exact relationship between the two is the subject of much debate. What does this do to interpretations of Swanscombe, classic site of the Lower Thames Valley, which has been studied in terms of stratigraphic succession?

¶103: A further case for the preservation of earthwork ridge-and-furrow

¶104: Until modern cultivation invaded even the permanent pasture-land, the ubiquitous trace of medieval farming in the lowland English landscape was ridge-and-furrow. A record in themselves, the undulating slopes are now seen to act as a device to preserve older features underneath.

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

¶106: Museums across the USA are busy carrying out their new obligations under NAGPRA, the Native American Graves Protection and Repatriation Act. There is more to the mood than some change in how human remains are curated in archaeological and anthropological collections.

¶107: Holocene humans at Pontnewydd and Cae Gronw caves

¶108: Pontnewydd, in north Wales, is known as a rare Middle Pleistocene site in northern Europe with human remains. Radiocarbon AMS dates identify human specimens, deriving from later use of the cave at Pontnewydd and its neighbour Cae Gronw, that have no part in its earlier story.

¶109: Camels in antiquity: the Hungarian connection

¶110: A newly discovered deposit of camel bones from post-medieval, Turkish Period Hungary contributes additional information on the role of camels in the Carpathian Basin. By offering an opportunity for reviewing osteological evidence from Hungary, these remains complement our recent knowledge of the history and exploitation of camels in Europe, as recently reported in ANTIQUITY for the western limit of Europe.

¶111: Eternal stones: Stonehenge completed

¶112: Bones and bodies: archaeology and law

¶113: The hunter's vision: the prehistoric rock art of Zimbabwe.

¶114: Les images rupestres du Sahara.

¶115: Managing archaeology.

¶116: Mesopotamia and the East: an archaeological and historical study of foreign relations

¶117: Prehistoric cultural ecology and evolution: insights from southern Jordan.

¶118: History and technology of olive oil in the Holy Land.

¶119: A slice through time: dendrochronology and precision dating.

¶120: Stone tools and society: working stone in Neolithic and Bronze Age Britain

¶121: The origins of complex societies in late prehistoric Iberia.

¶122: An optimal foraging model of hunter-gatherer land use in the Carson Desert.

¶123: The prehistory of the Northwest coast.

¶124: Prehistoric exchange systems in North America.

¶125: Greek sculpture: the Late Classical period.

¶126: Ancient Egyptian medicine.

¶127: ISSUE 3

¶128: The future of Avebury, again

¶129: Stonehenge is a small site (its central stone setting just 30 m across) standing in an open landscape where archaeological concerns can direct land management. Its twin hengesite in a joint World Heritage designation, a little distance away on the south English chalk, is Avebury. It is a larger

site, the great stone circle 350 m across. And the prehistory is embedded in the modern village of Avebury.

¶130: Both the state agency English Heritage and the voluntary association the National Trust own parts of each site. English Heritage is taking the management lead at Stonehenge, the National Trust at Avebury. The Trust has announced the creating of a 'virtual reality' show in the Great Barn by the village centre.

¶131: Knowledge of Avebury archaeology grows: also reported in this issue of ANTIQUITY is a new feature within the great circle first spotted on air photography: pages 639–46.

¶132: Avebury saved?

¶133: Kate Fielden, archaeologist and free-lance editor, has taken an active interest in planning at Stonehenge and Avebury since moving to Wiltshire in 1988.

¶134: Avebury: striking a balance

¶135: Christopher Gingell, archaeologist, is Property Manager for the National Trust at Avebury.

¶136: Genetics, ethics and archaeology

¶137: A further contribution on the issues raised by modern genetics, and on their relationship to the material evidence offered by archaeological remains.

¶138: Clovis and Folsom age estimates: stratigraphic context and radiocarbon calibration

¶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 abruptness 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: Upper Palaeolithic fibre technology: interlaced woven finds from Pavlov I, Czech Republic, c. 26,000 years ago

¶141: The later Palaeolithic sites of Moravia, the region of the Czech Republic west of Prague and north of Vienna, continue to provide remarkable new materials. To the art mobilier for which Dolní Věstonice and Pavlov have been celebrated, there has recently been added the technologies of groundstone and ceramics — and now woven materials, interlaced basketry or textiles, again of a kind one expects only from a quite later era.

¶142: The earliest colonization of Europe: the short chronology revisited

¶143: Long-running discussions about when Europe was first colonized have recently been fuelled by new discoveries from the Iberian peninsula, which reports hominid occupation by 800,000, or even by 1.8 million years ago. The proceedings of the important Tautavel workshop (1993), published as *The earliest occupation of Europe* (Roebroeks & van Kolfschoten (ed.) 1995), are now central. This new assessment takes forward ANTIQUITY'S notice by Roebroeks & van Kolfschoten of 1994 (68: 489–503).

¶144: Beyond the radiocarbon limit in Australian archaeology and Quaternary research

¶145: Allen (1994) and Allen & Holdaway (1995), 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!

¶146: Fontana Nuova di Ragusa (Sicily, Italy): southernmost Aurignacian site in Europe

¶147: Fontana Nuova di Ragusa, a small rock-shelter in southeast Sicily, was thoroughly excavated by Bernabò Brea in 1949. In the far south of Europe — Sicily is nearly on a latitude with Africa — it has continuing importance as marking a southern geographical limit of Aurignacian settlement, and as proof of humans crossing the strait into island Sicily.

¶148: The Chinese Northern frontier: reassessment of the Bronze Age burials from Baifu

¶149: All across the thousands of kilometres of northern central Asia — from the Baltic Sea to the Yellow Sea — burials have been key to the later prehistoric sequence. The immediate subjects of this article are three late Bronze Age burials from North China; rich and well-preserved with weaponry and horse fittings, with agate and rush matting, they tell also of the world outside China, for into one of the daggers is cast the full-face image of a Caucasian male, complete with handlebar moustache.

¶150: Sea-level change and shore-line evolution in Aegean Greece since Upper Palaeolithic time

¶151: 'As the glaciation ended, the ice melted and the sea-level rose.' Yes — but it has not been as simple as that, as the Earth has adjusted in several ways to the changing surface-loads it suffers under ice and under weight of water. The important issues are set out in a simple mathematical treatment, and their varied consequences are shown for Greece and especially for the Greek coastal plains and the Greek islands, where the impact on human settlement has been large.

¶152: Exploring the topography of mind: GIS, social space and archaeology

¶153: The later-prehistoric linear ditches that divide the chalk landscape of Wessex, south England, are markers in an area. It is a topographic space. The ditches seem to be placed with a view to their visibility in the landscape. It is a human topographic space. A GIS study of the ditches' place, in terms of what a human sees in moving across undulating ground, goes beyond that environmental determinism which underlies many GIS studies.

¶154: The late Quaternary landscape at Sehonghong in the Lesotho highlands, southern Africa

¶155: In the rough and rugged country of the Lesotho highlands, rock-paintings and archaeological deposits in the rock-shelters record hunter-gatherer life-ways; at Sehonghong, a long sequence runs from recent times to and through the Last Glacial Maximum. Survey of the region's Middle and Later Stone Age sites shows a pattern of concentrations that likely applies to other parts of the Lesotho highlands.

¶156: New features within the henge at Avebury, Wiltshire: aerial and geophysical evidence

¶157: The hot and dry summer of 1995 once again proved the value and cost-effectiveness of aerial survey. Numerous parchmarks were a product of the dry conditions throughout England, but especially in chalk grassland, and they revealed important new archaeological information. A parchmark within the great Neolithic henge at Avebury identifies a new subterranean feature, confirmed by geophysical survey, which fills in further details of the Avebury enclosure.

¶158: Intertidal Holocene footprints and their archaeological significance

¶159: The Holocene mud-flats of Formby Point, at the mouth of the Mersey estuary in northwest England, have long provided information about their palaeoenvironment. Now they yield a more direct evidence — in the form of preserved footprints — of the people and animals that frequented the foreshore.

¶160: A miniature antler bow from a Middle Bronze Age site at Isleham, (Cambridgeshire), England

¶161: A little bow — at less than half a metre long too small to be a practical tool — comes from the later prehistoric Fenland of east England. Along with the wristguards, fine arrowheads and smoothing stones of the British Bronze Age, it tells of the special meaning of archery in later prehistory — whether in the animal chase or in human combat.

¶162: Transformations of Upper Palaeolithic implements in the Dabba industry from Haua Fteah (Libya)

¶163: Different models of stone-working technology in the Upper Palaeolithic are tested by examining an assemblage from Haua Fteah, on the Libyan coast of north Africa. Evidence that some scrapers have been reworked into burins, while some burins were modified to form scrapers, show how this typically Upper Palaeolithic industry contains morphological transformations between types. This evidence is consistent with a technological continuity from the Middle Palaeolithic.

¶164: Preliminary investigations and cognitive considerations of the acoustical resonances of selected archaeological sites

¶165: Enclosed prehistoric spaces can have fine echoes. The Hypogeum, celebrated underground ossuary of Neolithic Malta, is the most resonant place to chant a rhythmic 'Oum'. Are the acoustic features of structures like the megalithic chambers of northern Europe integral to their design? An expert description of their acoustic properties is the point to start.

¶166: High-resolution satellite imagery in archaeological application: a Russian satellite photograph of the Stonehenge region

¶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. A generation after LANDSAT imagery vividly showed broad ecological zones, higher resolution pictures are now being released of a quality to allow practical archaeological application. The example printed here illustrates the Stonehenge landscape — a little patch of southern England that is among the most photographed archaeologically anywhere.

¶168: Between Sutton Hoo and Chernaya Mogila: barrows in eastern and western early medieval Europe

¶169: This complement to Van de Noort's 1993 contribution to ANTIQUITY extends the pattern in early medieval barrows seen on the British Isles and neighbouring portions of the European continent out to its central and towards its eastern zones.

¶170: The use of immunological techniques in the analysis of archaeological materials — a response to Eisele; with report of studies at Head-Smashed-In Buffalo Jump

¶171: Eisele et al. in ANTIQUITY (1995) reported discouraging results from experiments to see if blood traces reliably survive on stone tools. Here, issue is taken with aspects of that study, and new research is reported from the celebrated buffalo-jump at Head-Smashed-In, southern Alberta. The great bone-bed there, consisting almost exclusively of bison bones, gives rare opportunity to study

remains of a known single species under the genuine conditions of an archaeological site, rather than a supposing simulation.

¶172: Megalith-building, stone transport and territorial markers: evidence from Vale de Rodrigo, Évora, south Portugal

¶173: A further contribution concerning the moving of the great stones used in megalith-building in later prehistoric Europe.

¶174: A Mediterranean landscape

¶175: Ageing structures and shifting ideologies

¶176: Variations in hunter-gatherer skeletal health in prehistoric Australia

¶177: United we stand?

¶178: Antiquities trade or betrayed: legal, ethical and conservation issues.

¶179: Art and the Roman viewer: the transformation of art from the Pagan world to Christianity.

¶180: Classical archaeology of Greece: experiences of the discipline.

¶181: Cremna in Pisidia: an ancient city in peace and in war.

¶182: Prehistoric Bulgaria.

¶183: Provenience studies and Bronze Age Cyprus: production, exchange and politico-economic change.

¶184: Humans before humanity.

¶185: Astronomy and Empire in the ancient Andes: the cultural origins of Inca sky watching.

¶186: The limits of settlement growth: a theoretical outline.

¶187: Wetlands: archaeology and nature conservation

¶188: ISSUE 4

¶189: Residues on stone artefacts: state of a scientific art

¶190: It is a startling experience to look down a microscope at a stone tool — a real Palaeolithic artefact, not a modern thing or a replicated copy — and 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?

¶191: An aerial archaeology training week,

¶192: The end of the Cold War in 1989 prompted the opening of central European skies that had been closed to archaeological air photography for decades. The occasion of a summer school in 1996 provided the opportunity to record some results from Hungary.

¶193: Early human occupation of northern Australia: archaeology and thermoluminescence dating of Jinmium rock-shelter, Northern Territory

¶194: The nature and date of the human colonization of Australia remains a key issue in prehistory at the world scale, for a sufficiently early presence there indicates either *Homo sapiens sapiens* arriving precociously in a place remote from a supposed African origin, or a greater competence in sea-crossing than has been expected of archaic humans. Stratigraphic integrity, the new science of luminescent dating and the recognition of worked stone and of rock-engraving are immediate issues in this report from far northwestern Australia.

¶195: 1st Unnamed Cave: a Mississippian period cave art site in east Tennessee, USA

¶196: The well-protected walls and floors of deep caves are some of the few places where human markings on soft materials — sands, muds, clays — survive archaeologically. Since 1979, a special group of caves in the eastern United States has been reported with ‘mud-glyphs’ or prehistoric drawings etched in wet mud. Here, the seventh of these mud-glyph caves is described; once again, its iconography connects it to the ‘Southern Cult’ or ‘Southeast Ceremonial Complex’ of the Mississippian period.

¶197: Peru's colonial wine industry and its European background

¶198: Among the industrial crafts introduced into the Hispanic New World was the growing of grapes, and the making of wine at a grand scale. The technology and the artefacts of wine-making in Spain were, in their turn, largely those of the Roman world. These continuities, and their changing contexts, are evident in this study of the wine-making bodegas of a Peruvian valley.

¶199: Zemís, trees, and symbolic landscapes: three Taíno carvings from Jamaica

¶200: Three carved wooden images have come to light in Jamaica, the most important find of Taíno carvings for two centuries from that island. Their discovery prompts a reconsideration of Taíno zemís, and their placing into the known context of the Caribbean region, with its South American links.

¶201: Science, stratigraphy and the deep sequence: excavation vs regional survey and the question of gendered practice in archaeology

¶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.

¶203: 4000 years of human impact and vegetation change in the central Peruvian Andes — with events paralleling the Maya record?

¶204: A lake-sediment sequence from Marcacocha in the central Peruvian Andes provides a well-dated and continuous vegetation record from an area rich in Inca and pre-Inca remains over the last 4000 years. Climatic changes in this record at AD 1–100 and AD 900–1050 seem to be broadly contemporaneous with major arid events from Lake Chichancab, Mexico, affecting the Maya civilization and corroborated by the Quelccaya and Huascarán ice cores in Peru.

¶205: People, process and the poverty-pew: a functional analysis of mundane buildings in the Nottinghamshire framework-knitting industry

¶206: Industrial archaeology has traditionally concentrated on the recording and study of technological and engineering survivals — hence the name ‘industrial’ as, often, a near-synonym for ‘post-medieval’ in naming the archaeology of early modern capitalism. This study of three mundane

industrial buildings draws upon building and documentary evidence as aids to understanding working structures not distinguished by technological or engineering innovation.

¶1207: Development of an agroforest on a Micronesian high island: prehistoric Kosraean agriculture

¶1208: The impact of the human presence on the fauna of a Pacific island is often immediately archaeologically visible in the slaughter of its land birds seen in the bones. The impact on vegetation is less distinct archaeologically, and many of the Pacific cultigens have soft tissues which rarely preserve. So a study of prehistoric agriculture on one of the high Micronesian islands largely involves pollen and charcoal.

¶1209: Dryland agricultural expansion and intensification in Kohala, Hawai'i island

¶1210: Intensified dryland agriculture was a component of the late prehistoric Hawaiian subsistence base. Which environmental factors permitted, encouraged, restricted, blocked the spreading of intensive agriculture into new areas of fields? A GIS study of the great field system at Kohala on the leeward side of Hawai'i Island explores the controlling variables.

¶1211: Phylogeny vs reticulation in prehistory

¶1212: Two pure and opposing models exist to give historical account of the structure in modern cultural patterns. A phylogenetic account explores divergence from some shared commonality (the word 'phylogenetic' is from the Greek words for 'tribal origins'). A reticulate account concentrates on a network of interactions (the word 'reticulate' comes via French from the Latin for 'small net'). It follows that neither model may tell all the story. These continuing issues are explored with particular attention to the relations between histories as they are inferred from archaeological and from linguistic patterns.

¶1213: Funeral practices and animal sacrifices in Mongolia at the Uigur period: archaeological and ethno-historical study of a kurgan in the Egyin Gol valley (Baikal region)

¶1214: The nomadic peoples of central Eurasia are famous for their elaborate burial customs — both as those are known ethnohistorically and evident in the frozen tombs of Pazyryk. The Mongolian chambered grave reported here is of the 9th century AD. To that era the ethnohistorical record may have relevance in inferring its ceremony, alongside a considered knowledge in experimental spirit of just what must have taken place at the grave in order to create the certain pattern seen on excavation.

¶1215: Origin and development of Australian Aboriginal tropical rainforest culture: a reconsideration

¶1216: In contemporary green perceptions, rainforests are an Eden of biodiversity. But they seem also to be a famously hard environment for human subsistence, with foods scattered or high up beyond reach — which is why reports of Palaeo-Indians' flourishing in the Brazilian rainforests have caused surprise. What place do the rainforests have in Aboriginal Australian settlement, as archaeologically perceived?

¶1217: A letter from Line: the Flensburg antiquities and the Danish-Prussian/Austrian war of 1864

¶1218: It is a singular fact that the treaty ending the brief war of 1864 between Prussia/Austria and Denmark addresses the Flensburg Collection of antiquities as an issue to be resolved by the peace. 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.



¶1219: The boat models from Eridu: sailing or spinning during the 'Ubaid period?

¶1220: It has been received wisdom for nearly half a century that 6th-millennium BP models, discovered at Eridu in southern Mesopotamia, are the earliest direct evidence for sailing-boats. Yet certain features of the models, and their contexts, identify them instead as spinning bowls used by weavers.

¶1221: Canarium in the Southeast Asian and Oceanic archaeobotanical and pollen records

¶1222: Canarium is a group of rainforest trees found in southeast Asia and into the Pacific, whose nuts are edible. The nuts have quite often been found in early archaeological contexts: that evidence and the palaeobotanical record largely deriving from pollen now enables some rounded account of the early human place of the tree and its nuts.

¶1223: Why didn't Westropp's 'Mesolithic' catch on in 1872?

¶1224: A defined 'Mesolithic' era is a fixture in the cultural sequences of European prehistory — though not of other regions of the world. Why and how did the entity come to be invented, and to take just that form?

¶1225: The origin of the true chariot

¶1226: New dates and new finds give cause to look again at that central issue in later European prehistory — the origin of wheeled light vehicles of battle.

¶1227: A revised chronology for pastoralism in southernmost Africa: new evidence of sheep at c. 2000 b.p. from Blombos Cave, South Africa

¶1228: New excavation at Blombos Cave, in the southern Cape of South Africa, and new radiocarbon dates for its sequence further illuminate the chronology of pastoralism in southern Africa, and the relations between pottery-using and shepherding.

¶1229: More dating evidence for human remains in British caves

¶1230: ANTIQUITY's recent report on direct radiocarbon dates for human bone from Welsh caves had them concentrated in two distinct Postglacial periods. The larger pattern for Britain as a whole is also striking.

¶1231: In defence of lead isotope analysis

¶1232: The head of the Oxford University Research Laboratory for Archaeology and the History of Art takes issue with comment on archaeometallurgical work at Oxford made in ANTIQUITY earlier in the year.

¶1233: The plants and the people from Buiston Crannog, Ayrshire, Scotland

¶1234: In ANTIQUITY for 1993 Barber & Crone reported their excavations at Buiston, one of the crannogs of southwestern Scotland, whose archaeology was in a remarkable good state despite the draining of its watery site. This further account, in reporting on botanical materials from the site, is able to develop a better knowledge of the plants around the crannog, and of their human uses.

¶1235: Historically nuanced

¶1236: Through the looking glass: nationalism, archaeology and the politics of identity

¶1237: The ghost of Cain? Neanderthals, racism and speciesism

- ¶238: Evaluating the northwestern European Upper Palaeolithic
- ¶239: Thinking the Neolithic
- ¶240: Connoisseurship in context
- ¶241: Interactions in prehistoric eastern North America
- ¶242: Settlement and politics in three Classic Maya polities.
- ¶243: South Asian archaeology 1995: new data — subdued interpretations
- ¶244: People of the Great Ocean: aspects of human biology of the early Pacific.
- ¶245: The sounds and colors of power: the sacred metallurgical technology of ancient West Mexico.
- ¶246: Zapotec civilization: how urban society evolved in Mexico's Oaxaca Valley.
- ¶247: Chesapeake prehistory: old traditions, new directions.
- ¶248: The earliest occupation of Europe:
- ¶249: On the track of a prehistoric economy: Maglemosian subsistence in early postglacial South Scandinavia.
- ¶250: The Maglemose Culture: the reconstruction of the social organization of a Mesolithic culture in Northern Europe.
- ¶251: Prehistoric Britain from the air: a study of space, time and society.
- ¶252: The accomplished art: gold and gold-working in Britain and Ireland during the Bronze Age (c. 2300-650-BC).
- ¶253: Perceiving rock art: social and political perspectives.

## **Name:** Antiquity 1997 Abstracts

¶1: Antiquity 1997 Abstracts

¶2: ISSUE 1

¶3: Crypt archaeology after Spitalfields: dealing with our recent dead

¶4: A decade ago, the crammed burial-vaults under Christ Church, Spitalfields, a fine English Baroque church in east-central London designed by Hawksmoor, were archaeologically excavated. This pioneering work in the post-medieval archaeology of our own culture's burial practice has not been followed up. Why?

¶5: Grahame Clark's new archaeology: the Fenland Research Committee and Cambridge prehistory in the 1930s

¶6: The Fenland Research Committee, founded in 1932, guided research in the low wetlands north of Cambridge in east England. Its work marked a turning-point in the developing prehistory of Sir Grahame Clark, a change so profound it is here called a 'new archaeology'. A leading approach now as 'ecological archaeology', it is here shown to have its conception in certain goals, definitions, concepts, and assumptions — and in the field circumstances which promoted a then-new approach to prehistoric materials.

¶7: Establishing the Chinese archaeological school: Su Bingqi and contemporary Chinese archaeology

¶8: Most of what is heard in the West of Chinese archaeology is about the physical stuff — the astonishing string of major finds; some, like soldiers from the Terracotta Army of the First Emperor's tumulus, have been exhibited outside China. All archaeological material is excavated, described and explained by reference to some frame of ideas. This essay on the thinking of a leading Chinese archaeologist of our day, Su Bingqi, is accompanied by an article of his in translation.

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

¶10: This article, first published in *Zhongguo jianshe* [China Reconstructs 1987(9)], became particularly well known when it was selected for the 'Language and literature paper' in the 1988 national university entrance examinations. This English version is translated and footnoted by Wang Tao.

¶11: Beazley as theorist

¶12: Sir John Beazley (1885-1970), founder of the modern and archaeological study of Classical vases, was a master of method. Is the Beazley method just that, a well-judged method fitting to the material under study? Or does that considered method in truth amount to a considered theory, held and used by a consciously most untheoretical archaeologist?

¶13: Cultural stratigraphy at Mezhirich, an Upper Palaeolithic site in Ukraine with multiple occupations

¶14: The later Palaeolithic sites on the East European plain are celebrated for their solid buildings constructed of mammoth bones. Were these permanent settlements, occupied all the year round? Or were they seasonally occupied, in a land where winters are harsh? Stratigraphic explorations at

Mezhirich, and excavation of the empty space between the buildings, leads to a decisive interpretation.

¶15: The Mildenhall Treasure: Roald Dahl's ultimate tale of the unexpected?

¶16: Just over 50 years ago, the most magnificent treasure of late Antique silver ever found in Britain was brought out of hiding in a sleepy village in rural Suffolk. The late Roald Dahl, the children's writer, may have held the answer.

¶17: Mildenhall: memories of mystery and misgivings

¶18: Half a century on, the principals in the Mildenhall affair are deceased. Paul Ashbee, senior prehistorian of East Anglia, has no direct evidence, but material recollections from near to the time. His account, drawing on those memories, notices aspects different to those which are stressed by Richard Hobbs (above), a researcher of a younger generation looking at the written record.

¶19: Refuse and the formation of middens

¶20: The prodigious quantities of refuse recovered from excavations at Runnymede Bridge, Berkshire, England — and at other late prehistoric British sites — highlight those archaeological entities we call 'rubbish' and 'middens'. What is a 'midden'? General thoughts on an archaeology of refuse are applied to the specific case of these 1st-millennium BC sites in southern England in an attempt to comprehend their origin and scale in terms of the period's social geography.

¶21: The Neolithic great goddess: a study in modern tradition

¶22: Modern belief in the veneration of a single Great Goddess in the European Neolithic is often accompanied by the notion that those cultures of 'Old Europe' were woman-centred in society as well as religion. What is the long history which precedes these contemporary notions? What is the complex history of their political development? A chain runs from Classical times to Marija Gimbutas (Meskell 1995) and our own day.

¶23: The absolute age of the Côa valley rock-engravings: two physical-science studies

¶24: In December 1995, ANTIQUITY published contrary reports on the age of the animal and other figures engraved on open-air schist surfaces of the Côa valley in northern Portugal. João Zilhão (1995) contended that the figures, Palaeolithic in their look, are indeed of Palaeolithic age: they belong with the other Iberian sites where Palaeolithic petroglyphs survive on open-air surfaces. Robert Bednarik (1995), using his own and others' physical-science studies, contended they were certainly under 3000 years old: the Palaeolithic presumption — and stylistic dating as a method — is false. We here print together two studies concerning the age of the Côa Valley rock-surfaces, and of the figures they bear.

¶25: Maximum ages of the Côa valley (Portugal) engravings measured with Chlorine-36

¶26: Panel faces in the Côa valley, Portugal, were available for engraving during the Upper Palaeolithic, according to <sup>36</sup>Cl exposure ages of 16,000 to 136,000 years.

¶27: Constraining the age of the Côa valley (Portugal) engravings with radiocarbon dating

¶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 engravings are or are not of Palaeolithic age.

¶129: Prehistory Down Under: archaeological investigations of submerged Aboriginal sites at Lake Jasper, Western Australia

¶130: Much of Australian prehistory lies under water. Although confined to the continent's extreme southwestern corner, field studies described in this report show that this submerged prehistoric component is very real, with numerous archaeological sites and former land surfaces awaiting investigation on the floors of Australia's lakes, rivers and estuaries, and on its submerged continental margins.

¶131: An approach to the study of ancient archery using mathematical modelling

¶132: 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.

¶133: The terminology of agricultural origins and food production systems—a horticultural perspective

¶134: We live, most of us, in agricultural societies; our food comes from the farm. We make gardens, many of us, and we eat some of the plants that we grow there. That farming is not the same as gardening we see in the responses of western observers when they made contact with societies whose food came more from the garden than the farm. A gardener's view of food makes its own story.

¶135: Working at relationships: another look at animal domestication

¶136: 'Animals were wild, and then some of them were tamed and so became domestic.' The archaeological definition of 'domestic' is a fundamental, alongside the means by which the domestic is to be recognized in the archaeological record. Setting that relationship with human beings which we call 'domestication' alongside other relations between species clarifies the issues.

¶137: Geophysical surveys of stratigraphically complex Island California sites: new implications for household archaeology

¶138: Ground-penetrating radar and other geophysical techniques are known to produce useful data when deposits are crisply structured, as in the case of sub-surface masonry walls or large ditches. New studies of Californian coastal sites find the methods are effective in tracing the less sharp distinctions that define clay and sand house floors within these large and dense hunter-gatherer middens.

¶139: 'Leaving more than footprints': modern votive offerings at Chaco Canyon prehistoric site

¶140: A 'heritage manager' who wishes a quiet and an orderly life may hope their heritage place is culturally dead; whatever meaning it once had, now it is an archaeological site, an ancient monument, a tourist attraction. But many sites are not dead. Chaco Canyon, the celebrated complex in the desert of the US Southwest, is of continuing value to Native Americans of its region; and the place has become a focus for New Age ceremony — itself in part inspired by Native American knowledge.

¶141: Derivation of ancient Egyptian faience core and glaze materials

¶142: An essential ingredient of the lovely blues in ancient Egyptian materials — faience, glazes, frits — is copper. How did the knowledge of that copper use arise? There is a telling congruence with Egyptian techniques in drilling stone artefacts, and the characteristics of the powder drilled out as waste.

¶143: New optical and radiocarbon dates from Ngarrabullgan Cave, a Pleistocene archaeological site in Australia: implications for the comparability of time clocks and for the human colonization of Australia

¶144: The human settlement of Australia falls into that period where dating is hard because it is near or beyond the reliable limit of radiocarbon study; instead a range of luminescence methods are being turned to (such as thermoluminescence at Jinmium: December 1996 ANTIQUITY). Ngarrabullgan Cave, a rock-shelter in Queensland, 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.

¶145: Floating obsidian and its implications for the interpretation of Pacific prehistory

¶146: A piece of pumice among drift material on Nadikdik Atoll, Marshall Islands, in far Micronesia had a large chunk of flakeable obsidian attached. As the atoll had been devastated by a typhoon and associated storm surge in 1905, the piece must have arrived by sea within the last 90 years. This and similar incidences of raw materials distributed by ocean drift show how sea-borne dispersal cannot be excluded offhand in the occurrence of obsidian in far-flung places, commonly attributed to human transport.

¶147: Sembiran and the first Indian contacts with Bali: an update

¶148: Further fieldwork at Sembiran, on Bali in the Indonesian archipelago, tells more about the eastern end of the exchange network running across southern Asia about 2000 years ago.

¶149: Celtic myths

¶150: In ANTIQUITY a year ago, 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. Here the other view is stated: that the methodology and interpretations advocated by the Megaws are both false and dangerous.

¶151: The earliest farmers in Macedonia

¶152: Survey in southwest Macedonia provides a new field record of the pattern of Neolithic settlement. It prompts a further opinion in the enduring debate about the nature of the diffusion of agriculture, discussed most recently in ANTIQUITY by van Andel & Runnels (1995).

¶153: Deleta est Carthago?

¶154: Towards a world historical archaeology

¶155: 'American beginnings' and the archaeological record of Beringia: a comment on variability

¶156: Armand Lacaille: 50 years on from The Stone Age in Scotland

¶157: New Deal a good deal for US archaeology

¶158: Diversity and change in the Merovingian world

¶159: The origins and ancient history of wine.

¶160: The Hoko river archaeological site complex: the wet/dry (45CA213), 3000-1700 BP.

¶161: Andean Art: visual expression and its relation to Andean beliefs and values.

¶162: Islands in time: island sociogeography and Mediterranean prehistory.

¶163: Sassanian armies: the Iranian empire, early 3rd to mid 7th centuries AD.

¶164: The concept of the goddess.

¶165: The Indo-Aryans of ancient South Asia: language, material culture and ethnicity

¶166: Ancestral passions: the Leakey family and the quest for humankind's beginnings.

¶167: ISSUE 2

¶168: Dorothy Garrod in words and pictures

¶169: Since her death almost 30 years ago, researchers interested in the life and work of one of the greatest prehistorians of her generation have searched, largely in vain, for material additional to Dorothy Garrod's published work. It seems they need search no longer.

¶170: Climatic cycles and behavioural revolutions: the emergence of modern humans and the beginning of farming

¶171: Publication of a new volume on the beginnings of Old World farming (Harris 1996) has provided a compendium of current views on this critical inflection-point in human inhabitation of the world. Was it driven by climatic change, as Gordon Childe suggested? And what of the earlier emergence of modern human behaviour: were these two chapters in the same story?

¶172: Monuments of war: defining England's 20th-century defence heritage

¶173: The editor of ANTIQUITY remembers travelling, as a child, on the main A1 highway to see relatives in southeast England, watching the banks of sharp-nosed Bloodhound missiles ranged close by the road – pointing east, to meet incoming Soviet bombers. The obsolete monuments of the Cold War, and before that of the Second World War, are history now, famously the Berlin Wall (Baker 1993 in ANTIQUITY). Many, like the concrete runways of the airfields, are so solidly built they are not lightly removed. These remains of England's 20th-century defence heritage are not well understood. However, and contrary to popular belief, they do have a large documentation; and it is this, the authors argue, that should form the basis for systematic review.

¶174: Pleistocene seed-grinding implements from the Australian arid zone

¶175: Grinding-stones as a technology are seen as a key element in the artefactual transformations of the latest Pleistocene – both for themselves and the foods which were ground on them. In Australia, as in other regions, their age and status is also material to what (if any) kind of a broad-spectrum revolution in foraging accompanied them.

¶176: 'Hair-rings' and European Late Bronze Age society

¶177: 'Hair-rings', like other artefact categories of the European Bronze Age, are distinctive in form, and distinctively placed in space and in time. But we have not easily come to know just what they were for, or in what other ways we can discern meaning in and from them. Although modest in

appearance, it does appear that 'hair rings' were significant objects that possibly indicate social ranking but also trading activities.

¶178: News from Cosquer Cave: climatic studies, recording, sampling, dates

¶179: Further work inside the Grotte Cosquer, the Palaeolithic painted cave near Marseilles only accessible by a deep-water dive, improves our knowledge and makes it clear there can be no artificial entrance made to create a dry-land access.

¶180: The Berekhat Ram figurine: a late Acheulian carving from the Middle East

¶181: The human capacity for recognizing categorical forms and their defining characteristics extends to a recognition of natural forms and shapes that may suggest these categories. The issue is raised below by the analysis of an archaic figure from the Levant in which a natural form was apparently intentionally modified to produce an enhanced human image.

¶182: Maeshowe and the winter solstice: ceremonial aspects of the Orkney Grooved Ware culture

¶183: A generation ago, enquiries into the astronomical and mathematical knowledge of the standing stone-erectors of prehistoric Britain dealt largely with statistical patterns. Since then, the great passage grave at Newgrange, eastern Ireland, has proved to be engineered to address the midwinter sunrise. It is time once more to look at another great chamber tomb, Maeshowe in northernmost Scotland, with these concerns in mind.

¶184: The genesis of urnfields: economic crisis or ideological change?

¶185: The genesis of urnfield cemeteries and of Late Bronze Age culture change is often related to an economic and environmental crisis. In the Lower Rhine Basin, changes in burial rites, settlement structure and hoarding practices show a transformation of ideology, consistent with the dissolution of a society into smaller, more autonomous social units.

¶186: Emergence of sedentism: new ways of living, new ways of symbolizing

¶187: What is the role of women in processes leading towards a more sedentary way of life? Pottery plays an important role as a functional factor and in symbolic expressions. With sedentism hearth-centred activities organized around females grew, and the position of the woman as the nurturer. Some of this symbolism, expressed on a multitude of ritual occasions, may be retrievable archaeologically.

¶188: A history in paint and stone from Rose Cottage Cave, South Africa

¶189: In South Africa, as in so many regions, the world of dirt archaeology in shelter floors and of rock art on shelter walls, have also been rather separate as domains of study. In research at Rose Cottage Cave, bridges are being made to link both strands of evidence of the forager social strategies from which both derive.

¶190: Recent developments in radiocarbon and stylistic methods of dating rock-art

¶191: The 1950s, era of the first radiocarbon revolution, saw famous clashes between confidence in the old chronologies and the new results from radiocarbon, which sometimes appeared 'archaeologically unacceptable'. 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.



¶192: AMS dating of the Manx Ronaldsway Neolithic

¶193: The Ronaldsway Culture of the Isle of Man was recognized as a classic later Neolithic assemblage over 50 years ago; its dating and duration have been matters of debate. AMS radiocarbon determinations from carbonaceous deposits on Ronaldsway-style pots resolve chronological questions, while new research provides a more secure social context.

¶194: A lepidopterous cocoon from Thera and evidence for silk in the Aegean Bronze Age

¶195: What were the fine garments vividly painted in the Minoan frescoes made of? Fine cotton (cotton from Egypt is still prized today)? Or the yet finer fabric of silk? And if silk, where did the stuff, or knowledge of cultivating the silk-worms, come from? A cocoon from Santorini offers new evidence.

¶196: On human blood, rock art and calcium oxalate: further studies on organic carbon content and radiocarbon age of materials relating to Australian rock art

¶197: 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.

¶198: A Cornish vessel from farthest Kent

¶199: Trevisker pottery is a common Bronze Age type in Cornwall and the southwest of England. It is often well-made and with a distinct petrology. It was, however, traded in prehistory with some petrologically similar vessels being found in Brittany and northern France. Recently, a Cornish-style vessel made from Cornish clays has been located in eastern Kent, almost 500 km from its source.

¶100: The beginnings of manuring in western Europe

¶101: The history of field manuring is poorly known. Domestic waste may have been used for this purpose from the Early Neolithic onwards. It is possible that the practice of collecting animal dung began with the introduction of the ard.

¶102: Accelerator radiocarbon dating of Natal Drakensberg paintings: results and implications

¶103: As Rosenfeld & Smith report in this number of ANTIQUITY, the reconciliation of conventional chronologies for rock-art with the emergent radiocarbon-based dates is not proving an easy affair. Here are the first steps for the classic area of San hunter-gatherer art, on the South Africa/Lesotho border.

¶104: An archaeological sequence of hunter-gatherers in the Tandilia range: Cueva Tixi, Buenos Aires, Argentina

¶105: A rock-shelter near the north Argentinian coast offers an archaeological sequence of hunter-gatherer occupation running intermittently from Palaeo-Indian times to the era of European contact.

¶106: The discovery of Abbot Talaricus' (817–3 October 823) tomb at San Vincenzo al Volturno

¶107: An abbot's tomb is a major find at San Vincenzo al Volturno, advancing our knowledge of a great Italian abbey-church of the 9th century described in ANTIQUITY 70 (1996).

¶108: More underwater finds of Roman medical equipment

¶109: The intricacy and variety of classical 'small finds' again combine with the dangers — so archaeologically helpful and satisfying — of Roman sea-faring to point directly to how Roman surgeons carried out their skills.

¶110: Sotheby's, sleaze and subterfuge: inside the antiquities trade

¶111: Neanderthal archaeology

¶112: Modern hominids' unfolding sociality

¶113: The science of foragers: evaluating variability among hunter-gatherers

¶114: Bugs and bottlenecks: approaches to the transition to farming

¶115: Sedentarizing nomads and desert polities

¶116: The gods in their Greek places

¶117: A plurality of pasts

¶118: Prehistoric Japan: new perspectives on insular East Asia.

¶119: The emergence of pottery: technology and innovation in ancient societies.

¶120: Archaeological chemistry.

¶121: Archaeological sediments and soils: analysis, interpretation and management.

¶122: The archaeology of Greek colonisation: essays dedicated to Sir John Boardman.

¶123: The Southwest in the American imagination: the writings of Sylvester Baxter, 1881-1889.

¶124: ISSUE 3

¶125: Ireland's Discovery Programme: progress and prospect

¶126: Much archaeology is publicly funded, but rarely as a venture that is the personal initiative of a head of government. In this invited contribution, John Waddell (National University of Ireland, Galway) reports on the vigorous initiative of the Irish Discovery Programme since its 1991 launch. (And ANTIQUITY's editor notes the speedy rhythm of publication, in which John Waddell has had a role!)

¶127: Archaeology and archaeometry: from casual dating to a meaningful relationship?

¶128: Most archaeology and anthropology departments are grouped as Humanities or as Social Sciences in university organizations. Where does that place the archaeometrists who approach the materials with the methods of physical and biological sciences? And where does it place the archaeologists themselves — especially when archaeometric studies have a large place in contract archaeology?

¶129: Contradictions in Lapita pottery, a composite clone

¶130: Like the cultures of Neolithic Europe — 'Glockenbecherkultur', 'Trichterbecherkultur', 'Linienbandkeramik' — the 'Lapita culture' of the western Pacific is defined by its distinctive ceramics. What that 'ceramic culture' amounts to in human terms has been a key question in the region's archaeology — complete with a quest for a Lapita homeland. This fresh review focuses on the pottery, the defining stuff itself of the affair.

¶131: The chronology of Lapita ware in New Caledonia

¶132: The Lapita ceramics that define the 'Lapita' cultural complex of the southwestern Pacific are named for the type-site of Lapita, on the south Melanesian island of Nouvelle-Calédonie (New Caledonia). The island archipelago's early sites are central to shaping what Lapita is, and — if Lapita is not alone — to how it meshes with the other precocious ceramics made by voyagers of the western Pacific. Varied radiocarbon determinations need to be collated, and some stratigraphic complications resolved.

¶133: Lapita and the temporal geography of prehistory

¶134: Ambrose (this issue, above) and Sand (this issue, above) reported on Lapita in the specific, without being parochial in their concerns. This paper looks at the largest Lapita picture, but is itself in turn based on new reports in the specific, here from the coast of Papua New Guinea which is key for the relations in space, in time and in cultural affinity of whatever human it is that Lapita is.

¶135: Monte Verde and the antiquity of humankind in the Americas

¶136: The Smithsonian Institution Press (with a patience one no longer expects of a scholarly publisher) early this year issued the second volume of Tom Dillehay's monograph on Monte Verde, in far southern Chile — 8 years after the first volume (Dillehay 1989; 1997). What is the standing of the site? Is it the long-sought-after proof of a 'pre-Clovis' human presence in the Americas? And if it is, why is it by the southern tip of the Western Hemisphere, rather than close to its northern portal from Siberia?

¶137: Bronze Age myths? Volcanic activity and human response in the Mediterranean and North Atlantic regions

¶138: A first rule of statistics is that the existence of a correlation does not itself prove a causal connection. This is the heart of the recurrent question in later European prehistory — whether in the Mediterranean or in the Atlantic northwest — about volcanic eruptions, their impact on climate, and then of the climatic impact on human populations. The burial under tephra of the Late Bronze Age settlement of Santorini is proof of a particular catastrophe: but is there the evidence to prove wider European calamity?

¶139: The North-Central cultural dichotomy on the Northwest Coast of North America: its evolution as suggested by wet-site basketry and wooden fish-hooks

¶140: Where there are wet sites and organic artefacts are preserved, one can study artefacts of perishable materials which may by their nature offer more information than do lithic assemblages. On the US/Canadian Northwest Coast, with its series of celebrated wet sites, basketry and wooden fish-hooks survive so often that a decisive issue in the region's regional pattern can be explored this way — with archaeo-experimental help from unlucky inhabitants of the local aquarium!

¶141: Fish trade in Norse Orkney and Caithness: a zooarchaeological approach

¶142: The trade of dried fish played an important role in the transformation from the Viking Age to the Middle Ages in Scandinavian polities such as Arctic Norway. This paper develops zooarchaeological methods to investigate whether similar processes occurred in the less well documented Norse colonies of northern Scotland — the joint earldoms of Orkney and Caithness.

¶143: Healthy but mortal: human biology and the first farmers of western Europe

¶144: What do we know about the effects of the transition to agriculture on human biology? A literature has grown up that gives us the impression that we know a great deal about what happened to bones and teeth when people became sedentary farmers. A review of the sources of these ideas and the evidence supporting them, especially based on work in Portugal, reveals that a reconsideration of the biological consequences of farming in Europe is overdue.

¶145: International tooth removal in Neolithic Italian women

¶146: As many an excavator — and many an older person — knows, it is in the nature of human teeth to fall out, before death if they can, after and into the ground if they may not. So any consideration of tooth loss as we see it in prehistoric remains — if it is to be the cultural evidence for the deliberate removal of teeth — needs properly to identify a sufficiently distinctive pattern.

¶147: Human skeletal remains from Tomb 1, Sipán (Lambayeque river valley, Peru); and their social implications

¶148: The Moche tombs at Sipán, on the north Peruvian coast, are a major addition to our knowledge of high-status élite burial rituals. Its Tomb 1 contains the remains of nine individuals — three adult males, one adult female, three adolescent females and one child — besides the principal burial. Who are these people, as their biological remains instruct us?

¶149: Late Pleistocene/early Holocene tropical forest occupations at San Isidro and Peña Roja, Colombia

¶150: Evidence of early occupations by hunter-gatherers in diverse tropical forests is increasing the world over (e.g. Gorman 1971; Pavlides & Gosden 1994), even in America (Roosevelt et al. 1996). This paper reports them in northern South America. Several lines of evidence suggest that many kinds of forests, some or all without modern analogues, existed in the American tropics during glacial times and remained there, with changing composition, until the present. According to evidence presented here, human beings adapted to those forests in northern South America since, at least, the end of the Pleistocene.

¶151: 'Always momentary, fluid and flexible': towards a reflexive excavation methodology

¶152: Çatalhöyük, on the Konya Plain in south central Anatolia, in the 1960s became the most celebrated Neolithic site of western Asia: huge (21 hectares), with early dates, tightpacked rooms with roof access, exuberant mural paintings, cattle heads fixed to walls, dead buried beneath floors in collective graves.

¶153: This site, as difficult to excavate as it is strange, is the object of a pioneering application of the 'post-processual' approach, hitherto largely a matter of re-working and criticism outside the trench. The Çatalhöyük project director explains his approach, in which the conclusions as well as the work in early progress will be 'always momentary, fluid and flexible'.

¶154: The site of Saar: Dilmun reconsidered

¶155: Recent excavations at the site of Saar, Bahrain, further advance our knowledge of Dilmun, that magical place on the Gulf which was a cross-roads of southwest Asian land and northwest Indian Ocean. Saar is a proto-urban agglomeration with the characteristics of a planned settlement — planned it appears from some other and controlling place.

¶156: Charlemagne's black stones: the re-use of Roman columns in early medieval Europe

¶157: What were the 'black stones' about which Charlemagne wrote to King Offa of Mercia just before AD 800? How do these special blocks fit into the broader pattern in re-using Roman columns in early medieval buildings?

¶158: Rock-art image in Fern Cave, Lava Beds National Monument, California: not the AD 1054 (Crab Nebula) supernova

¶159: The visual manifestation of the recent Hale-Bopp comet reminds us how telling are those rare objects which suddenly flare in the sky. 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. An absolute dating contradicts that supposition in respect of a presumed image of the visible supernova of AD 1054.

¶160: Spinning or sailing?: the boat models from Eridu

¶161: More on whether the prehistoric pottery vessels from Eridu, in Mesopotamia, are models of precocious boats, or as was argued in a recent *ANTIQUITY*, spinning bowls.

¶162: The Mildenhall Treasure: a first-hand account

¶163: Introducing our articles by Richard Hobbs and Paul Ashbee (*ANTIQUITY* 71: 63–76) on the Mildenhall Treasure, the mass of Roman silverware which came to light in east England in 1946, I remarked that the principals are deceased. One principal did leave a first-hand account which has not been known before — Tom Lethbridge, Hon. Keeper of Anglo-Saxon antiquities in the Museum of Archaeology and Anthropology, University of Cambridge. This extract from his unpublished autobiography is printed with the kind permission of Mrs Tom Lethbridge.

¶164: The Great Globe Itself: Sam Wanamaker's 'Shakespeare's Globe'

¶165: Changing paradigms in museum archaeology

¶166: Mare Nostrum — a new archaeology in the Indian Ocean?

¶167: Environmental archaeology comes of age

¶168: Stability or change? Global perspectives from the end of the Ice Age

¶169: Peopling the landscape

¶170: Body of knowledge/Knowledge of body

¶171: Bayesian approach to interpreting archaeological data.

¶172: Archaeology in low.

¶173: Man and sea in the Mesolithic: coastal settlement above and below present sea level.

¶174: Stonehenge: Neolithic man and the cosmos.

¶175: An ethnography of the Neolithic: early prehistoric societies in southern Scandinavia.

¶176: Riddles in stone: myths, archaeology and the ancient Britons.

¶177: Borderland farming: possibilities and limitations of farming in the Roman period and Early Middle Ages between the Rhine and Meuse.

¶178: From the Sword to the plough: three studies on the earliest romanisation of northern Gaul.

¶179: Hjortspring: warfare and sacrifice in early Europe.

¶180: Shanga: the archaeology of a Muslim trading community on the coast of East Africa.

¶181: State formation in Egypt: chronology and society.

¶182: Snakes and crocodiles: power and symbolism in ancient Zimbabwe.

¶183: Mesopotamia: the material foundations.

¶184: The Bronze Age of southeast Asia.

¶185: Rock art of the Dreamtime.

¶186: The Paleo-Eskimo cultures of Greenland: new perspectives in Greenlandic archaeology.

¶187: ISSUE 4

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

¶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?

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

¶191: Amongst the most striking and the most handsome of ancient Australian relics are the Bradshaw paintings of the Kimberley, in the remote northwest of the continent, uncertainly dated but seemingly most ancient. According to one published view, 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.

¶192: Agency, art and altered consciousness: a motif in French (Quercy) Upper Palaeolithic parietal art

¶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.

¶194: The Fenland Project: from survey to management and beyond

¶195: The English Fenland, a million acres of drained wetlands in eastern England, is on the doorstep of Antiquity's present office. But no local excuse is needed to report once more on work in a classic region; from large-scale survey the focus has moved to assessment of what survives, and now to managing for its better future that discouragingly small proportion of its old archaeological wealth which is still with us.

¶196: Widening diet breadth, declining foraging efficiency, and prehistoric harvest pressure: ichthyofaunal evidence from the Emeryville Shellmound, California

¶197: The Emeryville Shellmound is a famous but now destroyed midden once located on the east shore of San Francisco Bay. Analyses of the fish remains from the stratified late Holocene deposits indicate that prehistoric peoples had substantial impacts on the sturgeon populations of the Bay.

This calls into question the commonly held belief that native peoples lived in harmony with nature and has important implications for the management of modern vertebrate populations.

¶198: Towards an absolute chronology for the Iron Age of Inner Asia

¶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. For Inner Asia — centre of the Old World — there is belatedly now the means to resolve some fundamentals.

¶200: Age and gender at the site of Tiszapolgár-Basatanya, Hungary

¶201: Two fundamentals for the place of the individual in society are age and gender; well-studied cemeteries can provide an good archaeological base for their study. This examination of the Copper Age site of Tiszapolgár-Basatanya, Hungary, explores the relationship between age and gender though the course of prehistoric lives and how it might be possible to distinguish sex from gender in archaeological contexts.

¶202: Spearthrower performance: ethnographic and experimental research

¶203: Even after decades of spearthrower studies, researchers have relatively little reliable data on spearthrower performance, and yet prehistoric lifeways are often reconstructed through consideration of the capabilities of such weapon systems. Experimental study and considered dependence on ethnographic knowledge clarify the realities of the spearthrower in use.

¶204: Images in opposition: polarity, ambivalence and liminality in cult representation

¶205: The concept of ‘Celtic’ is fittingly ambiguous, ambivalent and disputed in its archaeological definition: ‘fittingly’ because later prehistoric and Roman iconography in temperate Europe is ambiguous and ambivalent. And ambiguous and ambivalent things are hard to understand unambiguously!

¶206: The earlier Palaeolithic occupation of the Chilterns (southern England): re-assessing the sites of Worthington G. Smith

¶207: Boxgrove in Sussex has been in the headlines for its human bone (‘the first Englishman’); more to the research point is its superb in-place deposits of debris from handaxe-knapping. This is a timely moment to look once again at the reports of Worthington G. Smith, who a century ago recognized, amongst the scores of sites with river-rolled handaxes, rare deposits of a more informative character.

¶208: Exploitation of wild plants by the early Neolithic hunter–gatherers of the Western Desert, Egypt: Nabta Playa as a case-study

¶209: The role of plants in the subsistence economy of pre-agricultural societies of the eastern Sahara is poorly known because vegetal remains, except for wood charcoal, are seldom found in archaeological sites. Site E-75-6 at Nabta Playa, with rich assemblages of charred seeds and fruits, is exceptional. Around 8000 b.p. the inhabitants of this site collected a wide spectrum of wild food plants. Wild sorghum was of special interest and its occasional cultivation cannot be excluded.

¶210: Cupule engravings from Jinmium–Granilpi (northern Australia) and beyond: exploration of a widespread and enigmatic class of rock markings

¶211: Antiquity last year reported a startlingly old series of dates from Jinmium in tropical north Australia. At Jinmium are old rock-engravings, the pecked cups or cupules that are widespread in Australia. This study of the Jinmium cupules goes beyond that immediate topic to broader issues.

¶212: The population of ancient Rome

¶213: What was the population of imperial Rome? City blocks in Pompeii and Ostia are sufficiently well explored that a fair estimate of population density can now be arrived at. That populates the city of ancient Rome with roughly 450,000 inhabitants, within the known population and density range of pre-industrial and modern urban centres.

¶214: Fuel for thought? Beeswax in lamps and conical cups from Late Minoan Crete

¶215: What was burned in lamps in the prehistoric Mediterranean? Olive oil, as one would first suppose? Analysis of absorbed lipids preserved in the fabric of lamps and conical cups from the Minoan site of Mochlos in eastern Crete shows for the first time that beeswax was used as an illuminant.

¶216: New dates for the north China Mesolithic

¶217: The Mesolithic — as the ‘time in between’ — raises issues of definition, the more so as chronology is refined and the abruptness of environmental change at the end of the glaciation becomes clearer. This clarification of an unusual regional sequence is an instance.

¶218: The wheeled cauldrons and the wine

¶219: Grapes appear rather early in temperate Europe: even in the cool north of Sweden, their pips occur in the Neolithic. With grapes go wine, and with wine go the artefacts of wine, amongst them the cauldron on wheels — a grand and an odd artefact type of Bronze Age Europe.

¶220: New directions in central Mediterranean obsidian studies

¶221: Mediterranean obsidian-provenance studies are changing in direction and focus of modern research, 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.

¶222: A horn worth blowing? A stray find of aurochs from Hungary

¶223: Three aurochs horn cores, unearthed during the construction of the city baths in Vác (Hungary), were purchased from a private collector in 1951. One of these stray finds deserves attention in light of new archaeozoological research, and the relation between mundane horn manufacturing and high-status medieval craft industries.

¶224: Experiments to produce Roman styli by forging and machining

¶225: As has often been the case before, the actual manufacture of a distinctive class of ancient artefact offers valuable insight about the realities of an ancient craft knowledge.

¶226: Misleading images: Stonehenge and Brittany

¶227: Does a unique eroded prehistoric carving on one of the sarsen uprights at Stonehenge link the most famous of English megalithic monuments to Brittany?

¶228: Beyond the surface: comments on Hodder's ‘reflexive excavation methodology’



¶1229: Comment is offered on the 'post-processual' approach to excavation in the field advocated in the September Antiquity.

¶1230: Electronic archaeology

¶1231: For centuries, the right place to look, when in search of the best archaeological knowledge, has been in some kind of printed book. There will once have been a manuscript, and if the book never materialized, a manuscript may substitute, but what usually matters is the better truth that has the authority of print.

¶1232: In a now-standard joke, a wizard of a yet-newer information display system is described: hugely flexible in size and in format and in what it can present, made of cheap and common materials, wholly recyclable, and — best of all — requiring no screen or display device of any kind whatsoever. At some point you realize the miracle being described is a book. But the book is for many purposes deservedly obsolescent, and archaeological research is in truth already in the age beyond the printed book. Specialist illustrated publications have high fixed costs in the print, and low circulations mean there are too few copies to spread the costs over. When the first new technology of cheap reprographics came in a generation ago, the 'grey literature' of field reports began to grow, soon reaching a point at which no library and no individual could be relied on to possess the 'collected literature' on any topic of large range. Now an increasing amount of archaeological knowledge is only or better made accessible electronically.

¶1233: Archaeology on the World Wide Web: a user's field-guide

¶1234: Using the World Wide Web is not unlike visiting an unfamiliar place to look at the archaeology. You want to know if there is anything interesting to see, so you start in the library, looking for information; you read books and articles from journals; perhaps you contact colleagues who can tell you about the place; you want to know how to find the sites and to get to them; and once you are there, you want to visit the museums as well as the monuments, and to locate people who are working there, whether they are from academic institutions, government archaeological bodies or local societies. You will want to check that access arrangements have not changed since the last published information; you also want to ensure that as far as possible the information you have is accurate, so that you do not waste time looking at sites which are not relevant to your interests.

¶1235: Internet Archaeology: a quality electronic journal

¶1236: In recent years traditional print publication has become increasingly limiting for archaeology. The limitations are well known and include: small and expensive print runs; high distribution costs; declining library subscriptions; and a tiny readership. As a consequence greater selection is required and 'full' publication is rarely possible. Some publishers adopted microfiche as a method of distributing supporting information and specialists reports, but this has proved consistently unpopular and has its own limitations. Archaeological fieldwork generates huge quantities of data (or should it be *capta*?) and with developments in information technology much of this data is now captured in a digital format. Why not distribute the data electronically to overcome the limitations of print technology? Archaeological reports are well-suited to multimedia publication which allows access to colour images and large data-sets, as well as permitting several possible journeys through the hypertext.

¶1237: Learned inquiry and the Net: the role of peer review, peer commentary and copyright

¶1238: I should begin by defining some of the metaphors I use in this paper. By the 'Gutenberg Galaxy' I mean the world of print on paper. Thus the 'PostGutenberg Galaxy' is its successor, the virtual

world of bytes on tape, disk and screen — and especially dispersal in the fibreoptic cables enmeshing the globe and transmitting them everywhere at the speed of light. I also use the term ‘Skywriting,’ for the dissemination of the written word in the PostGutenberg Galaxy is very much like writing it all up in the sky, for everyone to see and to append their own scribblings onto, rather like the serial graffiti in public toilets, except on a galactic scale. Or perhaps a global Hyde Park, with the orations and cat-calls all delivered graphically rather than orally.

#### ¶239: Electronic communications and communities

¶240: The barriers to communication between scholars and between scholars and the public have been falling as the Internet has grown. Although most of the publicity goes to the web, surveys show that the email is used by more people. Since it is based on characters rather than graphics, bandwidth and modem speed are less problematic than they are for web pages. In addition, while the web is the best way to disseminate information on the internet, electronic conferences and newsgroups are still the best way to interact on the internet. Electronic conferences for archaeologists began in 1986 when Sebastian Rahtz and Kris Lockyear created the ‘Archaeological Information Exchange.’ Four years later AIE begat ARCH-L and the number of archaeologists participating has grown steadily. Today ARCH-L has about 1800 subscribers in 44 different countries; most subscribers are in the US and the UK. ARCH-L now averages about 16 messages a day; just under 3000 messages were posted in the first 6 months of 1997. In addition to ARCH-L, there now are at least 40 other electronic conferences and newsgroups covering different aspects of archaeology.

#### ¶241: Managing ‘AegeaNet’

¶242: I became acquainted with email discussion lists when I subscribed to my first one, ‘ANE’ (ancient Near East), in September 1993; the discussions were so lively and informative that my colleague Paul Rehak and I thought there should be an Aegean counterpart for the Minoan-Mycenaean world. ‘AegeaNet’ was thus born on 1 December 1993, ‘a discussion and news group on the pre-classical Aegean world from Palaeolithic to Homer and beyond’. Three and a half years later, it is still growing with over 780 subscribers, archives (as of November 1995), and plans for more sophisticated services like digest and moderated versions.

#### ¶243: Electronic archives

¶244: An archive is a collection of materials intended to be kept safe for the long term. Those materials are gathered by some responsible agency, but they were created originally by others. They were made in the forms and with the methods chosen by their creators. That is, an archive contains materials that have been created by others, that have been formed and informed by the judgements of others and that are intensely idiosyncratic. An archive is not simply a collection of facts or ideas or objects; it is a collection of other peoples’ individual or collected facts and ideas and objects. As a result, the contents of an archive are disparate in the extreme, from books to diaries to maps to photographs. A digital archive is at least as chaotic as any other, probably more so. Its contents may include text files, data-base files, images, CAD files, GIS files and more.

#### ¶245: Preservation and re-use of digital data: the role of the Archaeology Data Service

¶246: Archaeologists have always been good at creating huge quantities of data, but not so good at arranging to preserve them in ordered, accessible and public archives, or at re-using other peoples’ data themselves. The Information Age presents particular problems for the preservation of digital data (Eiteljorg above, pp. 1054-7) but also provides unique opportunities for their re-use. Within the

Higher Education sector in the United Kingdom there is now a national initiative to establish an Arts and Humanities Data Service (AHDS). This paper will describe the role of the Archaeology Data Service (ADS), one of the services embraced by the AHDS, and will indicate how it proposes to provide access to other peoples' data.

¶247: Antiquity's experience in adding an electronic element to a printed journal

¶248: A conventional print publication, like ANTIQUITY has a choice in an electronic era: to remain print-only, to convert wholly to electronic format, or to find some hybrid or combination inbetween. ANTIQW has chosen to stay primarily in a print format (a conventional sewn paperback quarterly book) that is paid for by subscribers, and to develop alongside that a modest web presence that is free to anyone. Our circumstances are typical; so are both our uncertainty as to the future and the nature of our response so far. Very few publications – whether journals, magazines or newspapers – have left print to go fully electronic; many have a web presence, and those that have chosen to have none begin to appear as if they are thereby marginalizing themselves. This brief note reports why we tried, what we have done, how, and with what result.

¶249: Publishing in the round: a role for CD-ROM in the publication of archaeological field-work results

¶250: Some five months have elapsed since I was invited to write this paper and, as seems always to be the case, the continued rapid change in applied computing and available technology has transformed my view of the potentials offered by CD-ROM (Compact Disk-Read Only Memory) as a publishing medium. The paper I now offer is substantially different in content; the conclusions, however, are the same.

¶251: University archaeological education, CD-ROMs and digital media

¶252: I would like to start with the contentious assertion that there is very little special about CD-ROMs; they are little more than overgrown floppy disks with a long shelf-life, and uncertain sell-by date. A CD-ROM can contain about 650 Mb (Megabytes) of digital information, the equivalent of 450 high-density floppy disks, A CD-ROM is much more durable than a floppy disk, if kept away from small children and dogs, and is certainly more convenient to transport and handle than 450 floppy disks. A floppy disk will fade and its contents will become unreadable after about 4 or 5 years. A shiny CDROM on the other hand will last physically for at least 30 years, we are promised. Unfortunately the CD-ROM is already headed for the scrap heap of our technological past and is set to join the burins and scrapers. Yes, the Digital Versatile Disk (DVD) is coming our way. It can contain up to 17 Gb (Gigabytes) — that's 17 with nine zeros after it, the equivalent of 11,805 floppy disks full of data. Fifteen years ago, back in 1982, a 10-Mb hard disk was considered an expensive technological marvel with more than enough capacity (equivalent to 25 of the lowercapacity, 400-Kb floppy disks of the '80s). Nowadays, the CD-ROM, given away on the front of glossy magazines, and costing Sop to produce, contains 65 times that amount of information. My point is that I don't think we should become obsessed with the technology and the means of delivery of data on some kind of disk. What is far more important is what is actually on the disk — the message not the messenger.

¶253: From print culture to electronic culture

¶254: For centuries, scholarship in the western tradition has centred on printed books as the defining medium by which it expresses and preserves knowledge. Ask in the rare-books library for a source of scholarly understanding about Stonehenge which is a full five centuries old, Caxton's Chronicle of England of 1482, and you find a printed volume which as a physical object astonishingly resembles a

book about Stonehenge of 1982 or of 1998 — in its alphabet of standardized letters adapted from hand-written forms, in its black ink on folded paper, in its binding, in the size, the shape and the number of pages, in the type-size, the line spacing and the margins to the page, in the divisions by paragraphs and chapters, in the ordering, indexing and conventions of its contents. Already old in the 15th century — for these conventions derived from the habits of the copied manuscripts — that standard format shapes scholarly knowledge to this day.

¶255: Electronic Egypt: the shape of archaeological knowledge on the Net

¶256: Unlike many regional archaeologies the study of Egypt has always had widespread appeal, from archaeologists to Afrocentrists, orientalist to occultists. According to one web-site, 'Egypt dominates the history of the world.' This ever-popular fascination has spilled over into the electronic media since the inception of the Internet. Thus, Egypt proves to be a telling case study in net politics and potentialities. Simply typing the word 'Egypt' into a Web searcher elicits over 1 million sites, and the content of that material runs the gamut from scholarly resources closely matching those known in print to fringe sites and sci-fi web pages. 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 professionalism. It palpably illustrates the homogenization of knowledge on the net and prompts us to consider the construction of archaeology and archaeological knowledges.

¶257: Creating Pacific histories

¶258: Darwinian archaeology: an 'ism' for our times?

¶259: African Archaeological Review

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

¶261: Invisible people and processes: writing gender and childhood into European archaeology

¶262: An archaeology of capitalism.

¶263: The prehistory of sex: four million years of human sexual culture.

¶264: The environmental impact of later Mesolithic cultures: the creation of moorland landscape in England and Wales.

¶265: The experimental earthwork project 1960–1992.

¶266: Journal of Material Culture,

¶267: Contemporary archaeology in theory: a reader.

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

¶269: Multicultural Japan: Palaeolithic to postmodern.

**Name:** Antiquity 1998 abstracts

¶1: Antiquity 1998 abstracts

¶2: ISSUE 1

¶3: Two 'Oldowan' assemblages in the Plio-Pleistocene deposits of the Orce region, southeast Spain

¶4:

¶5: Stone artefacts reported from the Orce region (Grenada, Spain) indicate a first human presence in western Europe as early as the Plio-Pleistocene boundary, making a 'long chronology' for European hominids against the claims for a briefer human presence. Excavations of Barranco León-5 and Fuentenueva-3a in 1995 have produced two groups of lithic artefacts of 'Oldowan' type, seen as the most ancient of western Europe by faunal associations and palaeomagnetic study.

¶6:

¶7: Middle and Upper Palaeolithic environments and the calibration of 14C dates beyond 10,000 BP

¶8:

¶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. The conversion is essential when Middle and Upper Palaeolithic archaeological sites are to be placed within the context of the complex climatic history of the last glacial interval and following deglaciation.

¶10: Pleistocene settlement in the Australian arid zone: occupation of an inland riverine landscape in the central Australian ranges

¶11:

¶12: Recent excavations at the Kulpi Mara Rockshelter in the Palmer River catchment of central Australia have produced radiocarbon determinations spanning an archaeological sequence of 30,000 years. These results enable re-assessment of models addressing the how, where and when of arid zone colonisation, and human adjustments to environmental change in the later Pleistocene. Whilst the evidence supports early occupation of the central arid zone during wetter conditions, doubts are raised about the continuity of occupation during the height of glacial aridity.

¶13:

¶14: An ancient and contentious debate in prehistory (Owen 1846; Lyell 1863) asks if the megafauna of newly colonized worlds was exterminated by human hunting, or whether other factors, such as changing climate, were decisive. Debate on this issue remains lively in Australia, because its harsh environments surely posed problems for very large mammals. A starting-point for this fresh look at megafaunal extinction was Flannery's (1994) adoption of the 'blitzkrieg' hypothesis, in which humanly caused kill-off was so rapid it left no decisive archaeological traces.

¶15:

¶16: Imaging and imagining the Neanderthal: the role of technical drawings in archaeology

¶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. But are the less interpretative drawings whose purpose is to record the material evidence more neutral in their look? Nineteenth-century technical illustrations of the Neanderthal skull are unintentionally revealing of attitude.

¶18:

¶19: A Middle Palaeolithic origin of music? Using cave-bear bone accumulations to assess the Divje Babe I bone 'flute'

¶20: The discovery of a perforated cave-bear femur from the Neanderthal levels at Divje Babe has been interpreted as the oldest musical instrument in Europe. Here we present the current discussion on the 'flute' and its implications for other similar bone finds from early prehistory.

¶21:

¶22:

¶23: Headroom and human trampling: cave ceiling-height determines the spatial patterning of stone artefacts at Petzkes Cave, northern New South Wales

¶24:

¶25: Going into a cave or shelter, one walks where one can stand upright or has to crouch less. That affects which zones objects are trampled on, which zones they may be kicked out of, which zones they may be kicked into. And those effects interact with the usual spatial order—with its activity zones and drop zones—that develops through occupation of the enclosed cave or shelter.

¶26:

¶27: Eating horses: the evolutionary significance of hippophagy

¶28:

¶29: The meat and milk of horses are highly valued food products, past and present. Horses were an especially valuable food resource in grassland habitats, which may explain their increased exploitation in the central Eurasian forest steppe during the late Eneolithic. It may also explain the emphasis on horses in final Upper Palaeolithic art.

¶30:

¶31:

¶32: Prehistoric land degradation in Hungary: who, how and why?

¶33:

¶34: The recent study of Kis-Mohos Tó lake in Hungary reveals an important sequence of prehistoric landscape changes from the earliest land clearance to the early Middle Ages. The recognition of land degradation, through the application of new analytical methods, forms an important part of the discussion.

¶35: A settlement pattern study in northeast China: results and potential contributions of western theory and methods to Chinese archaeology

¶36:

¶37: Chinese scholarship well illustrates how research attitudes direct the spirit of research, and the tenor of the archaeological story which results. What happens when non-Chinese theory, approaches and field methods are brought to bear in a Chinese regional study?

¶38:

¶39: Unpeeling Pompeii

¶40: Pompeii, recovered from under Vesuvius ash, offers a famous 'frozen moment' in archaeological time: a city as it stood at a certain day. Beyond and beneath the dating evidence visible in its standing buildings is to be found a more archaeological chronology.

¶41:

¶42: A high-status Anglo-Saxon settlement at Flixborough, Lincolnshire

¶43: Excavations at Flixborough, Lincolnshire (1989–91) revealed an important Anglo-Saxon settlement. Here the various interpretations are discussed, ranging from monastic to 'magnate'.

¶44:

¶45: Knowth before Knowth

¶46:

¶47: Recent research at the great Irish passage tomb of Knowth has revealed new decorated stones, which were apparently recycled from an earlier tomb. Here, George Eogan describes the finds and discusses the implication of an early phase of tomb building pre-dating the major passage tombs of the Boyne Valley.

¶48:

¶49: Human occupation at Jinmium, northern Australia: 116,000 years ago or much less?

¶50:

¶51: The rock-shelter of Jinmium in the Northern Territory of Australia hit the headlines a year-and-a-half ago when TL dates suggested human occupation might date from 116,000 years ago. Such dates were much earlier than any previously obtained for Australia, and thus suggested the continent was colonized at a very early stage in human dispersal around the Pacific. However, some TL dating is notoriously difficult to interpret, and here Nigel Spooner has re-assessed one of the later dates in the Jinmium sequence. His interpretation calls into doubt some of the earlier claims.

¶52:

¶53: Stable isotopes and the seasonality of the Oronsay middens

¶54:

¶55: Research on six late Mesolithic shell middens on the small Hebridean island of Oronsay address questions of permanent and seasonal occupation. Stable isotope analysis of human bones shows marine resources providing the majority of protein, supporting year-round occupation of Oronsay. One individual, however, demonstrated a mixed diet of marine and terrestrial protein, suggesting seasonal visits and different patterns of site occupation.

¶56: The Mesolithic-Neolithic transition in Ukraine: new radiocarbon determinations for the cemeteries of the Dnieper Rapids Region

¶57: Large Mesolithic and Neolithic cemeteries that span the Mesolithic-Neolithic transition are scarce in Europe. As such, understanding the Mesolithic-Neolithic transition is rarely easy when using the direct evidence from carbon-dating of human remains. A new dating programme for the Ukrainian cemeteries of the Dnieper Rapids region 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:

¶59: A contextual approach to the interpretation of the early Bronze Age skeletons of the East Anglian Fens

¶60:

¶61: The fenland peats of eastern England have produced some 36 prehistoric burials, whose distinctive associations place them into the early Bronze Age—just sufficient for pattern to be evident in their placing and character.

¶62:

¶63: Some observations on the radiocarbon and cosmogenic isotope dating of petroglyphs, Foz Côa, Portugal

¶64: Further remarks on the age of the Foz Côa rock-engravings, Portugal, in the light of studies by absolute-science methods in the March 1997 ANTIQUITY.

¶65:

¶66: Celts, politics and motivation in archaeology

¶67:

¶68:

¶69: Ruth & Vincent Megaw questioned the motivation behind the current critique of the use of the term 'Celtic' for the La Tène Iron Age in ANTIQUITY (1996: 175–81). They explained it is a nationalist reaction derived from insecurity about modern English identity. Here we have a reply to their paper, which rejects these interpretations#

¶70: Why study a Greek vase-painter?—a response to Whitley's 'Beazley as theorist'

¶71: John Oakley defends the legacy of Beazley in response to James Whitley's recent analysis of Beazley and his followers (ANTIQUITY 72: 40–47). The debate demonstrates how influential some past figures of archaeological methodology still are, and how diverse are the approaches of modern scholars in interpreting and using their legacy.

¶72:

¶73: Whose rationality? A response to Fekri Hassan

¶174: In December 1997 we published Fekri Hassan's comments on Ian Hodder's 'Reflexive excavation methods' (ANTIQUITY 71: 1020–25). Ian Hodder responds here to the criticisms and defends his position.

¶175: Paradise Lost

¶176: Conservation and Management of Archaeological sites,

¶177: Presenting archaeology to the public: digging for truths.

¶178: Sociétés néolithiques, pratiques funéraires.

¶179: Excavations at Stonea, Cambridgeshire 1980–85. 1996.

¶180: A prehistory of Sardinia 2300–500 BC.

¶181: Etruscan art.

¶182: ISSUE 2

¶183: Bois Laiterie Cave and the Magdalenian of Belgium

¶184: The Magdalenian of Belgium, following important new excavations at Bois Laiterie Cave has been subject to new discussion and greater chronological precision. Here Straus & Otte discuss the results.

¶185: Size counts: the miniature archaeology of childhood in Inuit societies

¶186: The role and place of children is frequently overlooked in archaeology. Here Robert Park presents an intriguing analysis of the toys of childhood found in Inuit societies in Canada and Greenland, and assesses how such objects inform on the role of children in Arctic societies.

¶187: Research under dictatorship: the German Archaeological Institute 1929–1945

¶188: 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.

¶189: The state of large earthwork sites in the United Kingdom

¶190: The management of earthwork sites and their protection from erosion is a constant problem. Here Kevin Jones assesses methods and materials used on archaeological sites in Britain. It is essential to find compatible, economic land uses for most earthworks but this use should not lead to diminished expectations of good protection and historic interpretation.

¶191: Stonehenge for the ancestors: the stones pass on the message

¶192: ANTIQUITY has had a long tradition of publishing pieces on Stonehenge, represented in our cover design. Here we present an intriguing and thought-provoking paper, which draws an analogy with Madagascar to help explain the meaning of the enigmatic monument.

¶193:

¶194: Excavations at Dun Vulan: a reinterpretation of the reappraised Iron Age

¶195: Recent excavation of Scottish Iron Age Brochs and wheelhouses enables new discussion of the development, dating and economic interpretation of these impressive structures. Here, Gilmour & Cook assess the work at Dun Vulan, South Uist, in the Western Isles.

¶196: In search of Hindsgavl: experiments in the production of Neolithic Danish flint daggers



¶197: Few chipped stone artefacts from prehistory were as technically complex as the flint daggers of Late Neolithic Denmark. Here Michael Stafford present a study that examines, through experimental archaeology, many aspects of dagger production.

¶198:

¶199: Consuming power: Kamares Ware in Protopalatial Knossos

¶100: A new study of Kamares ware, integrating stylistic and petrographic analysis, suggests that Protopalatial Knossos was a centre of ritual consumption rather than production, obtaining some of its specialized vessels for drinking and feasting ceremonies from production centres elsewhere in central Crete.

¶101: New formulae for estimating prehistoric populations for lowland South America and the Caribbean

¶102: The estimation of past population levels continues to be an important aspect of archaeological research. Here Antonio Curet offers new formulae for estimating prehistoric populations in lowland South America and the Caribbean using data derived from houses and settlements.

¶103:

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

¶105: Exploratory expeditions in 1834, sponsored by the newly independent state of Guatemala, researched on sites such as Copan, Iximche and Utatlan. The political, literary and social climate was such that a pre-Hispanic past was eagerly sought. This paper offers an intriguing insight into early Latin American archaeology.

¶106: Incised motifs in the passage-graves at Quoyness and Cuween, Orkney

¶107: The decoration of Neolithic passage-graves in Scotland and the British Isles/Ireland has come under renewed scrutiny—showing interesting patterns between tombs and houses. Here Richard Bradley examines two Orkney tombs and compares their decorated stones with motifs in Ireland and elsewhere.

¶108: Two early finds of gold-of-pleasure (*Camelina* sp.) in middle Neolithic and Chalcolithic sites in western France

¶109: Two new finds of *Camelina* seeds prove the presence of the plant in middle Neolithic and Chalcolithic western France nearly 3000 years before widespread cultivation in France.

¶110: Historicism, chronology and straw men: situating Hawkes' 'Ladder of inference'

¶111: Christopher Hawkes was one of the leading British archaeological theorists in the middle decades of this century. Much underrated, Hawkes is reassessed here in the broader development of processual archaeology in Britain.

¶112: Migration in the Bell Beaker period of central Europe

¶113: Recent strontium isotope analysis of Beaker burials from Bavaria raises important new questions about prehistoric migrations in Europe.

¶114: Comparative studies in the presentation of archaeological sites

¶115: Nicholas James reports on a conference in South Korea in September 1997, which offers a useful insight into heritage presentation in eastern Asia.

¶116: Archaeological research in Timbuktu, Mali

¶117: Urban archaeological survey in Africa is rarely undertaken, and relatively little is known about many important cities and their development. Here Tim Insoll describes the results of a preliminary season at Timbuktu.

¶118: Down, but not out: biological evidence for complex economic organization in Lincoln in the late 4th century

¶119: Views of the Late Roman period in England have changed considerably in the past few years, with a tendency towards acceptance of a survival or resurgence of economic and political organization despite earlier decline. Traditional evidence provides some insights into the differential nature of these changes. Here it is argued that 'environmental' (in this case biological) evidence can provide unique insights into economic systems, and that bones and insects from late 4th-century AD Lincoln indicate continuity of complex systems into this period.

¶120: Bronze Age myths expose archaeological shortcomings? a reply to Buckland et al. 1997

¶121: Hit-or-myth? Linking a 1259 AD acid spike with an Okataina eruption

¶122: 'The mechanism of (Celtic) dreams?': a partial response to our critics

¶123: Readers of recent issues of ANTIQUITY will have doubtless been struck by the passions which can be aroused by discussions concerning concepts of prehistoric as well as present-day ethnicity. Here the Megaws round off a Celtic trilogy of papers with what will surely not be the last word in an important debate.

¶124: Steps to an evolution of mind

¶125: Beyond the palaces—views from the Minoan countryside

¶126: La Grotte du Bois Laiterie

¶127: Women in human evolution.

¶128: Hunters between East and West: the Paleolithic of Moravia.

¶129: Neolithic landscapes:

¶130: Encounters and transformations: the archaeology of Iberia in transition.

¶131: Villagers of the Maros: a portrait of an Early Bronze age society.

¶132: Roman pottery in Britain.

¶133: Castles in Ireland: feudal power in a Gaelic World.

¶134: Spatial patterning among animal bones in settlement archaeology: an English regional exploration.

¶135: Bioarchaeology: interpreting behaviour from the human skeleton.

¶136: The archaeology of ethnicity: constructing identities in the past and the present.

¶137:

¶138: ISSUE 3

¶139: A Middle Palaeolithic burial of a modern human at Taramsa Hill, Egypt

¶140: Discussion about a possible African origin of modern humans is hampered by the lack of Late Pleistocene skeletal material from the Nile valley, the likely passage-way from East Africa to Asia and Europe. Here we report the discovery of a burial of an anatomically modern child from southern Egypt. Its clear relation with Middle Palaeolithic chert extraction activities and a series of OSL dates, from correlative aeolian sands, suggests an age between 49,800 and 80,400 years ago, with a mean age of 55,000.

¶141: The Experimental Earthworks revisited

¶142: Few archaeological projects set out with the intention of running for decades. The committee of the Experimental Earthwork project, however, developed an elaborate programme from 1960 until well into the 3rd millennium AD, designed to study the long-term processes of earthwork construction and change. Paul Ashbee and the late Peter Jewell present their personal view of the aims, experiences and some results of this project.

¶143: Sadly Peter Jewell died on 23 May 1998, and this paper is a fitting tribute to his major role in the enterprise.

¶144: Genetics, linguistics, and prehistory: thinking big and thinking straight

¶145: Many claims have been made linking ancient languages with genetically identified prehistoric and modern populations. There is much new 'evidence' and intense debate on the validity and appropriateness of such interdisciplinary work. Here Patrick Sims-Williams provides a timely comment on linguistics and the quest for ancient populations.

¶146: Death as a rite of passage: the iconography of the Moche Burial Theme

¶147: The application of van Gennep's Rites of Passage structure to iconography and mortuary contexts in the Late Moche period of Peru offers an original means of exploring prehistoric concepts of death.

¶148: Ancient past, imperial present: the British Empire in T.J. Dunbabin's *The western Greeks*

¶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.

¶150: Sir Thomas Spencer's Chinese seal

¶151: The discovery of an ancient Chinese seal in an Oxfordshire garden three centuries ago still provokes interest. This note examines how the seal came to be published by Dr Robert Plot, and what it might have represented.

¶152: Declassified satellite photographs and archaeology in the Middle East: case studies from Turkey

¶153: Recent availability of declassified satellite images of landscapes and ancient cities in Turkey offer new and valuable material for archaeological research. Here David Kennedy explains the significance and use of some images in the Euphrates Valley.

¶154: Rosses Point revisited

¶155: The re-evaluation of artefacts sometimes reveals a long history of misinterpretation. Here Peter Woodman re-assesses stone tools from western Ireland which have important lessons for how our personal biases influence our interpretation of lithic assemblages.

¶156: Issues in Brazilian archaeology

¶157: Brazilian archaeology from a Brazilian perspective

¶158: Archaeology in Brazil shares many empirical similarities with Latin American and North American research but, as a social science, it has remained isolated from mainstream theoretical and methodological advances. The large size of the country, the lack of resources and government support, the difficulties of working in tropical environments, the lack of monumental architecture, and Brazil's being neither a Spanish- nor an English-speaking country have all been thought of as shaping Brazilian archaeology and its failure to integrate into a larger, Latin American or international context.

¶159: Early hunter-gatherers in the Americas: perspectives from central Brazil

¶160: There is a preconception among American archaeologists that the late Pleistocene (c. 12,000-10,000 hap.) and early Holocene human occupation of the Americas would have had highly formalized and diagnostic technologies (Bryan 1986), as seen in bifacial fluted projectiles (Clovis

and/or Folsom points) or Palaeoarctic microblades. This bias carries with it two presumptions which have no reason to exist:

¶161: • Clovis and related industries had to be diffused throughout the Americas; and

¶162: • there should be a 'big-game hunting' horizon in South America.

¶163: Considerations of the sambaquis of the Brazilian coast

¶164: Sambaqui is the name given to a certain type of archaeological evidence left by fisher/hunter/gatherer groups who inhabited large expanses of the Brazilian coast. The word is of Tupi etymology, tamba meaning shellfish and ki a piling-up (Prous 1991: 204). The Tupi were a horticultural/potter group who lived on the Brazilian coast at the time of the first European arrivals; they coined the term which describes the main characteristic of the sites — the accumulation of great quantities of mollusc shells (FIGURE 1) .

¶165: Regional pottery-making groups in southern Brazil

¶166: At the beginning of the Christian era, pottery-making groups started occupying the southern region of Brazil (the states of Rio Grande do Sul, Santa Catarina and Paraná: FIGURE 1), their origins closely related to former inhabitants, mainly hunters and gatherers. Two major groups are recognized, from the hundreds of identified sites. Vestiges of the first, dispersed in settlements in the southernmost area and in the low savanna landscape, show that settlers of mounds — cerritos — were nomadic, their economy based on hunting, fishing and gathering. In the second, dispersed in the plateau and along adjacent coastal plains, settlers depended on gathering; at least in a few areas and in more recent periods they were sedentary, with the rudiments of more complex social and political patterns. The two settlement systems are in very different environmental, cultural and temporal contexts. Current research takes a normative view of culture, in which pottery has a place of honour and is classified by archaeological 'traditions' and 'phases'. Yet both groups present pottery industries rather matched in time and space, obscuring evidence of internal differentiation or cultural change processes.

¶167:

¶168: Twenty years of Amazonian archaeology in Brazil (1977–1997)

¶169: This paper presents a brief overview of Amazonian archaeology in Brazil in the last two decades, a fitting span since 1997 marked the 20th anniversary of the PRONAPABA — Programa Nacional de Pesquisas Arqueológicas na Bacia Amazônica — created by Clifford Evans, Betty Meggers and Mário Simões with the co-operation of several Brazilian archaeologists.

¶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.

¶171:

¶172:

¶173: Manioc agriculture and sedentism in Amazonia: the Upper Xingu example

¶174: Agricultural productivity and Amazonian settlement

¶175: The nature of Pre-Columbian agricultural systems in Amazonia has stimulated considerable debate, specifically: can one or another cultigen — maize or manioc — provide a stable agricultural base for sedentism and population growth (eg. Carneiro 1961; 1986; Gross 1975; Meggers 1996; Roosevelt 1980)? Certain ecological factors are generally seen to limit production and intensification of those subsistence resources that can support sedentary or densely distributed populations. Low agricultural productivity, characteristic of many Amazonian soils, and the generally low density and patchy distribution of terrestrial game are commonly cited as limiting factors (Gross 1975; 1983;

Johnson 1982; Meggers 1954; 1996; Ross 1978; Sponsel 1989). It has become accepted that the highly restricted várzea regions, primarily the floodplain settings of the major 'white-water' rivers (the Amazon and its Andean-derived tributaries), did not impose these environmental constraints on demographic or economic growth due to their fertile soils and higher concentrations of rich aquatic resources (e.g. Brochado 1984; 1989; Carneiro 1986; 1995; Denevan 1996; Lathrap 1968; 1970; 1987; Lathrap et al. 1985; Meggers 1996; Moran 1993; Roosevelt 1980; 1989; 1994).

¶176: The Tupi: explaining origin and expansions in terms of archaeology and of historical linguistics

¶177: Interest in explaining scientifically the enormous territorial expansion of the Tupi has been an issue since 1838, now with a consensus: a common centre of origin existed, from which the Tupi fanned out, differentiating through distinct historic and cultural processes whilst keeping several common cultural features. But there is no consensus as to where the centre was located and where passed the routes of expansion.

¶178: Scholars have often asserted this hypothesis, but contributed very little scientific proof. Since 1960, archaeological (site location, radiocarbon and thermoluminescent dating) and linguistic data (glottochronology, relationships among languages) have been brought to the scene.

¶179: Continuities and discontinuities: archaeology and ethnoarchaeology in the heart of the Eastern Bororo territory, Mato Grosso, Brazil

¶180: Bororo and cultural continuity

¶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 (Hodder 1978; 1982; Jones 1997), research in areas where a link between ethnographically and/or ethnohistorically known groups and the archaeological record can be established presents a significant challenge for the study of processes involved in cultural continuities, ruptures, and the maintenance or abandonment of stylistic boundaries. This is especially true in a context of colonial impact on native populations, as in the case of the Bororo society.

¶182: Special section: David Clarke's 'Archaeology: the loss of innocence' (1973) 25 years after

¶183: Clarke in Mediterranean archaeology

¶184: When ANTIQUITY published the historical article by Clarke, I was a 20-year-old student, deeply engaged in field activities and substantially torn away from the 'theoretical' debate.

¶185: My archaeological loss of innocence happened only in the early 1980s, when I discovered (thanks to people like Maurizio Tosi and Anna Maria Bietti Sestieri) the enormous explanatory potential of processual theories.

¶186: It would be absurd to label the whole of Italian archaeology as 'atheoretical'; as a matter of fact, a powerful theoretical machine, the Marxist theory, had operated from the late 1960s, thanks to the group of Dialoghi di Archeologia. The problem was in the idealistic roots of our (academic) culture, characterized by a programmatic divorce between humanistic and scientific studies and from a substantial lack of interest for the anthropological theories.

¶187:

¶188: The beginning of wisdom

¶189: It is the best of times and it is the worst of times. On one hand, there are more resources and people involved in archaeology than ever before; there is considerable public and media interest in the subject; and there have been exciting developments in archaeologists' uses of social theory. On the other, competition is intense for locally scarce funding; most field research is constrained by non-archaeological considerations; and fragmentation, insecurity and disenchantment are rife. The split between theory and practice has certainly widened since David Clarke's day, whilst theory has

become not so much Clarke's unifier within the morass of empirical detail but its own basis for division and often bitter disagreement within the profession.

¶190: Footnotes to Plato? Palaeolithic archaeology and innocence lost

¶191: Trawling through old, dust-covered folders I found out that I first read 'Archaeology: the loss of innocence' as a 2nd-year undergraduate for an essay on whether the New Archaeology was as theoretically sophisticated as it claimed to be. My notes of the time emphasize the beginning and end of the article; suggesting that Clarke's purpose was just to argue that

¶192: 1 there had been a sea-change in the nature of archaeology leading to the development of a critically self-conscious entity in the New Archaeology; and

¶193: 2 to discuss what a general theory of archaeology might look like.

¶194:

¶195: Archaeology: the loss of isolation

¶196: It is interesting to reflect that only nine years separate David Clarke's paper 'Archaeology: the loss of innocence' and the publication of Symbolic and structural archaeology (Hodder 1982), which may be taken to mark the beginning of a 'post-processual' archaeology. Many of the ideas put forward in that book were being discussed and developed at Cambridge from around 1978. David's paper, and its publication in ANTIQUITY, may be taken as representing the highwater mark of 'new' or processual archaeology in the academy. Almost as soon as the ideas had been presented, and not really very well developed in the practice of doing archaeology, they were under fire and being replaced. Yet David was still attacking 'traditional' archaeology, fighting for his own position in the 1973 paper, and putting forward an agenda for the future of archaeology. It was a manifesto for future work. New Archaeology was then 11 years old and had already achieved a certain hegemony in Anglo-American archaeology, at least among younger academics more interested in ideas than recovering and describing evidence. In 1998 what is labelled 'post-processual' archaeology differs fundamentally from many of the ideas presented in the Hodder volume and it is doubtful whether anyone would still wish to follow David's agenda or advocate early 'post-processual' ideas. The pace of thinking has inexorably heated up. Both David's paper and the Hodder book are now primarily of historical interest in the development of a disciplinary consciousness in which archaeology is becoming increasingly self-reflexive, critically interrogating its intellectual presuppositions, procedures and practices.

¶197: 'The loss of innocence' in historical perspective

¶198: The dual tasks of this paper are to examine David Clarke's ideas about the development of archaeology as they relate both to the era when 'the loss of innocence' was written and to what has happened since. In his treatment of the history of archaeology offered in that essay, Clarke subscribed to at least two of the key tenets of the behaviourist and utilitarian approaches that dominated the social sciences in the 1960s: neoevolutionism and ecological determinism.

¶199: Clarke viewed the development of archaeology as following a unilinear sequence of stages from consciousness through self-consciousness to critical self-consciousness. The first stage began with archaeology defining its subject matter and what archaeologists do. As its database and the procedures required for studying it became more elaborate, self-conscious archaeology emerged as a 'series of divergent and selfreferencing regional schools ... with regionally esteemed bodies of archaeological theory and locally preferred forms of description, interpretation and explanation' (Clarke 1973: 7). At the stage of critical self-consciousness, regionalism was replaced by a conviction that 'archaeologists hold most of their problems in common and share large areas of general theory within a single discipline' (1973: 7). Archaeology was now defined by 'the characteristic forms of its reasoning, the intrinsic nature of its knowledge and information, and its competing theories of concepts and their relationships' (1973: 7). Clarke looked forward to a fourth (and ultimate?) phase of self-critical self-consciousness, when the new archaeology would monitor and control its own development.

¶200: Hindsight and foresight: preserving the past for the future

¶201: ANTIQUITY asked Andrew Sherratt, who had been a student of David Clarke at Peterhouse, Cambridge in the late 1960s and early '70s, to give his reaction to the foregoing papers, in the light of his recollections of the time.

¶202: Adding column inches: new books on Egyptian temples

¶203: Geoarchaeology: the earth-science approach to archaeological interpretation.

¶204: The Cambridge illustrated history of prehistoric art.

¶205: Integrating archaeological demography: multidisciplinary approaches to prehistoric population

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

¶207: Excavating women: a history of women in European archaeology

¶208: Lost Gods of Albion: the chalk hillfigures of Britain.

¶209: Sacred mound holy rings: Silbury hill and West Kennet palisade enclosures: a later neolithic complex in north Wiltshire.

¶210: Making alternative histories: the practice of archaeology and history in non-Western settings.

¶211: Excavations at the Mola di Monte Gelato.

¶212: The Sphakia Survey (Crete).

¶213: Arene Candide: a functional and environmental assessment of the holocene sequence: excavations Bernabò Brea–Cardini 1940-50.

¶214: ISSUE 4

¶215: Public archaeology and prehistory in Sicily

¶216: We have invited an active prehistorian from Sicily to set two important events in context: the first conference on Sicilian prehistory held at Corleone and the important exhibition held in Palermo over the last year. Sicily is one of the richest regions of the world for archaeological remains and yet has not received the attention it deserves. This is especially true for prehistory, which has suffered from devaluation by ancient historians such as Moses Finley (1979: 13) — '... the Greek settlers found wives among the natives, and also a labour force. Other than that, however, the lasting effects of the pre-Greek populations would not seem to have been very significant'—and where it has often been assumed that everything of worth came from outside. Enrico Giannitrapani presents the emerging consciousness of Sicilians that their island was not founded by the Greeks.

¶217: New research on the terramare of northern Italy

¶218: The north Italian Bronze Age culture—the terramare—has recently been celebrated in a splendid exhibition at Modena, and new catalogues, research and the re-opening of old excavations. Mark Pearce discusses the relevance of the old ideas in the light of new data.

¶219: From Croatia to Cape Town: the future of the World Archaeological Congress

¶220: 'Ruffled feathers' seem to be part of the World Archaeological Congress. Here we present two different assessments of the forthcoming World Archaeological Congress in Cape Town in January—one from an observer, Willy Kitchen, and one from the WAC Secretary, Julian Thomas, which set out some of the ideals and current realities of this highly political enterprise.

¶221: Maintaining the open space

¶1222: Postcards from Beazley and other electric dreams: notes from the 15th International Congress of Classical Archaeology

¶1223: Classical archaeologists gathered in Amsterdam at their quinquennial congress this summer. Some of the key papers contributed to the on-going theoretical and methodological debate between traditionalists and relativists, while other speakers presented new computer techniques and interesting findings.

¶1224: Paviland Cave: contextualizing the 'Red Lady'

¶1225: Paviland is the richest Early Upper Palaeolithic site in the British Isles and has produced Britain's only ceremonial burial (the 'Red Lady') of that age. Excavations in the 19th and early 20th centuries, combined with the action of the sea, have removed virtually all of the cave's sedimentary sequence. A new, definitive study of the site and its finds, together with over 40 radiocarbon dates, shows that Paviland currently holds the key to our understanding of the chronology of human activity and settlement from c. 30,000 to 21,000 years ago. The age of the 'Red Lady' is also finally resolved at c. 26,000 b.p.

¶1226: The cultural life of early domestic plant use

¶1227: To what extent was gender an important factor in plant domestication? How much of the domestication process can be considered as cultural rather than biological? Christine Hastorf considers these and many associated questions in this topical essay about plants and people.

¶1228: 'The changing face of clay': continuity and change in the transition from village to urban life in the Near East

¶1229: In the Near East, the inherent dualism of clay as both symbol and instrument was a feature of its use from the inception of farming villages to the formation of cities, and the extensive record of its 'changing face' allows us to trace the continuous history of development between them.

¶1230: Lithic technology and discard at Marki, Cyprus: consumer behaviour and site formation in the prehistoric Bronze Age

¶1231: Lithic studies all too often ignore the material of later prehistory. Here an exploration of ideas of curation and expediency offers a new insight into material from Bronze Age Cyprus.

¶1232: Unusual food plants from Oakbank Crannog, Loch Tay, Scottish Highlands: cloudberry, opium poppy and spelt wheat

¶1233: Oakbank is one of 18 crannogs in Loch Tay, and the first in Britain to have been excavated underwater. The abundant and well-preserved plant remains indicate a prosperous society with a well-founded arable and pastoral agriculture. Opium poppy and spelt wheat remains imply trade and suggest high status. Cloudberry pips highlight long-range gathering, possibly during transhumance.

¶1234: Cosmogenic radiation nuclides in archaeology: a response to Phillips et al.

¶1235: 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.

¶1236: Archaeology, archaeologists and 'Europe'

¶1237: With changes in political structures, a pan-European dimension is increasing in importance for many archaeologists, because of cultural policy and funding from the Council of Europe and, especially, the European Union. Although nationalist frameworks are currently more important, archaeologists should keep a critical eye on European developments.

¶1238: Illicit antiquities and international litigation—the Turkish experience



¶239: In March, we discussed the founding of the Illicit Antiquities Research Centre (IARC) at the McDonald Institute in Cambridge (ANTIQUITY 72: 4–5). Here we publish a contribution towards the debate on the theft of antiquities from Turkey and their acquisition by museums in the USA. Turkey has long had an active policy in fighting cases for restitution of its heritage, and Janet Blake describes their success.

¶240: No slow dusk: Maya urban development and decline at La Milpa, Belize

¶241: The 1998 excavations at the Maya city of La Milpa have revealed important structures of the ruling élite, including several throne rooms, but also evidence for a sudden cessation of élite activity when the occupation was at its height. Extensive mapping suggests a population of some 46,000 over a short period in the 8th and 9th centuries AD.

¶242: The potential for heavy metal soil analysis on low status archaeological sites at Shapwick, Somerset

¶243: The Shapwick Project has pioneered and tested a variety of new methods in field survey. Here heavy metal soil analysis is tested in the search for aceramic sites.

¶244: Stonehenge: is the medium the message?

¶245: In June ANTIQUITY published a novel contribution by Mike Parker Pearson and his Madagascan colleague Ramilisonina, which addressed the question of the significance of stone at Stonehenge (ANTIQUITY 72: 308–76). They argued that stone symbolized death and the dead, and provided examples from ethnographic studies to support this notion. The paper has stimulated two replies—from John Barrett & Kathryn Fewster, and from Alasdair Whittle. We are pleased to publish these here, as part of the continuing debate on analogy in archaeology, and on Stonehenge.

¶246: People and the diverse past: two comments on ‘Stonehenge for the ancestors’

¶247: The richly textured paper on Stonehenge by Mike Parker Pearson & Ramilisonina (1998) develops exciting new ways of looking at Stonehenge and other stone monuments, drawing on analogies from Madagascar and elsewhere to elaborate the importance of ancestors in kinship-based societies. The presentation of practices and beliefs related to ancestors in parts of Madagascar is particularly powerful. Their Neolithic model gains extra credence by being applied not only to Stonehenge but also to the Avebury complex. In the latter case, I find their suggestion of a parallelism in layout between Avebury and the West Kennet Avenue on the one hand and West Kennet palisade enclosure 2 and Outer Radial Ditch 1 plus Structure 4 on the other, very convincing. That relationship may just have been reinforced by the recognition this year by RCHME on aerial photographs (Bob Bewley pers. comm.) of another outer radial ditch leading from Palisade Enclosure 2 to another circular external structure, on more or less the same alignment as the first set. The recognition of a social setting for these monument complexes and traditions different to that envisaged in chiefdom models is also very welcome.

¶248: Stonehenge for the ancestors: part two

¶249: We have identified a structuring principle of hardening in the passage from life to ancestorhood which can be found in contemporary Madagascar, Neolithic and Bronze Age Britain and, for that matter, contemporary Britain. The use of analogy that we have preferred is not the formal ethnographic parallel, nor is it crosscultural generalization, but a relational analogy; we did not intend to apply it as a ‘universal’ but as a ‘What if ... ?’ scenario — unfortunately we inadvertently gave Barrett & Fewster, and perhaps other readers, the wrong end of the stick. What is important is not the analogy per se — it ultimately tells us only that such things are possible rather than universal — but whether the archaeological evidence in question can be adequately explained in this way through detailed contextual study. The analogy merely provides the comparison; its suitability is decided by the degree of corroboration and goodness of fit with the evidence of the archaeological case-study.

¶250: Special section Rice domestication

¶251: The origins of rice agriculture: recent progress in East Asia

¶1252: Knowledge of rice domestication and its archaeological context has been increasing explosively of late. Nearly 20 years ago rice from the Hemudu and Luojiajiao sites (FIGURE 1) indicated that rice domestication likely began before 5000 BC (Crawford 1992; Lin 1992; Yan 1990). By the late 1980s news of rice from the south-central China Pengtoushan site a thousand years older than Hemudu began to circulate (Bellwood et al. 1992; Hunan 1990; Pei 1989). Undocumented news of sites having a median date of 11,500 BP with domesticated rice has recently made the rounds (Normile 1997). In addition, the first domesticated rice in Southeast Asia, once thought to be older than the first rice in China, is not as old as once thought (Glover & Higham 1996: 422; Higham 1995). Finally, wild rice (*Oryza rufipogon*) was reported to be growing in the Yangzi valley, well outside its purported original range, making domestication there plausible (Yan 1989; 1990; 1997). Significant progress continued to be made in the 1990s and unlike research on other major crops, the literature is generally not accessible to western scholars, with some exceptions (Ahn 1993; Crawford 1992; Glover & Higham 1996; Higham 1995; MacNeish et al. 1997; Underhill 1997).

¶1253: The origins and dispersal of rice cultivation

¶1254: Domesticated rice (*Oryza sativa*) is one of the five major crops in the world and a staple food for more than 30% of the world population. Yet the question of where, when, why and how the domestication of rice originated has been, and still is, a question under debate. However, as more archaeological and archaeobotanic discoveries have recently come to light, the question of the origin of rice cultivation now seems less elusive than it was a few decades ago. To date, both archaeological and archaeobotanic discoveries seem to indicate that rice cultivation first began in the middle Yangzi Valley by 8500–8000 years BP, and subsequently expanded to south China and Southeast Asia.

¶1255: Notes on new advancements and revelations in the agricultural archaeology of early rice domestication in the Dongting Lake region

¶1256: The Liyang plain, located in the northwest of Hunan province, is part of the plain on the north of Dongting Lake. It is situated at longitude 111°22'30"E to 111°51'30"E, and latitude 29°35'31"N to 29°47'30"N. It is made up of the Li River, its tributaries and the alluvial plain, and occupies about 600 sq. km in area (FIGURE 1).

¶1257: The plain is saucer-shaped and surrounded by small hills on three sides, joined at the eastern part to the plain north of Dongting Lake. The area is a classic 'plate-basin' structure. Inside its boundaries, the land is broad and flat, with small streams winding in different directions, and lakes and ponds dotting the landscape. It is 32–45 m above sea level, with an incline of 2° to 3°.

¶1258: The Middle Yangtze region in China is one place where rice was domesticated: phytolith evidence from the Diaotonghuan Cave, Northern Jiangxi

¶1259: Rice, *Oryza sativa* L., is one of the most important cereal crops in the world, and its emergence as a domesticated subsistence plant drives much of the interest and research in archaeology in South and East Asia. The homeland of domesticated rice has been proposed as:

¶1260: 1 a specific area, such as India (Vavilov 1926; Ramiah & Ghose 1951), South China (Ding 1957), Southeast Asia (Spencer 1963) and the Yangtze valley in China (Yan 1982; 1989)

¶1261: 2 a biogeographic region, such as the so-called 'belt region' with a great diversity of *Oryza* species (Chang 1976), or

¶1262: 3 an ecological zone, such as coastal swamp habitats (Higham 1995).

¶1263: Notes on the recent discovery of ancient cultivated rice at Jiahu, Henan Province: a new theory concerning the origin of *Oryza japonica* in China

¶1264: China is one of the places for the origin of the Asian cultivated rice (Oka 1988), but there are different theories for precise locations where ancient cultivated rice first originated, including those proposing South China and Yunnan (Li 1989) or the middle and lower Yangtze River Valley (Yan 1989), or the middle Yangtze and the upper Huai River Valley (Wang 1996) as the site of the oldest rice cultivation in China. The discovery (Zhang et al. 1994) of ancient rice at Jiahu in Henan province

not only pushed the history of rice agriculture in the Huai River region back to 9000 BP, but also indicated the existence of an agricultural tradition of rice cultivation in the region from the beginning of the Holocene Anathermal until the end of the Holocene megathermal.

¶1265: Some botanical characteristics of green foxtail (*Setaria viridis*) and harvesting experiments on the grass

¶1266: Green foxtail (*Setaria viridis*) is an annual grass widely distributed over the Old World, including China, where evidence of the earliest foxtail millet domestication to date has been discovered in the Cishan assemblage, Hebei province, 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). Yet little is known about the process of millet domestication, and even less about either the botanical characteristics of *S. viridis* or its cultural significance regarding human domestication.

¶1267: Special section A celebration of 1848

¶1268: The Communist manifesto, 150 years later

¶1269: 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: 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.

¶1270: Layard's Nineveh and its remains

¶1271: When in the 18th century European travellers passed through the obscure Ottoman provinces of Mosul and Baghdad, in what is now Iraq, they sometimes paused to contemplate the wreckage of Nineveh and Babylon. We know today that every Mesopotamian mound is an accumulation of history, but at the time it was far from obvious that significant relics of ancient civilizations, known on Biblical authority to have existed but at the same time condemned and destroyed by Divine justice, might still survive beneath the surface of the ground.

¶1272: In 1820 Claudius James Rich, British Resident in Baghdad, investigated Nineveh and heard of sculptures that had been found among the ruins, but it was 1836 before his widow published an account of his visit. That book was the catalyst for a phase of frantic exploration, between 1843 and 1855, which led ultimately to the discovery both of ancient Assyria and of an entire civilization, that of ancient Mesopotamia, which stretched back past Babylonians and Sumerians to the very evolution of writing and the dawn of history. The discoveries were more than academic. In 1848, when the first results began to be known in Great Britain, they helped undermine some of the fundamental assumptions of established society.

¶1273: Dennis of Etruria: a celebration

¶1274: George Dennis' *The cities and cemeteries of Etruria*, a massive two-volume work of over 1000 pages, was published towards the end of 1848, the British Museum's copy (now the British Library's) being received on 18 January 1849. It was quickly acclaimed as a literary and archaeological masterpiece (Rhodes 1973: 52–5; Pallottino 1955: 126, n. 1), which brought the then little-known Etruscans to life in the most vivid of ways. The fruit, in Dennis' word, of extensive travelling in Etruria between 1842 and 1847, and of much work in the libraries of, in particular, Rome, it remains 150 years later an indispensable topographical source. Indeed, a 2nd, revised, edition appeared in 1878

(reprinted in 1883, but misleadingly entitled a 3rd edition), and a further version of the 1848 volume was published in J.M. Dent's highly regarded 'Everyman' series in 1907.

¶1275: Ancient monuments of the Mississippi Valley by E.G. Squier & E.H. Davis: the first classic of US archaeology

¶1276: The two most important 19th-century books on archaeology in the United States both dealt with earthworks. The earlier of these two, Ancient monuments of the Mississippi Valley by Ephraim G. Squier & Edwin H. Davis, was the first volume published by the fledgling Smithsonian Institution, and is 150 years old this year. It presented, with lavish illustrations, information about hundreds of earthworks. Its principal argument was that the mounds had been built by an American race distinct from the historically known indigenes, no less and perhaps considerably more than 1000 years ago. This volume in no small measure catalysed the development of archaeology in the United States. Without Squier & Davis' extensive documentation of the vast number, size, complexity and variety of earthworks, the later book might never have been commissioned or might have been conceived in far less ambitious terms.

¶1277: Chalk and cheese at Stonehenge

¶1278: Traditions and transformations in Neolithic France

¶1279: 'And the rest is history. And archaeology': The potential of battlefield archaeology

¶1280: Constructing an archaeology of Israel

¶1281: Mind, modernity and archaeologists: the Cambridge Archaeological Journal volumes 1–7

¶1282: Paleoindian geoarchaeology of the Southern High Plains.

¶1283: Early iron production archaeology, technology and experiments.

¶1284: Maritime archaeology: a reader of substantive and theoretical contributions. x

¶1285: Rediscovering Darwin: evolutionary theory and archaeological explanation.

¶1286: Prehistoric ritual and religion.

¶1287: The Danish Storebælt since the Ice Age: man, sea and forest.

¶1288: The Etruscans.

¶1289: Sotades: symbols of immortality on Greek Vases.

¶1290: Vanishing River: Landscapes and lives of the Lower Verde Valley. The Lower Verde Archaeological Project.

¶1291: Olmec to Aztec: settlement patterns in the ancient Gulf lowlands.

## **Name:** Antiquity 1999 abstracts

¶1: Antiquity 1999 abstracts

¶2: Gibraltar Neanderthals and results of recent excavations in Gorham's, Vanguard and Ibex Caves

¶3: In December 1998, we presented a Special section on great finds and publications of 1848. The discovery of the Gibraltar skull was in that famous year. Now, 150 years later new excavations and a recent conference have once again focused interest on this, the first place where Neanderthal remains were found.

¶4: Distance and decay: an uneasy relationship

¶5: The application of the distance-decay model to lithic material from southwestern Egypt explores the relationship between size and portability.

¶6: A Later Bronze Age shield from South Cadbury, Somerset, England

¶7: A shield of beaten bronze from South Cadbury, Somerset, England is the first shield to be discovered by excavation on an archaeological site. The shield lay in a silt-filled Bronze Age ditch on a spur of land below Cadbury Castle. A stake was thrust through the shield. The paper considers the recovery and conservation of the shield, the technology of metal shields and the evidence for the ritual deposition of shields in the Later Bronze Age of western Europe.

¶8: Lead isotope analyses from Tell Abraç, United Arab Emirates: new data regarding the 'tin problem' in Western Asia

¶9: The 'tin problem' forms the focus for discussion on the earliest use of tin and bronze in western Asia and the Aegean. New research on lead isotope data from Tell Abraç in the UAE has important implications for the advent of bronze in the region.

¶10: Investigations on the evolution of subsistence economy in the Qazvin Plain (Iran) from the Neolithic to the Iron Age

¶11: Analysis of zooarchaeological data from three prehistoric sites on the Iranian plateau presents new details of economic strategies in this little-known region.

¶12: The archaeology of Dian: trends and tradition

¶13: The Dian culture of eastern Yunnan in southwest China is known particularly for its fine material culture. Much new work has been done to explore the militaristic Dian, and this paper provides an up-to-date discussion of its importance and its archaeology.

¶14: Muck 'n' molecules: organic geochemical methods for detecting ancient manuring

¶15: The detection of manuring in antiquity can provide important information concerning the agricultural and waste disposal practices of ancient communities. Faecal biomarkers provide a reliable and highly diagnostic method for detecting ancient faecal inputs to soils irrespective of any morphological remnants of manuring.

¶16: V. Gordon Childe and the vocabulary of revolutionary change

¶17: Because Childe wrote extensively for non-archaeologists and the public his Neolithic and Urban Revolutions have continued to influence historians in general — and historians of technology in

particular — into the 1990s. This paper examines their influence, while noting significant changes in Childe's terminology and use of analogy between 1928 and 1957.

¶118: The chaos of collapse: disintegration and reintegration of inter-regional systems

¶119: The collapse of organizational systems often results in dramatic re-organization of the social, political, ritual and economic ties that formerly integrated large areas. Such collapse can also result in isolation, and the breakdown of communication and cooperation between communities, and may lead to regional factionalism. This process is examined in the Zuni region of the American Southwest using changes in architecture and ceramics.

¶120: Radiocarbon calibration for the Middle/Upper Palaeolithic: a comment

¶121: Recently, ANTIQUITY published 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.

¶122: Radiocarbon dating: avoiding errors by avoiding mixed samples

¶123: 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.

¶124: In an appendix, the recent radiocarbon dating of samples from within the Calanais stone circle on the Isle of Lewis, Scotland, opens up further debate on phasing and occupation.

¶125: The 'Kilnsea-boat', and some implications from the discovery of England's oldest plank boat remains

¶126: A single plank with integral cleats, recently discovered on the East Riding of Yorkshire coast at Kilnsea, has been identified as a fragment of a Bronze Age plank boat, and dated to 1870–1670 BC. This makes the 'Kilnsea-boat' England's oldest dated plank built boat.

¶127: The Congress of Anthropology and Archaeology in Copenhagen 1869 — behind the stage

¶128: Archaeological meetings have always provided the essential forum for discussion of the discipline. The tradition goes back in Denmark over 130 years, and here Stine Wiell reviews how the important meetings in 19th-century Copenhagen and elsewhere had a major influence on archaeological perceptions in Europe.

¶129: Is archaeological valuation an accounting matter?

¶130: How can a value be put on the past? This article promotes discussion of how archaeologists and museum curators are being forced into providing valuations for their 'resource' and collections, and conforming to accounting practices.

¶131: Excavations at Dun Vulcan: a correction

¶132: In June 1998, we published a discussion on the interpretation of Iron Age Scottish brochs and wheelhouses. Gilmour & Cook challenged the ideas published by Parker Pearson et al. in 1996. Here, that challenge is taken up.

¶133: Special section: Theory in French archaeology

#### ¶134: Archaeological theory in France and Britain

¶135: British archaeologists have long been puzzled by the contrast between the way in which the theoretical underpinnings of the discipline are discussed and explored on the French side of the Channel. Theory might be considered one of the most significant issues in British archaeology over the last 30 years, since the work of David Clarke in the late 1960s. There has sprung up a healthy tradition of debate, of polemic and counter-polemic, inspired by a desire to understand the epistemological and methodological underpinnings of our subject. In France, by contrast, theory has been a much less prominent part of the archaeological scene. This is all the more surprising given that France is the homeland of some of the key figures who have been espoused by British post-processualists: Foucault, Derrida, Lacan, and Althusser to name but a few. Why should this be?

#### ¶136: Is post-processualism bound to happen everywhere? The French case

¶137: It may seem surprising that post-processual archaeology has not had any impact in France, given that much of its vocabulary has been borrowed from French intellectuals. The answer is not archaeological. 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.

#### ¶138: New advances in French prehistory

¶139: The study of technology is long-standing in France, with its roots in the Enlightenment. Since then, French technological studies have exhibited divergent characteristics: a search for universal principles and a deep interest in the material and physical details of technology, the role of the craftsman and his skill. Technology is considered a mediator between Nature and Culture, material and social. The 1950s were marked by a renewal of this debate mainly through the work of two social anthropologists (Leroi-Gourhan and Haudricourt), a historian (Gilles) and a philosopher of technology (Simondon). All looked for general principles in order to explain the evolution of technology and its place in society. Apart from Haudricourt, who emphasized social relations, all stressed the autonomy of the technical realm and its quasi-biological development.

#### ¶140: The origins of French archaeology

¶141: In contemporary scientific research, the most marked result of the last 30 years has been the development of a specifically American science and its emancipation from the old European intellectual heritage of the 19th century and the interwar period. This movement, marked in archaeology by the birth of the New Archaeology in the 1960s and 1970s, followed by the anti-processual reaction of the 1980s and 1990s, has been accompanied by a process of globalization of the archaeological discipline, leading to the unification of methods and theory. The birth of a world market dominated by the United States, characterized by mass consumption and the hegemony of the economic over the political, has imposed new practices of archaeology, which post-processual scholars have been quick to exploit.

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

¶143: In June 1940, following the signature of the Rethondes armistice, the French province of Alsace was joined to Germany and integrated with the neighbouring German province of Baden, into the Gau Baden-Elsass, later known as Gau Oberrhein. A period of more than four years began, when the Nazi authorities resorted to any means to Germanize the province and its inhabitants as quickly as possible. 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. 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, and that those origins justified their integration into the Reich (FIGURE 1). Local archaeological research was especially favoured by the Nazis to further this theory.

¶144: Ethnicity, culture and identity: French archaeologists and historians

¶145: The state of French archaeological theory has been recently covered by two French-authored papers in English (Audouze & Leroi-Gourhan 1981; Cleuziou et al. 1991). These articles emphasize the weight of national tradition and demonstrate the unique position of France between two great currents of European, indeed world, archaeology: Germanic (concerned with cultural and chronological classification) and English-speaking (more interested in general interpretative models). These two articles also ponder another phenomenon: the relative absence of French archaeology in theoretical — notably post-processual — debate.

¶146: Questions of epistemology and a working hypothesis about engravings of the 5th millennium in western France

¶147: 'When Mr Renaud, of Auray, during his 1811 excavation at the dolmen des Marchands in Lockmariaker, discovered engraved, previously unknown, characters, he made a discovery which none has effaced, in the prehistoric science of our western regions, that no one else, in our view, has even equalled, and which we shall appreciate more and more as new pages of this language of ancient times are revealed to us.'

¶148: Landscapes from the field; recent publications on the archaeology of parks and gardens

¶149: Art in stone from Rome to Byzantium

¶150: Pottery in Rajasthan: ethnoarchaeology in two Indian cities.

¶151: Household and state in upper Mesopotamia: specialized economy and the social uses of goods in an early complex society.

¶152: Ancient Anatolia: Fifty years' work by the British Institute of Archaeology at Ankara.

¶153: Europe before history.

¶154: Ancient goddesses: The myths and the evidence.

¶155: Warfare in the Late Bronze Age of North Europe.

¶156: The prehistoric archaeology of Ireland.

¶157: The Chora of Metaponto: The Necropoleis.

¶158: The Salisbury Hoard.

¶159: The modern antiquarian: A premillennial odyssey through megalithic Britain.

¶160: Schools of asceticism: ideology and organisation in medieval religious communities.

¶161: Industrial archaeology, principles and practice.

¶162: Continent of hunter-gatherers: new perspectives in Australian prehistory.

¶163: The origins of agriculture in the lowland Neotropics.



¶164: The archaeology of human bones.

¶165: ISSUE 2

¶166: The last Pleniglacial and the human settlement of Central Europe: new information from the Rhineland site of Wiesbaden-Igstadt

¶167: AMS and other dating methods have been applied to the problem of Upper Palaeolithic occupation in Central Europe. The results from the excavations at the Rhineland site of Wiesbaden-Igstadt provide an opportunity for comparison and discussion of whether central Europe was really subject to abandonment at various times during Glacial/Pleniglacial episodes.

¶168: Archaeological and palaeontological research in central Flores, east Indonesia: results of fieldwork 1997–98

¶169: The tuffaceous sandstones and siltstones of the Ola Bula Formation in central Flores, east Indonesia, contain many fossil sites. Here, excavations at Boa Lesa and Dozu Dhalu and the results of regional site surveys are described. Stone artefacts indicate that hominids had arrived on the island by 840,000 years ago, post-dating a major change in the Lower Pleistocene fauna. Since water crossings were required to reach Flores from mainland Southeast Asia, this evidence has implications for the intellectual, technological and linguistic capabilities of early hominids.

¶170: The Late Quaternary of the Western Amazon: climate, vegetation and humans

¶171: The Amazon rain-forest we know today is quite a recent phenomenon. New research on climate and vegetation changes from a series of cores in Ecuador provide a chronology for early agriculture and forest clearance from early Holocene times.

¶172: Sea-level change and the archaeology of early Venice

¶173: The threatened city of Venice, plagued by rising sea levels and subsiding ground, has been the subject of recent archaeological investigation. Studies of buried archaeological sites yield new evidence on trends in sea-level change for the Lagoon of Venice and provide important insight into how early habitation responded to such change.

¶174: Adriatic sailors and stone knappers: Palagruža in the 3rd millennium BC

¶175: Small islands offer archaeologists interesting and manageable subjects for survey and excavation. The recent work on Adriatic islands reported here examines occupation during the 3rd millennium BC, showing how sailors exploited islands for trade, control and raw materials.

¶176: Architecture and sound: an acoustic analysis of megalithic monuments in prehistoric Britain

¶177: Prehistoric monuments in Britain are often dominant features in the landscape, and archaeological theory has tended to consider the visual and spatial influences of their architecture upon peoples' movement and perception. The articulation of sound within these structures has not been widely discussed, despite evidence which suggests that many monuments provided settings for gatherings of people. This possibility was explored at two contrasting sites in Scotland, a recumbent stone circle and a passage-grave, revealing that the elemental acoustic properties inherent in each may have literally orchestrated encounters with the stones.

¶178: Expressions of inequality: settlement patterns, economy and social organization in the southwest Iberian Bronze Age (c. 1700-1100 BC)

¶179: Intensive survey in southwestern Spain has encouraged reassessment of Copper and Bronze Age settlement in the region. This paper explores the issues of social ranking and stratification, and incorporates both the different types of landscape and their relative economic productivity in new discussions on social complexity.

¶180: Cost, benefit and value in the organization of early European copper production

¶181: How can archaeologists evaluate the 'cost of production' in prehistory? Stephen Shennan explores ethnographic examples, Ricardo's Law of Comparative Advantage and archaeological evidence from the eastern Alps in a stimulating discussion of Bronze Age production and exchange.

¶182: A reconstruction of Middle Preclassic Maya subsistence economy at Cahal Pech, Belize

¶183: The recovery of animal and plant remains from the site of Cahal Pech provides data on early diet and subsistence practices in the Belize Valley region of the Maya lowlands. Analysis of the material remains suggests that the Middle Preclassic Maya were practising a mixed subsistence economy relying on agricultural foodstuffs, local terrestrial game species, freshwater fish and shellfish and marine reef fishes. Isotopic analysis of human bone is used to aid in the reconstruction of actual food consumption.

¶184: The catalogues of the Pitt-Rivers Museum, Farnham, Dorset

¶185: The beautifully illustrated catalogues of Lieutenant General Pitt-Rivers collections at Farnham have recently been presented to the University of Cambridge — where they will be in the public domain for the first time. The background to the collections and their catalogues is an intriguing story, showing the precision and detail demanded by Pitt-Rivers for his Farnham Museum. We are pleased to present some examples here, printed in colour and showing the range of the Victorian collector par excellence.

¶186: A Levallois point embedded in the vertebra of a wild ass (*Equus africanus*): hafting, projectiles and Mousterian hunting weapons

¶187: The hunting methods of the Neanderthals are rarely evident in detail in the archaeological record. Here, the rare and important discovery of a fragment of broken Levallois point, embedded in the neck-bones of a wild ass, provokes plenty of discussion of the methods of hafting and killing game in the Middle Palaeolithic of Syria.

¶188: Encoding information: unique Natufian objects from Hayonim Cave, Western Galilee, Israel

¶189: New incised bone and limestone Natufian objects discovered during the 1997 season of excavations at Hayonim cave (Western Galilee, Israel), as well as a bone object found earlier in Kebara cave (Mount Carmel), indicate direct connections between the two sites. The incised pattern on the slab is interpreted as supportive evidence for emerging territoriality among Natufian communities in the Levant.

¶190: A limestone landscape from the air: le Causse Méjean, Languedoc, France

¶191: Reconnaissance on the southern edge of the Massif Central is studying field evidence which deepens appreciation of the present-day upland French landscape as not only 'sauvage' but also the product of long-term use.

¶192: Dating the first New Zealanders: the chronology of Wairau Bar

¶193: The first colonization of New Zealand is a much debated issue. The lack of appropriate absolute dating has meant chronology has been poorly understood. New 14C dating of materials from archaic Polynesian graves and occupation levels provides important precision and understanding of early exploitation on New Zealand.

¶194: Dating Navan Fort

¶195: Excavations in the summer of 1998 have provided a solution to the problem of dating Northern Ireland's premier archaeological site and opened up new areas for speculation.

¶196: An ultra-low chronology of Iron Age Palestine

¶197: The dating of the complex historical events of Palestine, Syria and Egypt during the Iron Age have long occupied scholarly research. Here, a new scheme of dating is offered, which may help to remove gaps and anomalies in the sequence.

¶198: Old World irrigation technology in a New World context: qanats in Spanish colonial western Mexico

¶199: Spanish colonists imported ancient Arabic irrigation methods into Mexico. Even though historians have made little of the qanat systems, archaeological research in Jalisco has revealed their significance in the colonial economy of Mexico

¶100:

¶101: Statistics, damned statistics, and the antiquities trade

¶102: The antiquities trade is a rather shady business — and few facts are available. Here Neil Brodie of the Illicit Antiquities Research Centre at Cambridge reviews the facts and figures of the British trade in such goods.

¶103:

¶104: Landscape: gleaning the meaning

¶105: Myth, memory and archaeology as historical sources

¶106: Capitalism and critique

¶107: Montane foragers: Asana and the South-Central Andean Archaic.

¶108: Neolithic Bog Pots from Zealand, Møn, Lolland and Falster.

¶109: The Irish Stone Axe Project,

¶110: The Severn estuary: landscape evolution and wetland reclamation.

¶111: Swaledale: the valley of the wild river.

¶112: Sandy Pylos: an archaeological history from Nestor to Navarino.

¶113: Greek and Roman oared warships 339-30 BC.

¶114: God and gold in late antiquity.

¶115: Reader in gender archaeology.

¶116: Reader in archaeological theory: Post-processual and cognitive approaches.

¶117: Ancestral images: the iconography of human origins.

¶118:

¶119: ISSUE 3

¶120: Intrasite spatial organization of lithic production in the Middle Palaeolithic: the evidence of the Abric Romaní (Capellades, Spain)

¶121: Spatial organization is a central issue in Palaeolithic archaeology, since it reflects the behavioural capabilities of human groups. We present an analysis of the lithic spatial distribution in a Middle Palaeolithic site, the Abric Romaní. Discussion of these data provides some insights on the variability of settlement patterns among the Neanderthals.

¶122:

¶123: Initial Upper Palaeolithic in south-central Turkey and its regional context: a preliminary report

¶124: The earliest Upper Palaeolithic industries of the Levant, which figure prominently in discussions of the spread of anatomically modern humans and the origins of the Upper Palaeolithic, are known from a small number of localities. Two sites in the Hatay region of Turkey have yielded initial Upper Palaeolithic assemblages similar to those found in the Levant. One of the sites, Üçağızlı' cave, has also provided radiometric dates and faunal remains, both relatively rare for sites of this period.

¶125: Handaxes: products of sexual selection?

¶126: Why were handaxes made and why was their shape symmetrical and regular? These and many other questions are considered here, in a paper tackling hominid social behaviour and sexual selection.

¶127: A generic geomorphological approach to archaeological interpretation and prospection in British river valleys: a guide for archaeologists investigating Holocene landscapes

¶128: Landscape archaeology depends greatly on the nature of the underlying physical landscape, and an understanding of its formation processes and change. We are pleased to publish this contribution on the Holocene river valleys of Britain, which provides important guidance on the integration of archaeological and geomorphological evidence, in building models for assessing potential archaeological preservation and erosion.

¶129: Comments on the interpretation of the so-called cattle burials of Neolithic Central Europe

¶130: The phenomenon of cattle-depositions in Central Europe (c. 3500-2200 BC) 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: Iron Age inhumation burials at Yarnton, Oxfordshire

¶132: Radiocarbon dating of unaccompanied skeletons discovered during the excavation of an Iron Age, Roman and Saxon settlement at Yarnton, Oxfordshire, unexpectedly revealed the presence of a middle Iron Age cemetery (3rd or 4th century cal BC). British Iron Age burials before the 1st century BC are usually found as individuals, often in pits on settlement sites, or are represented by disarticulated human bone. This paper explores whether cemeteries were a more common part of Iron Age burial practice than hitherto believed, or whether the Yarnton burials were a highly unusual

and localized phenomenon? It highlights the merits of obtaining radiocarbon determinations on otherwise undated burials.

¶133: Assessing earliest human settlement of Eurasia: Late Pliocene dispersions from Africa

¶134: Continued discussion of the timing and intensity of earliest human occupation of Europe takes little account of the wider patterning of mammalian dispersions between Africa and Eurasia as guide. Viewed as a palaeontological event, the maximum period of such movement appears to be of latest Pliocene age, while conditions during the Early Pleistocene seem to have been particularly unsuited to dispersions through the Levant.

¶135: The existence of Andronovo cultural influence in Xinjiang during the 2nd millennium BC

¶136: Previously considered a Bronze Age lacuna, the Northwest Xinjiang region of China has new archaeological finds, showing significant relationships between it and Kazakhstan and Kirghizia. The new Bronze Age culture of Xinjiang shows close affiliation with the Andronovo culture.

¶137: Chewing tar in the early Holocene: an archaeological and ethnographic evaluation

¶138: In an editorial in 1897, the British Medical Journal (ii: 1112) reported on increase in the 'disgusting habit' of chewing gum, prepared from rubber or plant resin flavoured with aniseed or peppermint. However, the use of masticants is a much more widespread and long-term behaviour with possible health implications for humans. Here, samples of Mesolithic date from Scandinavia are identified and discussed.

¶139:

¶140: Special Section: Heritage and archaeology in the Far East

¶141: Jomon archaeology and the representation of Japanese origins

¶142: Since 1992, on-going excavations of the Early to Middle Jomon period Sannai Maruyama site (3500-2000 BC) have uncovered the large size and complexity of this prehistoric hunter-gatherer settlement.

¶143: Letting the past serve the present — some contemporary uses of archaeology in Viet Nam

¶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.

¶145: Who were the ancestors? The origins of Chinese ancestral cult and racial myths

¶146: Ancestor worship has been a dominant religious form in ancient as well as modern China. It has shaped thought and behaviour for millennia, and has been used by élites as propaganda legitimizing their political positions. Ancestors can be created and modified, so the nature of the ancestral cult has changed through time. Using archaeological data from China, this article first enables 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); and, thirdly, investigates the process in modern history by which a legendary sage, the Yellow Emperor, was first transformed into the progenitor of the Han Chinese, and then into the common ancestor of all Chinese people.

¶147:

¶148: Contested ethnicities and ancient homelands in northeast Chinese archaeology: the case of Koguryo and Puyo archaeology

¶149: In many countries of east Asia, archaeological knowledge is frequently used in the construction of ethnic histories, and the discipline of archaeology is often employed to emphasize ethnic and cultural identities (Fawcett 1995; Nelson 1995). 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.

¶150: Nationalism and preserving Korea's buried past: the Office of Cultural Properties and archaeological heritage management in South Korea

¶151: The origins of Korean archaeological heritage management can be traced to 1916, when Japan's Resident-general Government in Korea (Chōsen Sōtokufu: 1910-1945) promulgated the first comprehensive laws of historical preservation called the 'Regulations for the Preservation of Korea's Remains and Relics'. They reflected a combination of late Meiji and early Taishō era laws tailored to the Korean peninsula such as Lost and Stolen Antiquities (1909); Temples and Shrines Protection Laws (1911); the Preservation of Stone and Metal Inscriptions (1916); and most significantly, the establishment of an administrative apparatus, the Committee on the Investigation of Korean Antiquities (1916). The Chōsen Sōtokufu Museum laws governing art exhibitions and display were compiled from Imperial Museum laws (Tokyo National Museum 1976) dating from 1890-1907 (Chōsen Sōkufu 1924: 215-30).

¶152:

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

¶154: Many authors have remarked that archaeology in East Asia is part of the discipline of history (Chang 1981: 148; Ikawa-Smith 1975: 15; Nelson 1995: 218; Olsen 1987: 282-3; Von Falkenhausen 1993). Furthermore, it is more 'locally focussed' (Barnes 1993: 40), with most of the practising archaeologists investigating archaeological remains within their own national boundaries. To paraphrase the famous statement by North American archaeologists, 'American archaeology is anthropology or it is nothing' (Willey & Phillips 1957: 2), into '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.

¶155: Dynamic landscapes and socio-political process: the topography of anthropogenic environments in global perspective

¶156: Sander Van Der Leeuw, in his recent plenary address at the 1998 Society for American Archaeology Meetings, suggested that archaeology as a discipline has moved its emphasis from site to settlement pattern, and now to the landscape. Though a landscape focus is not new, especially for the social sciences (Coones 1994; Cosgrove 1984; Glacken 1967; Jackson 1994), the landscape approach in archaeology (Wagstaff 1987) is still in its infancy.

¶157: Neo-environmental determinism and agrarian 'collapse' in Andean prehistory

¶158: In early anthropology, environmental determinism was used to explain race, human demography, material culture, cultural variation and cultural change. As anthropological

interpretation evolved, simplistic reductionist thinking was replaced with more complex socio-cultural explanations. Despite these theoretical advances, environmental determinism continues to be invoked to explain Andean prehistory.

¶159: Intensive agriculture and socio-political development in the Lake Pátzcuaro Basin, Michoacán, Mexico

¶160: Intensive agriculture played a pivotal role in the development of archaic states, but there is considerable debate concerning its relationship to population growth, climatic variability, and centralization.

¶161: **Temple mountains, sacred lakes, and fertile fields: ancient Maya landscapes in**

**northwestern Belize**

¶162: Forty-three years later these words still ring true, but are too seldom followed (Fedick 1996). For several years, we have been engaged in a multidisciplinary programme of research in northwestern Belize and neighbouring areas of Guatemala, eliciting a comprehensive, integrated picture of changing ancient Maya landscapes (Scarborough & Dunning 1996; Valdez et al. 1997). Our goals include a reconstructive correlation of environmental and cultural history, including the relationship between changes in water and land management and political economic organization. This work is still in progress and our understanding is far from complete (Dunning & Scarborough 1997).

¶163: The knowable, the doable and the undiscussed: tradition, submission, and the 'becoming' of rural landscapes in Denmark's Iron Age

¶164: Farmers in Late Iron Age Denmark lived in centuries-old villages, within territories inhabited for millennia. Long-held patterns of settlement, movement, economic interaction and socio-political structure characterized the cultural landscapes of these loosely integrated, heterarchical societies. During the transition to a state in the late Viking Age, many new settlements were established and rapid landscape change transformed older communities into highly controlled, newly regulated places.

¶165: Late woodland landscapes of Wisconsin: ridged fields, effigy mounds and territoriality

¶166: Sauer (1925) saw the terrestrial scene as more than a natural arena for human action. He recognized the repeated human impact on a living earth which created an ever-changing stage of landscape. Geographical conceptions of landscape have changed in the intervening 75 years. Today, geographers acknowledge the historically contingent qualities of nature and society and their inter-relationships (Zimmerer 1994).

¶167: Defining a contemporary landscape approach: concluding thoughts

¶168: Changing places

¶169: Rummidge and Euphoria are places on the map of a comic world which resembles the one we are standing on without corresponding exactly to it, and which is peopled by figments of the imagination.

¶170: Redirected light on the indigenous Mediterranean

¶171: Lithics limited

¶172: Archeology and language II: Archaeological data and linguistic hypotheses. (

¶173: Archaeology and language I: Theoretical and methodological orientations.

¶174: Canaanites (Peoples of the Past).

¶175: Classical Greek theatre: new views of an old subject.

¶176: An examination of Roman bronze coin distribution in the Western Empire AD 81-192.

¶177: Domestic space in the Roman world: Pompeii and beyond.

¶178: Romney Marsh: Environmental change and human occupation in a coastal lowland.

¶179: Church archaeology: research directions for the future.

¶180: German stoneware 1200-1900.

¶181: Recent advances in the archaeology of the northern Andes:

¶182: Surface archaeology.

¶183: The archaeological process: an introduction.

¶184: Avebury World Heritage Site Management Plan.

¶185: Archaeology under fire: nationalism, politics and heritage in the Eastern Mediterranean and Middle East.

¶186: ISSUE 4

¶187: Palaeolithic mollusc exploitation at Riparo Mochi (Balzi Rossi, Italy): food and ornaments from the Aurignacian through Epigravettian

¶188: This study considers exploitation of marine molluscs at Riparo Mochi (Italy) in cultural and ecological context. Five shell assemblages from this site represent the early Upper Palaeolithic (c. 36,000 BP) through Late Epigravettian (c. 9000 BP) periods. Taphonomic analysis reveals four kinds of shell debris: ornaments, food refuse, marine sponge inclusions, and land snails. While human foraging agendas at Riparo Mochi shifted over the five Palaeolithic phases, the kinds of marine shells favoured as ornaments remained nearly constant.

¶189: The oldest ever brush hut plant remains from Ohalo II, Jordan Valley, Israel (19,000 BP)

¶190: Detailed excavation and analysis of a brush hut from Ohalo II, Jordan Valley, Israel, provides an extraordinary view of camp construction 19,000 years ago. This report offers an important contribution to studies of Palaeolithic camp sites.

¶191: Flint and pyrite: making fire in the Stone Age

¶192: Flint implements with rounded ends, excavated at several Upper Palaeolithic sites in Denmark and Holland, are interpreted as strike-a-lights used in combination with pyrites. Experimental flints employed in this way show use-wear traces similar to those on the prehistoric specimens. It is suggested that the pyrite technique for fire production pre-dates wood-on-wood techniques, at least in Europe and in Greenland.

¶193: The earliest evidence of wheeled vehicles in Europe and the Near East



¶194: The earliest evidence of wheeled vehicles dates to the Funnel Beaker (TRB) culture in Europe and the Late Uruk period in the Near East. Results of excavations and 14C determinations from Poland, Germany, Iraq, Syria and Turkey suggest that the appearance of wheeled vehicles was contemporary in Europe and the Near East.

¶195: Technical strategies and technical change at Neolithic Çatalhöyük, Turkey

¶196: Analysis of knapped obsidian and flint artefacts from the early ceramic Neolithic site of Çatalhöyük has shown that there were several strategies used for the production of knapped-stone tools, and that there was a profound change in the character of lithic production occurring approximately during the middle of the occupation sequence. This paper outlines the details of this technical change and, with reference to possible changes in subsistence strategies and the organization of production, offers some explanations for its occurrence.

¶197: Prehistoric agricultural production on Easter Island (Rapa Nui), Chile

¶198: A survey of the Easter Island landscape has resulted in the recognition of numerous lithic mulched household gardens and fields. It is proposed that lithic mulching was a technological innovation introduced to enhance the moisture retention capacity of the excessively drained island soils, and was an innovation incorporated into élite managed field systems which arose in the early 15th century to meet the demands for surplus production.

¶199: Seeds of urbanism: palaeoethnobotany and the Indus Civilization

¶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: agricultural intensification is discussed in relation to social and environmental changes.

¶201: Marine investigations in the Lakshadweep Islands, India

¶202: The Lakshadweep Islands lie on the sea route between west Asia and Africa on the one hand and south Asia and the Far East on the other. In maritime history, these islands have played a vital role by providing shelter, fresh water and landmarks to navigators through the ages. Recent discoveries made during marine archaeological exploration and excavations in the Lakshadweep have revealed evidences of early settlement and shipwrecks. The findings suggest that the islands had been inhabited much before the early historical period.

¶203: Dynamics of Hohokam obsidian circulation in the North American Southwest

¶204: Geochemical analyses of obsidian offer unexpected insights on the size and organization of the Hohokam regional system in the North American Southwest. Networks of obsidian circulation enlarged greatly during the Classic period as community centres with monumental architecture acquired non-local obsidian from a vast territory. This pattern confirms that prior models drastically underestimated the geographic scale of the Classic period regional system.

¶205: Agricultural production and social change in the Bronze Age of southeast Spain: the Gatas Project

¶206: This paper presents new data on agricultural production, the palaeoenvironment and social change during the Bronze Age of southeast Spain. The authors argue against the inference of irrigation as the basis for agriculture and relate the emergence of cereal monoculture to the extraction of surplus and the exploitation of human labour.

¶207: Paradise Lost: the bombing of the Temple of the Tooth — a UNESCO World Heritage site in Sri Lanka

¶208: The bombing of the Temple of the Tooth at Kandy in 1998 provides the focus for an analysis of the political targeting of heritage in Sri Lanka.

¶209: 'The mystery of husbandry': medieval animals and the problem of integrating historical and archaeological evidence

¶210: Archaeological evidence and historic records are often at variance on the subject of animal husbandry. This paper discusses the problems of integrating the evidence for medieval and later Britain, and offers new discussion on the interpretation of the zooarchaeological data.

¶211: Has Australia backdated the Human Revolution?

¶212: Australia has usually played a supporting role in the story of human evolution — regarded as a place at the edge of the inhabited world where modern humans arrived relatively late and then remained largely isolated from subsequent developments. However, new dates for a human burial at Mungo, New South Wales (Thorne et al. 1999) may not only force revision of views about the peopling of Australia, but also have a wider impact on ideas about modern human origins.

¶213: Understanding the initial colonization of Scotland

¶214: Discussion of the colonization of Scotland in the post-glacial period has long perplexed scholars, because of drowned coasts and archaeological evidence. This paper presents data and new speculation on the subject.

¶215: The curing of hides and skins in European prehistory

¶216: Leather, hide and fur were probably the preferred material for all kinds of equipment (tents, bags, pots and drinking vessels) and clothing in prehistory. It is therefore remarkable that our knowledge of this material is so restricted, and its survival even in suitable circumstances very limited. Palynological data and experimental methods attempt to explain this phenomenon.

¶217: A Neolithic revolution? New evidence of diet in the British Neolithic

¶218: Were marine foods still a significant part of the diet in the Early and Middle Neolithic in Britain? This paper presents new evidence, from  $\delta^{13}\text{C}$  measurements of 78 radiocarbon-dated humans from 27 coastal and inland sites in England and Wales, for an apparent abandonment of the use of marine foods in the British Early and Middle Neolithic.

¶219: The oldest metallurgy in western Europe

¶220: Recent excavations at the Neolithic site of Cerro Virtud (Almería, southeast Spain) have produced new information about the development of metallurgy that may change ongoing research not only in the Iberian Peninsula but also in the rest of western Europe. The discovery of metallurgy in this region in the first half of the 5th millennium BC poses serious challenges to the interpretation of how this industry developed and spread, given that the nearest European region with similar evidence is the Balkans. This study presents the archaeological context of the discovery and the various analytical techniques (XRF, SEM,  $^{14}\text{C}$ ) that have been applied to it.

¶221: Re-assessing the logboat from Lurgan Townland, Co. Galway, Ireland

¶1222: Recent study of the prehistoric Lurgan logboat reveals many details of its construction and date. Speculation on how the boat was used and why it was incomplete offer an insight into Irish prehistory.

¶1223: *Cimex lectularius* L., the common bed bug from Pharaonic Egypt

¶1224: Bed bugs have been troubling humans for at least 3550 years, as shown by examples from Tell el-Amarna. Here we report on the bug's habits and history, as revealed by archaeology.

¶1225: Pubic lice (*Pthirus pubis* L.) were present in Roman and Medieval Britain

¶1226: As methods of retrieval become ever better, and analysis more refined, the horrid vermin of human occupation are identified and mapped. Recent analyses of deposits from Carlisle provide data on pubic lice.

¶1227: The concept of affordance and GIS: a note on Llobera (1996)

¶1228: 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.

¶1229: Stone sarcophagus manufacture in ancient Egypt

¶1230: Experimental work on the techniques for making stone sarcophagi demonstrate how a variety of tools, material and drilling methods were employed in ancient Egypt

¶1231:

¶1232: Nuragic Sardinia and the outside world

¶1233: Through the Clovis barrier

¶1234: Perils of iconography: the Maya

¶1235: Settlement shift: Pueblo cases

¶1236: Mississippian studies

¶1237: Early human behaviour in global context: The rise and diversity of the lower Palaeolithic record

¶1238: Excavations at the Lower Paleolithic site at East Farm, Barnham, Suffolk, 1989-94 (

¶1239: Ancient Mesopotamia: the Eden that never

¶1240: Roman urbanism: beyond the consumer city.

¶1241: Astronomy in prehistoric Britain and Ireland.

¶1242: The Atlantic Celts: ancient people or modern invention?

¶1243: The archaeology of the medieval English monarchy.

¶1244: Unravelling the landscape: an inquisitive approach to archaeology.

¶1245: Advances in historical ecology.

¶1246: Zooarchaeology

¶1247: Shell.

¶1248: Materials analysis of Byzantine pottery.

¶1249: Pottery ethnoarchaeology in the Central Maya Highlands.

¶1250: Finding the walls of Troy: Frank Calvert and Heinrich Schliemann at Hisarlik.

¶1251: The final sack of Nineveh: the discovery, documentation, and destruction of King Sennacherib's throne room at Nineveh, Iraq.

## **Name:** Antiquity 2000 abstracts

¶1: Antiquity 2000 abstracts

¶2: ISSUE 1

¶3: Red Barns Palaeolithic site

¶4: The Lowed/Middle Palaeolithic site at Red Barns, Portchester, on the outskirts of Portsmouth (SU 608063), was re-investigated in summer 1999. Three test-pits succeeded in relocating and exposing the artefact-bearing horizon first discovered in 1973 by J.C. Draper of Fareham and last seen in 1975 when a rescue excavation took place. This excavation produced a massive (in every sense) lithic collection including seven sediment samples, 8678 flint artefacts, 2058 flint nodules and a staggering 18,423 thermally fractured flint pieces (Gamble & ApSimon 1986). 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, and that lithic technology at the site was dominated by the production of pointed plano-convex handaxes. Study of the organizational structure of the lithic production gave an insight into the patterning of Archaic hominid behaviour, with the site serving as a locale where handaxes were regularly made, but from which they were normally removed before being used and abandoned elsewhere.

¶5: WF16, a new PPNA site in Southern Jordan

¶6: Wadi Faynan in southern Jordan has a remarkable archaeological landscape with the remains of a vast Roman/Byzantine settlement and field system, many later prehistoric sites and a Pre-Pottery Neolithic B village dating to c. 8700 radiocarbon years BP. Since 1996 we have been conducting survey and excavation within this Wadi, and especially at its confluence with Wadi Ghuwayr, to locate the precursor to the PPNB site and any earlier prehistoric activity. The most important site so far discovered has been called WF16 and is a well preserved Pre-Pottery Neolithic A settlement, dated to between 10,200 and 9400 radiocarbon years BP (FIGURE 1). Sites of this period are extremely rare in the Near East and of considerable importance for they lie right at the juncture between a hunting-gathering and farming lifestyle (Bar-Yosef & Belfer-Cohen 1989). WF16 is particularly well preserved for, unlike other PPNA settlements such as Jericho, it was not buried by a later PPNB settlement, this having been located approximately 100 m away in the lower reaches of Wadi Ghuwayr. Neither does there appear to be significant Natufian deposits at WF16 — it appears to be a pristine PPNA site and for that reason is of considerable significance.

¶7: New research on the Hungarian Early Neolithic

¶8: The unresolved questions about the beginning of the Neolithic period across Europe still abound (Whittle 1996). How did the phenomenon spread? What indeed was the phenomenon, and was it the same from region to region? Who were the principal actors involved and where did they come from? Were they permanently settled? What impact did they have on their environments? What use did they make of their various subsistence resources? How quickly were changes introduced and why?

¶9: A model of Tell el-Amarna

¶10: Tell el-Amarna, the short-lived capital built by the pharaoh Akhenaten around 1350 BC, remains the largest ancient city in Egypt which is still above ground. Over the last century a succession of archaeological expeditions has revealed large areas of its plan. During 1999 the Boston Museum of

Fine Arts, in connection with a temporary exhibition of Amarna art, commissioned a 1:400-scale model of a major part of the city, based on the survey which, in recent years, the Egypt Exploration Society has carried out. It was designed by Mallinson Architects, with advice from Bany Kemp, field director of the EES expedition to Amarna, and built by a Clapham firm of architectural modelmakers, Tetra (Andy Ingham Associates). The completed model measures 12 x 10 feet (3.7 x 3.0 metres).

#### ¶11: Ancient salt-mining in Austria

¶12: Above Hallein, 14 km south of Salzburg and at 800 m above sea level, the spa village of Heilbad Dürrenberg clusters around what until recently was a centre of commercial salt production. Its prehistoric roots overlapped with the hey-day of the well-known Hallstatt site, 40 km east. From c. 750-150 BC a community of perhaps 200 provided the labour force for the mines. It was clearly dangerous work; in 1573 and again in 1616 there are contemporary records of the discovery of the wellpreserved bodies of Iron Age miners while on the Dürrenberg as again at Hallstatt there are indications of serious landslides. As in historic times, the miners probably worked part-time only, in spring and autumn tending their pigs and cattle and pasture land. The wealth of this small settlement is clearly evidenced by the clusters of graves which surrounded the various rectangular houses.

#### ¶13: Classical shipwreck excavation at Tektaş Burnu, Turkey

¶14: In 1999 the Institute of Nautical Archaeology (INA) began the excavation of a 5th-century BC shipwreck off Tektaş Burnu, a rocky headland on the west coast of Turkey between the Greek islands of Chios and Samos. The site was discovered in 1996 during INA's annual survey, which has pinpointed more than 100 ancient wrecks off southwest Turkey. Since 1960 teams under Gorge Bass have excavated wrecks ranging in date from Bronze Age to medieval, but the high classical period of Greece remained unrepresented. Interest in the Tektas wreck was spurred by its likely date, in the third quarter of the 5th century BC; it is the only wrecked merchantman to be securely dated to these years, and is therefore shedding unique light on seafaring and trade at the height of classical Athens.

#### ¶15: Intensive survey of hilltop terrace sites in Oaxaca, Mexico

¶16: As part of a long-term project examining the Classic-Postclassic (AD 200-1520) domestic economy in the Valley of Oaxaca, Mexico, we have completed intensive mapping and surface survey at three large, hilltop terrace sites in eastern Tlacolula: Guirún (Saville 1900; 1909), El Palmillo and the Mitla Fortress (Holmes 1897). Earlier surveys (Kowalewski et al. 1989) indicated that all three sites were craft production centres (stone working) and had extensive Classic and Postclassic occupations (Feinnian & Nicholas 1996).

#### ¶17: Towards a phenomenology of Samnite fortified centres

¶18: The Sangro Valley Project was established in 1994 by John Lloyd, Neil Christie and Amalia Faustoferri. Its aim was to study anthropogenic change in society, economy and settlement between the Bronze Age and the Middle Ages, within the context of a Mediterranean river valley system (see Lloyd et al. 1997; Lloyd & Faustoferri 1998). Part of this research has integrated field survey between the Sangro river and Monte Pallano with excavations conducted by the Soprintendenza on the mountain itself. Monte Pallano is best known for its fine megalithic walls (Oakely 1995: 84-7), marking a putative oppidum site. Recent Italian excavations [with Anglo-American support] have aimed at clarifying the situation at a substantial public buildinghilla complex on the mountain. This work has been fruitful in its initial phases; much, however, remains to be done.

¶19: The fortifications and water supply systems of Constantinople

¶20: An archaeological survey of the Thracian hinterland of Constantinople led by James Crow (Newcastle University) began in 1994 and its first stage is due for completion this year (2000). The main focus of the project over the past five years has been the Anastasian Wall, a 6th-century monumental linear fortification stretching some 56 km from the Black Sea to the Sea of Marmara and situated c. 65 km from the city itself. In places the Wall survives up to 5 m high, but for the most part it lies obscured deep within the forests of central and northern Thrace, together with its associated forts, an outer ditch and a complement of massive towers.

¶21: The origins of the civilization of Angkor

¶22: The transition to states in mainland Southeast Asia began during the first centuries AD, and has commonly been ascribed to the adoption of Indian religious and political ideas which arrived on the maritime silk route. Recent research on the Khmer language inscriptions dating from 611 AD has revealed strong local traditions underlying the Indic veneer. In assessing these trends to increased social complexity, however, we have lacked insight into late prehistoric culture.

¶23: Ridge and furrow survival and preservation

¶24: Subdivided strip fields were widespread over most of lowland England before enclosure. Where datable they seem to originate in the late Saxon period and their use survived into the 19th century in some places. In East Anglia and southeast England strips were usually ploughed flat, but in most of the Midlands they were cast up to form 'ridge and furrow'. This ridging technique was once used in a central band stretching from County Durham in the north to Somerset in the southwest.

¶25: New Roman and prehistoric aerial discoveries at Grandford, Cambridgeshire

¶26: The Romano-British settlement at Grandford lies northwest of the town of March, in the heart of the Fens of eastern England. It straddles the 'Fen Causeway', a Roman road that ran west—east across the Fens, and which probably originated at the legionary vexillation fortress at Longthorpe, near Peterborough, held between c. AD 48 and 61/62. Small-scale excavations between 1958 and 1968 demonstrated occupation for much of the Roman period, down to the later 4th century, beginning at least as early as c. AD 65 (Potter & Potter 1982). It was suggested on various grounds that the settlement may have started life as a Roman fort, constructed in the aftermath of the great rebellion of AD 60-61, led by Boudicca, Queen of the Iceni (Potter 1981: 85-7).

¶27: Romanization, Christianization and Islamicization in southern Lusitania

¶28: The study of Roman urban centres in Portugal (ancient Lusitania) is now well developed, but the rural landscape has remained little known. A new collaborative European project (Friedrich-Schiller-Universität Jena, Johann-Wolfgang-Goethe-Universität Frankfurt/Main, National University of Ireland Galway and University College Dublin) is investigating the rural landscape and its economy — with the support of the Fritz Thyssen Foundation Cologne and the Instituto Portugues do Património Arquitectónico — from the Romanization of coast and hinterland, its Christianization and subsequent Islamicization.

¶29: Renewed investigations at the Folsom Palaeoindian type site

¶30: The Folsom site (New Mexico, USA) is justly famous as the place where in 1927 four decades of sometimes bitter controversy came to an end, when it was finally demonstrated humans had been in the New World since the Pleistocene (Meltzer 1993). Folsom became the type site for the Palaeoindian period and distinctive fluted projectile point that bears its name (see Hofman 1999).

Yet, as the excavations done in the 1920s by the Colorado (now Denver) and American Museums of Natural History focused initially on the recovery of *Bison antiquus* skeletons suitable for museum display, and latterly on documenting the association of projectile points with those bison remains, many fundamental questions of interest about the site's stratigraphic, environmental and archaeological context were left unanswered (and often not asked).

¶131: Burnt mounds in the East Midlands

¶132: Within the last decade the emphasis of burnt mound research has been refocused on the prehistoric landscapes in which they are set in an attempt to evade just the perennial enigma of 'function'. In the East Midlands, gravel quarrying in the major river valleys has provided an opportunity to examine large areas that have hitherto been masked by alluvium and the resulting wealth of archaeological information has included five burnt mound sites.

¶133: Vera Collum and the excavation of a 'Roman' megalithic tomb

¶134: In 1931 Vera Collum excavated the megalithic tomb at Tressé in Brittany, claiming that it had been built during the Roman period and was associated with the cult of the mother goddess. This article traces the course of her excavation and suggests a context for the reuse of Neolithic monuments in that area.

¶135: The International Ancient Egyptian Mummy Tissue Bank at the Manchester Museum

¶136: The Mummy Tissue Bank at Manchester Museum provides a new resource for Egyptian research. As Dr Lambert-Zazulak explains, new techniques of analysis and the spate of new questions about ancient diseases place this initiative at the front line.

¶137: The use of henbane (*Hyoscyamus niger* L.) as a hallucinogen at Neolithic 'ritual' sites: a re-evaluation

¶138: Were drugs in use in prehistory? Recent claims for the use of hallucinogenic substances have been made, and caused a stir. However, new work on a Scottish Neolithic ceremonial site suggests archaeologists (and the media) may have been jumping to the wrong conclusions!

¶139: Taiwan, Neolithic seafaring and Austronesian origins

¶140: New evidence for the movement of Neolithic basalt adzes across the Taiwan Strait may indicate the beginnings of regular Austronesian voyaging. This seafaring tradition culminated in the Polynesian colonization of the Pacific.

¶141: Cosmology, calendars and society in Neolithic Orkney: a rejoinder to Euan MacKie

¶142: The authors examine critically MacKie's long-standing contentions concerning Neolithic Britain — theocratic control of society, the relationships between monuments and sunrise or sunset on significant days of the year, the use of an 'elaborate and accurate' solar calendar and its survival into the Iron Age and into modern times.

¶143: Eneolithic horse exploitation in the Eurasian steppes: diet, ritual and riding

¶144: The symbolism of the horse in Eneolithic society is explored in this paper. Recent excavations in the Eurasian steppes demonstrate the importance of horses before domestication and horse riding became common; showing they were eaten, exploited and revered.

¶145: An aerial relic of O.G.S. Crawford



¶146: A manuscript scroll preserved in the Ashmolean Museum, Oxford, proves to be the log from the first in a series of flights undertaken by O.G.S. Crawford (1886–1957) in association with Alexander Keiller (1889–1955), which ultimately resulted in publication of their classic volume, *Wessex from the Air* (1928), a key work in the history of archaeological aerial photography. The roller-board on which the scroll is mounted proves equally interesting, being a cavalryman's mapping board of a type in use from the 1870s to the late 1920s. These items are placed in their respective historical contexts and an explanation is offered for their seemingly improbable conjunction.

¶147: Pottery abrasion and the preparation of African grains

¶148: The lack of botanical remains from farming sites in Africa remains a serious archaeological problem. This paper discusses how the indirect evidence of pottery may help to evaluate grain farming in African archaeology.

¶149: Radiocarbon calibration and Late Glacial occupation in northwest Europe ¶150:

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. ¶151:

Reply to Blockley, Donahue & Pollard ¶152:

Education in archaeology ¶153:

Special section: Archaeology in education ¶154:

Ways of telling: Jacquetta Hawkes as film-maker ¶155:

This short paper will discuss the role of the archaeologist and writer Jacquetta Hawkes as filmmaker. It is set within the context of her widely ranging work — from poetry and journalism to guide books and academic papers — which made varying contributions to the communication of archaeology from the 1930s to the 1980s ¶156:

Dorothy Garrod, first woman Professor at Cambridge ¶157:

In May 1939, the accomplished Palaeolithic archaeologist, Dorothy Garrod, was elected Cambridge's Professor of Archaeology — the first woman to hold a Chair at either Cambridge or Oxford. Garrod was well qualified for the position in several ways. Trained by R.R. Marett at Oxford and the Abbé Henri Breuil in France, she was renowned for her excavations in Gibraltar, Palestine, Southern Kurdistan and Bulgaria. By 1939, Garrod was one of Britain's finest archaeologists. She had discovered the wellpreserved skull fragments of 'Abel', a Neanderthal child, in Gibraltar, identified the Natufian culture while excavating Shukbah near Jerusalem, directed the large, long-term excavations at Mt Carmel, established the Palaeolithic succession for that crucial region and then travelled, in 1938, to explore the important Palaeolithic cave of Bacho Kiro in Bulgaria. Published reports of her excavations had appeared promptly and were very favourably reviewed. The prehistorian, Grahame Clark, who was to succeed her to the Disney Chair in 1952, described Garrod's *The Stone Age of Mount Carmel* (1937) as 'pure gold' (Clark 1937: 488). ¶158:

Teaching the past in the United Kingdom's schools ¶159:

Contrary to popular opinion, there is no national curriculum in schools in the United Kingdom. Instead, there are four separate curricula for England, Wales, Northern Ireland and Scotland. These cover education in state-funded schools between the ages of 5 and 16. The curricula in England, Wales and Northern Ireland, whose school and university systems share the same basic framework,

are structured in similar ways, use similar jargon and are statutory (they lay down the minimum that has to be taught). The Scottish school and higher education system, however, has always been distinctive. The curriculum in Scotland is structured along very different lines and takes the form of non-statutory guidelines. Differences between the curricula may well increase in future since education is part of the responsibilities being transferred to the new devolved parliament/assemblies in Scotland, Wales and Northern Ireland. ¶160:

Public archaeology in Canada ¶161:

The term 'public archaeology' can mean many things. It can be as simple as a photocopied brochure left outside a fenced-off archaeological excavation or as complex as an elaborate series of educational programmes. 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. ¶162:

Archaeology in French education: work in the département of the Drôme ¶163:

The French have long been proud of their prehistoric sites. Lascaux and, more recently, Tautavel and la Grotte Chauvet are part of the national cultural consciousness. This interest in prehistory begins at primary school; Lascaux and Tautavel are specifically mentioned in programmes of study, even though the 1999 programmes have been pruned and 'lightened' (alleges). French primary school children all know who 'Lucy' was. ¶164:

Archaeology and education in Argentina ¶165:

Archaeology — as a branch of anthropology in Argentina — mainly deals with the past of its indigenous peoples. This way of understanding archaeology has its roots in the organization of national scientific institutions and in the development of natural history museums of the last century (Lopes & Podgorny in press). As in Brazil (Lopes 1997), the museums were the loci for the establishment of archaeology and natural sciences as academic fields in Argentina. The collections and their classification and exhibition were tied to geographical categorization of aboriginal cultures within the national territory (Podgorny 1999a). In both Buenos Aires and La Plata museums — the first two centres to develop archaeological studies — archaeology grew from the travels of exploration that surveyed the resources of the country. ¶166:

Archaeology and education in Postsoviet Russia ¶167:

In the mid 1980s, anthropologists such as Marcus & Fischer (1986) called for a 'repatriation' of anthropology, bringing the tools of the discipline to bear on the 'home' situations of Euro-America rather than focusing on 'alien, exotic' traditions. ¶168:

The birth of educational archaeology in South Africa ¶169:

Archaeology in education has been introduced in South Africa only recently as the politics of the past precluded the application of archaeology in the classroom. This paper presents the background to South African education and educational archaeology and discusses some of the issues and studies undertaken in South Africa. It also offers comment on the factors which determine and shape educational archaeology of the present and those that may affect the discipline of archaeology in the future. ¶170:

Archaeology and history for Welsh primary classes ¶171:

The history Curriculum for Wales is a distinctive and politically sensitive document that has attempted to highlight features which will be of cultural relevance to those in the Principality. Unlike the English curriculum, there is a clear opportunity to consider some elements of prehistory, and this has been seized with enthusiasm by schools at Key Stage 2, for children aged between 7 and 11 (Welsh Office 1991; Howell 1994). Study Unit 1, the Earliest Peoples, runs up to the Bronze Age, but it is provision for Study Unit 2, The Celts, which is of particular interest here. ¶172:

Archaeology and education in Australia ¶173:

Aboriginal, Historical and Maritime archaeology have been taught in Australian universities since the 1960s, and archaeology has made major contributions to our understanding of Australia's past. Yet many Australians are still more interested in archaeology overseas than in Australia itself. This partly reflects Australia's history as a former British colony which currently has a minority of indigenous Aboriginal and Torres Strait Islander people, many of whom regard archaeology as yet another colonial imposition which at best is largely irrelevant to their own understanding of their history. Present government policies empower Aboriginal people to veto certain kinds of archaeological research they do not agree with. At minimum this may require archaeologists to engage in what can become protracted consultation, with uncertain outcomes. ¶174:

Archaeology in Greek higher education ¶175:

The teaching of archaeology in higher education in Greece 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 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 (e.g. Gourgouris 1996; Herzfeld 1982, 1987; Kitromilides 1989; Morris 1994; Skopetea 1988). 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. ¶176:

¶177:

Archaeology, education and Brazilian identity ¶178:

It is now well accepted that archaeology and education are inextricably linked (cf. MacKenzie & Stone 1994) and that the past is often represented as mirrored by the dominant groups in a given society. The late educator Paulo Freire warned that educators 'need to use their students' cultural universe as a point of departure, enabling students to recognise themselves as possessing a specific and important cultural identity' (interview in MacLaren 1988: 224). Both education and archaeology deal thus with the manipulation of present and past to forge identities useful for people in power and archaeologists and educators have been active promoters of critical approaches. Critical pedagogy has been concerned with student experience, taking the problems and needs of the students themselves as its starting point and fighting for pedagogical empowerment (Giroux & MacLaren 1986: 234–8). ¶179:

The Society for American Archaeology's 'Teaching archaeology in the 21st century' initiative ¶180:

Stewardship, diverse pasts, social relevance, ethics and values, written and oral communication, basic archaeological skills and real world problem solving — these issues are at the very core of archaeology as an evolving, dynamic discipline, in order to understand, interpret, manage, and

protect the past. 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. We now use, every day, terms and technology that did not exist just a few years ago, in a constantly changing discipline.¶81:

Education is what's left: some thoughts on introductory archaeology¶82:

In over 30 years of graduate and undergraduate teaching, I have taught everything from large introductory offerings with an audience of 300, to advanced undergraduate seminars, even a graduate course for two people on writing about archaeology. In all these years, I am struck by two constants: the general enthusiasm of my students for archaeology and their startling lack of ability to think for themselves and be intellectually self-reliant, something found in every academic discipline. These same 30 years have encompassed a period of remarkable change in archaeology—new theoretical paradigms, the increasing emphasis on stewardship and management, startling and sometimes dramatic discoveries, and a quantum jump in our ability to extract fine-grained information from the archaeological record. Yet, every winter, when I step into the classroom to address another audience of impressionable undergraduates, I find everything is the same. The expectations of my colleagues and students, the university regulations surrounding testing and scoring, the questions students ask, even the distinctive aroma in the classroom on a wet day.¶83:

Archaeology education and the political landscape of American schools¶84:

Education, a primary mode for transmitting society's knowledge, values and beliefs, is a highly political endeavour. To understand fully the place of archaeology within the framework of public education in the United States, some background in the broader political landscape and sanctioned curricula in American schools is necessary. This article examines some key aspects of these issues, including governmental control of education, the 'history of history' in schools, and the appropriation of the past. It also looks at the status of archaeology education in the United States and considers an appropriate role for pre-college archaeology.¶85:

Opening the ground: archaeology and education in Ireland¶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 well-defined. Images of monuments in mist or glorious sunshine and artefacts displayed as treasure or jewellery are very widely deployed. This constructed past serves a variety of different purposes for a rapidly changing present, from utilization as a symbol of the long tradition of Ireland's high technological expertise — nowadays being best expressed in the computing industry, as a backdrop for the sustained (as opposed to sustainable) drive to increase tourism, to the context for a call of a revitalization of Celtic spirituality (see discussion in Gibbons 1996). More traditionally, of course, material remains played a very important role in the construction of national identities in Ireland (e.g. Crooke 1999). For these varied reasons archaeology is seen in a positive light, as a positive project, both by political decision-makers and the public. One illustration of this is the Discovery Programme, a government-funded research initiative set up in 1991 to enhance knowledge of Ireland's past through integrated programmes of archaeological research (Waddell 1997; Eogan 1998).¶87:

A model graduate training programme in public archaeology¶88:

As cultural resource management (CRM) in the United States struggles through another period of introspection, one need for improvement consistently identified is in the area of graduate training of future practitioners of CRM archaeology (Fagan 1996; Green & Doershuk 1998; Schuldenrein 1998;

Messenger et al. 1999). To what extent training in the practicalities of the field needs to be embodied in curricular coursework, the relative role of research versus applied emphases in the graduate programme, the most appropriate terminal degree for CRM practice, and the very specifics of what constitutes adequate preparation for the diverse and dynamic challenges that constitute contemporary archaeology in the United States, all provide points for the emerging discussion between professionals operating in the field and those in academia who design programmes (e.g. Society for American Archaeology 1995). ¶189:

Towards a national training scheme for England and the United Kingdom ¶190:

Archaeology in Britain is going through one of its periodic 'crises', but for once it is not a crisis of funding, but one rather brought on by success, with more money, more posts and more archaeology. Much of the new money emanates from Developer Funding; PPG-16 (DoE 1990), brought out by the Department of the Environment in the wake of a European Directive on the need to conserve the historic environment, requires developers, where possible, to preserve archaeological sites, and where not, to preserve by record, i.e. to excavate. Roles were split with, on the one side, local government having 'curatorial responsibility' to maintain Sites and Monuments Records (SMRs) and to advise on planning and development; and on the other, independent 'archaeological units' to carry out the work. ¶191:

Facts and skills: archaeology in teacher training ¶192:

Most archaeologists start with the premise that the more people who know about archaeology the better. When challenged to justify this premise they have a number of responses ranging from the conservative 'to know more is to understand more', or the conservational 'to preserve our heritage', to the enlightened self-interest of 'public knowledge or interest means public spending' and thus the preservation of the archaeologist as well as of the archaeological record. Whatever the justification there is no consensus about how to enable people to know more, let alone a general agreement about what should be known, given that all human activity in the past lies within the scope of archaeological enquiry. There is, however, an assumption that to be effective we should capture the interest of the young and therefore that knowledgeable teachers will produce a knowledgeable future public. ¶193:

New perspectives on — and for — southern Africa ¶194:

Ireland: fierce tradition grows claws ¶195:

Historical archaeology ¶196:

Prehistory of Australia. ¶197:

La naissance de l'art: genèse de l'art préhistorique. ¶198:

Urbanization and land ownership in the ancient Near East. ¶199:

Excavations on the acropolis of Midea: results of the Greek-Swedish excavations—the excavations of the lower terraces 1985–1991. ¶100:

The circulation of metal in the British Bronze Age: the application of lead isotope analysis. ¶101:

Between land and sea: excavations at Dun Vulan, South Uist ¶102:

Nørre Sandegård Vest: a cemetery from the 6th–8th centuries on Bornholm ¶103:

The St Andrews Sarcophagus: A Pictish masterpiece and its international connections. ¶104:

Society, economics and politics in pre-Angkor Cambodia: the 7th-8th centuries. ¶105:

Laboring in the fields of the Lord: Spanish missions and Southeastern Indians. ¶106:

The archaeology and anthropology of landscape: shaping your landscape. ¶107:

ISSUE 2 ¶108:

Excavations at Los Buchillones, Cuba ¶109:

Between 1989 and 1994, north coast fishermen Nelson Torna and Pedro Guerra salvaged approximately 195 well-preserved wooden artefacts, mostly of lignum vitre, from recently disturbed marine sediments near their village of Punta Alegre, in Ciego de Avila, Cuba. They had collected the artefacts from a shallow lagoon, and from the shoreline near their village at a place known as Los Buchillones. The wooden artefacts include pins, eyed needles, hooks, fragments of dishes, handles for axes (including two that retained the stone tools), duhos or stools that served as badges of rank in Taino society, and zemis or male deity figures. In 1994, on an official Royal Ontario Museum visit to Cuba, then curator David Pendergast was shown these artefacts, and discussions began between Pendergast and Cuban archaeologists Dr Jorge Calvera and Lic. Juan Jardines concerning the possibility of launching an investigation of the contexts from which the artifacts had come. The Royal Ontario Museum (ROM) thereby established a jointly directed and jointly funded project with the Ministerio de Ciencia, Tecnología, y Medio Ambiente (CITMA) of the government of Cuba, and investigations began in 1997 ¶110:

Preclassic Maya architectural ritual at Cuello, Belize ¶111:

The Preclassic community of Cuello, the earliest village site hitherto excavated in the Maya Lowlands, centred on Platform 34, a flat-topped eminence where investigations between 1975 and 1993 documented occupation from at least 1200 BC to c. AD 400 (Hammond 1991; Hammond et al. 1995). Between 1000 and 400 BC the locus was occupied by a courtyard which with successive rebuildings became both larger and more formally organized, domestic activities shifting to the margins and ritual, including ancestor veneration, becoming more important (Hammond & Gerhardt 1990). Around 400 BC the final Middle Preclassic structures on the north, west and south sides of the court were ceremoniously demolished, their façades hacked off and their superstructures burned. The entire courtyard was filled with rubble prior to the construction of the broad, open Platform 34, which itself underwent successive enlargements over the ensuing seven centuries. ¶112:

A Caribbean feasibility—the Nevis Heritage Project ¶113:

A team of archaeologists organized by the Department of Archaeology at the University of Southampton (UK), in association with the Nevis Historical and Conservation Society, conducted a series of feasibility studies in 1999 to determine whether the prehistoric and historic social landscapes of the Caribbean could be researched from one island, as a case study, in advance of both rapid development and frightening natural destruction. On the tiny island of Nevis, one of the Leewards in the Eastern Caribbean, the airport expansion scheme recently destroyed one of the oldest standing English fortifications in the Caribbean (Figure 1) (Morris et al. 1999), while Hurricane Lenny removed sand and palm trees to reveal two new colonial forts just last year. Torrential rainfall, uncontrolled by centuries of sugar-cane production, erodes prehistoric sites daily (Figure 2). These sandy middens are prime landscaping resources for new golf courses or building materials for hotels and homes. ¶114:

Direct AMS Radiocarbon dates for the Sungir mid Upper Palaeolithic burials ¶115:

The site of Sungir (alternatively Sounghir) lies east of the town of Vladimir, about 200 km northeast of Moscow. It is a large mid Upper Palaeolithic ('Eastern Gravettian' sensu lato) cultural accumulation on the left bank of the Kliazma river, of which some 1500 sq. m was excavated in several seasons between 1957 and 1964 (Bader 1965; 1967; 1978; 1998). The single burial (Grave 1/Sungir 1) was excavated in 1964. It is that of an adult male in extended, supine position, with his head oriented to the northeast and hands placed over his pubis (Figure 1). The second grave was discovered in 1969 and contained two adolescents — one male (Sungir 2) and one (probably) female (Sungir 3) — both extended, supine and lying head to head (Figure 2). All three burials were covered in red ochre and Sungir 1 was possibly associated with fires in a manner intriguingly similar to the DVXVI male burial at Dolní Větonice, Moravia (Svoboda et al. 1996). ¶116:

Metalworker or shaman: Early Bronze Age Upton Lovell G2a burial ¶117:

The Early Bronze Age barrow, Upton Lovell G2a, on Upton Lovell Down near the south western edge of Salisbury Plain in Wiltshire, was one of the first to be investigated by William Cunnington (Cunnington 1806). His excavation in May 1802 revealed an extended primary inhumation of a stout male, accompanied near the feet by a large number of perforated bone points, three flint axes and a number of stones. These included fragments of a broken stone battle axe. At the chest was a complete stone battle axe and a circular stone with bevelled edges and polished surface. Also found were a jet or lignite ring and biconical beads, and a small bronze awl. The grave was listed by Piggott (1938: grave 82) as one of the burials defining his Wessex Culture. ¶118:

Archaeological investigations in the Northern Highlands of Ecuador at Hacienda Zuleta ¶119:

Hacienda Zuleta in the northern sierra province of Imbabura, Ecuador is the location of the largest 'ramp-mound' site of the Caranqui culture dated to the Late Period in the highlands chronological sequence (c. AD 1250-1525) and also of a large 17th-century Colonial period hacienda of Jesuit foundation. The Late Period is characterised by the construction of very large hemispherical or quadrilateral 'pyramid mounds', sometimes with a ramp or a long 'walkway' and up to 22 of these ramp-tola sites have been identified in the northern sierra provinces of northern Pichincha and Imbabura (Gondard & López 1983; Knapp 1992). They are thought to have been the political centres of the region's paramount chiefs and the ceremonial foci for their scattered communities (Salomon 1986). Studies suggest they are contemporary with one another, originating from about the 8th to 10th centuries AD (Athens 1978; 1992; Oberem 1975), although the phases of occupation associated with the creation of the large quadrilateral ramp mounds seem to be later, linked to socio-economic and political trends of agricultural intensification and increasing population densities which are also taken to characterize the Late Period. ¶120:

Experimental reconstruction of the casting of copper 'oxhide' ingots ¶121:

One of the most crucial elements in the dynamics of the Late Bronze Age metals trade in the Mediterranean was the production and exchange of copper 'oxhide' ingots (Knapp & Cherry 1994). These are basically flat, oblong slabs of nearly pure and unalloyed copper that weigh between 10 and 40 kg. The majority has an average weight of c. 29-30 kg however, and as a result this 'standard' has been traditionally equated with the existence of a 'talent'. They furthermore form a prominent part of the bulk cargo in shipwrecks discovered at Ulu Burun and Cape Gelidonya (Gale 1991). 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 (Stos-Gale et al. 1997).<sup>¶122:</sup>

Peace dividend brings archaeological rewards.<sup>¶123:</sup>

The political changes throughout Europe in the latter part of the 20th century have brought about a reduction in the number of military establishments in the British Isles. Large areas of land including airfields and ranges are now classified as 'brown field' sites ripe for development. The archaeological potential of such sites should not be underestimated. Over a three-year period archaeologists from the Defence Evaluation & Research Agency (DERA) and Wessex Archaeology have monitored all intrusive work carried out at the DERA airfield Boscombe Down, Salisbury, Wiltshire. This has been complemented with a desktop survey using vertical photographs from the sites archive, material which has not been available before. The preliminary results indicate that, far from being a sterile site, Boscombe Down still retains a substantial number of monuments and features.<sup>¶124:</sup>

New tools at Avebury.<sup>¶125:</sup>

Although significant to societies at a local, regional and national level for up to 6000 years, the prehistoric landscape of Avebury, Wiltshire, was formally attributed the accolade of being 'globally important' in November 1986. At this time the United Nations Educational, Scientific and Cultural Organisation (UNESCO) inscribed Avebury onto the growing list of World Heritage Sites (<http://www.unesco.org/lwhc>), and along with England's most notorious prehistoric monument, 'Stonehenge, Avebury, and associated sites' ((373) was created. The joint nomination of both Avebury and Stonehenge by the UK government was rational. At a time when 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. Indeed, in comparison with the variety of cultural and temporal variation in nominations, Stonehenge and Avebury are similar. It is true that upon closer inspection there are both comparable and contrasting patterns of monument type, construction, use and disuse, but when comparing these differences to those between here and Durham Castle or Ironbridge Gorge, for example, Stonehenge and Avebury certainly have an affinity.<sup>¶126:</sup>

An Iron Age ditched enclosure system at Limes Farm, Landbeach, Cambridgeshire.<sup>¶127:</sup>

Microscopic views of Swiss Lake Villages.<sup>¶128:</sup>

Neolithic and Bronze Age lake villages have captured the public imagination since their recognition in the 19th century. Commonly thought of as 'Swiss' although similar types of sites are found throughout Europe and beyond, these villages are renowned for unusually well preserved organic finds and the romantic image of being raised above water. Today it is held that both raised and ground-level dwellings existed, and that each site must be interpreted on an individual basis. Current research analyses sedimentary sequences from three 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 archaeological sites (FIGURE 1). This research is the first time sediment from lakeside villages was treated as material culture, with the specific purpose of detailing human use of the landscape through the identification of archaeological features (FIGURE 2). Features on lakeside villages are often distorted by wave action, sediment loading and/or erosional episodes.<sup>¶129:</sup>

Stratigraphy, Harris matrices & relative dating of Australian rock-art.<sup>¶130:</sup>

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. It is sound relative dating which will show just what the entities are to which absolute dates may be connected. The first basis for relative dating is the determination of sequence: what motifs done by which techniques in which materials precede and follow each other; and the first basis for sequence is physical superposition, in which one figure plainly overlies another or - in the case of rock-engravings - one figure clearly cuts through another. But often figures do not cut or superpose each other so no relation of sequence exists: and sometimes figures are cut through each other without sequence being clear, or are so much overpainted that the older figures are impossible to discern.<sup>¶131:</sup>

The theft of Saharan rock-art<sup>¶132:</sup>

'The Greatest Museum of Prehistoric Art in the whole World'. Such was the description Henri Lhote gave to the rock paintings of the Tassili-n- Ajjer , the massif (a designated World Heritage Site) that lies to the northeast of Ahaggar in the Algerian Central Sahara. His expedition spent 16 months in the Tassili in 1956-7 making 'discovery after discovery' and copying 'hundreds upon hundreds of painted walls'. 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. Significantly, he made no reference in his 'discovery claims' to Yolande Tschudi, the Swiss ethnologist, whose work preceded his own. 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.<sup>¶133:</sup>

Campanaio—an agricultural settlement in Roman Sicily<sup>¶134:</sup>

Roman Sicily has long been known from classical sources for its agricultural fertility, but little archaeological research has been conducted on the rural economy. The Campanaio project is uncovering a wealth of information about a small (3 ha) hellenistic and Roman rural settlement and its economy, 25 km west of Agrigento. Excavations (1994-95,1997-98) have revealed seven principal phases. Activity started c. 200 BC, and was intensive for two centuries in the central part of the site. A complex of buildings underwent two complete reconstructions between 200 BC and AD 25; in its last phase (c. 50 BC) it comprised an Lshaped building some 17 m long and 8.40 m wide, with dry-stone walls, earth floors and mud-brick superstructure (FIGURE<sup>¶135:</sup>

Microdebris analysis in Early Bronze Age Mesopotamian households<sup>¶136:</sup>

I am interested in the daily activities of the non-elites to understand ancient Mesopotamian society. Analysing the activities performed within the houses of the non-elites is the first step in defining the social and economic differentiation among households and, in turn, a better understanding of the role of these households within ancient communities. 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. The rationale for sampling deposits and counting and weighing the small remains found within the earthen matrix is based on a model of depositional forces. Site formation theorists suggest that macro-debris left by daily activities are usually disturbed and often discarded far from the loci of the original activity. Whereas the large finds may be scavenged, discarded, or curated in periods of abandonment, smaller debris is often swept into corners or trampled into the surface of a floor. These small items are more likely than large items to remain where they were dropped due to the difficulty in removing small debris with traditional cleaning methods (Schiffer 1983;Dunnell & Stein 1989). My research focused on the analysis of artefacts

under 1 cm in dimension found in occupational surfaces and features in order to define activity areas at several Early Bronze Age (c. 3100-1900 BC) sites in southeastern Turkey¶137:

The hooked stick in the Lascaux shaft scene¶138:

Hunting methods of bison, whether in the French Palaeolithic or on the plains of North America, have much in common. This paper discusses how the hunters pursued their prey and the tools with which they despatched the bison.¶139:

Mesolithic sedentism on Oronsay: chronological evidence from adjacent islands in the southern Hebrides¶140:

Research on the Mesolithic in the west of Scotland has been gathering momentum since the 1980s. Here, Steven Mithen analyses dates for near-by islands and proposes possible settlement models for the Mesolithic.¶141:

Revised 'absolute' dating of the early Mesolithic site of Star Carr, North Yorkshire, 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 Mesolithic sites such as Star Carr, and for their relationship to the timescale of early Holocene environmental change.¶143:

New observations on the Bandkeramik house and social organization¶144:

The careful study of faunal and artefact remains associated with Bandkeramik houses in France has shown new details about activity zones and village organization in the Early Neolithic. Lamys Hachem describes the result of work from Cuiry-lès-Chaudardes in the Aisne valley, France.¶145:

New AMS dates on human bone from Mesolithic Oronsay¶146:

Continuing our focus on the Hebridean Mesolithic, this paper describes new dating on the human bone from Oronsay, showing that late Mesolithic occupation may coincide with the coming of the Neolithic.¶147:

Palaeoecology and the perception of prehistoric landscapes: some comments on visual approaches to phenomenology¶148:

Interpretation of archaeological landscapes has developed within two main disciplines. Social theory has provided a foundation for understanding cultural landscapes, and palaeoecology has provided techniques for understanding physical landscapes. Despite their potentially complementary nature, the two approaches remain polarized, and as described here, result in the incomplete studies of past landscapes.¶149:

Sigwells, Somerset, England: regional application and interpretation of geophysical survey¶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. A pilot study demonstrates that discontinuity of boundary systems features as strongly as continuity in succeeding landscapes.¶151:

An ivory cache from Botswana¶152:

Research at Mosu I. northern Botswana, has discovered a 10th-century AD ivory cache. Although small, this is one of the largest single concentrations of ivory recovered from southern Africa.

Consideration of other occurrences suggests that ivory was prepared throughout the area and traded as finished bangles.¶153:

A 'tree' is not a 'train': mistaken analogies in Pacific archaeology¶154:

Archaeologists and anthropologists work alongside, but outside, conventional science, Quite often, as here, misunderstandings and misreadings of archaeological data and interpretation can distort the reading of our discipline!¶155:

The Stonehenge we deserve¶156:

After years of discussion and argument, the fate of Stonehenge and its landscape has been decided. As Professor Geoffrey Wainwright (former Head of Archaeology at English Heritage) describes, there is at last political will to ensure a better future for the monument.¶157:

The AHRB and the funding of archaeology¶158:

We have invited the Director of Programmes of the AHRB and three leading archaeologists to respond to our editorial of September 1999 in the light of the consequent crisis of the funding archaeological fieldwork based in British universities.¶159:

A revised chronological and palaeoenvironmental framework for the Kastritsa rockshelter, northwest Greece¶160:

Archaeological, palynological and palaeolimnological evidence is combined with new AMS radiocarbon dates to shed new light on a long-known, yet only partially understood, Upper Palaeolithic occupation in southeast Europe.¶161:

The Neolithization of Siberia and the Russian Far East: radiocarbon evidence¶162:

Results of recent excavations and radiocarbon dating show that several places in Siberia and the Russian Far East, such as the Lower Amur River basin and the Transbaikalia, represent independent centres of pottery invention, and all pre-date 10,000 BP. These two areas should be considered among the earliest centres of pottery origins in East Asia and the Old World. The rest of Siberia is characterized by significantly later appearance of Neolithic cultures, between c. 8000 BP and c. 4600–2600 BP.¶163:

Continuity and change in Minoan palatial power¶164:

The relationship between economic power and political centralization during the First and Second Palace Periods of Bronze Age Crete is a topical theme in Aegean studies. Here, two scholars argue the case for continuity in the economic base of palatial political authority.¶165:

Raw material selection and evidence for rhinoceros tooth tools at Dadong Cave, southern China¶166:

Research in Dadong Cave, southern China, has revealed evidence suggesting that nonlithic materials were used in the tool kits of the Chinese Lower Palaeolithic.¶167:

The introduction of the lapidary engraving wheel in Mesopotamia¶168:

Scanning electron microscopy provides an insight into the lapidary techniques of the ancient Near East. Engraved features on quartz cylinder seals have been compared to those produced experimentally, leading to a radical reassessment of the date for the introduction of the engraving wheel.¶169:

Herodotus and the cannibals ¶170:

Herodotus' 5th-century BC Histories provide us with one of the earliest written accounts for the practice of cannibalism. This paper examines the references concerning cannibalism contained in Herodotus, reviews the theories proposed to account for these references, and suggests a new explanation for this cultural motif. ¶171:

The Tiber Valley Project: the Tiber and Rome through two millennia ¶172:

In 1997 a new collaborative research project was initiated by the British School at Rome. This project draws on a variety of sources of archaeological information to explore the regional impact of the City of Rome throughout the period from 1000 BC to AD 1300. The project provides a common collaborative research framework which brings together a range of archaeologists and historians working in various institutions. In this paper those involved in different aspects of this new project outline their work and its overall objectives. ¶173:

Fortified castles on Okinawa Island during the Gusuku Period, AD 1200–1600 ¶174:

The locations of the medieval castles of the Japanese island of Okinawa have been analysed through a variety of environmental and statistical methods, showing the development of different polities in the Gusuku period. ¶175:

Elite commemoration in Early Modern England: reading funerary monuments ¶176:

Research into the iconography and symbolism of early modern funerary monuments provides an important new approach to this unexploited source. Here the remarkable monuments to Sir Henry Savile are explored. ¶177:

Environmental thresholds and the empirical reality of state collapse: a response to Erickson (1999) ¶178:

We are grateful for the opportunity to respond to Erickson's (1999) critique of our articles on human-environment interactions in the Lake Titicaca basin of Bolivia (Orloff & Kolata 1993; Abbott et al. 1997; Binford et al. 1997). His decision to publish this critique in ANTIQUITY, rather than in the journals in which our articles appeared, permits us to reach a broader audience. Erickson labels our interpretations a form of 'neo-environmental determinism', but his rejection of our conclusions stems from serious misunderstandings and is misleading to readers who have not examined our original data. He (p. 634) claims: 1 our research represents 'simplistic reductionist thinking' that treats humans as 'passive pawns' of environmental change; 2 our dating of the chronic drought in the Andean altiplano after AD 1150 is imprecise and not correlated with the 12th-century disintegration of the Tiwanaku state; and 3 the drought did not affect intensive agricultural production. ¶179:

Rapid human response to Late Glacial climate change: a reply to Housley et al. (2000) ¶180:

In their reply to our recent paper (Blockley et al. 2000), Housley et al. (2000) make four substantial points. Firstly, 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. Finally, they state that our approach is environmentally deterministic and that we have demonstrated only a weak correlation between human demographic change and rapid climatic amelioration. Housley et al. (2000) argue against the use of Late Glacial calibration

curves, and in particular state that 'it is because the calibration data are so heavily smoothed that Blockley et al. dispute our notion of a northward movement of people' ¶181:

Boxgrove ¶182:

Society and culture in Palaeolithic Europe ¶183:

Athens ¶184:

Egyptian art. ¶185:

The Cambridge history of ancient China from the origins of civilization to 221 BC . ¶186:

India: an archaeological history — Palaeolithic beginnings to early historic foundations. ¶187:

The archeological map of the Murghab Delta; preliminary reports, 1990–95 ¶188:

Etton: excavations at a Neolithic causewayed enclosure near Maxey, Cambridgeshire, 1982–7 ¶189:

The Anglo-Saxon cemetery at Edix Hill (Barrington A), Cambridgeshire ¶190:

The sculptures of the Parthenon: aesthetics and interpretation. ¶191:

Druids. ¶192:

ISSUE 3 ¶193:

Tomnaverie stone circle, Aberdeenshire ¶194:

Archaeology and symbolism in the new South African coat of arms ¶195:

Recent investigations on Marajoara Culture, Marajó Island, Brazil ¶196:

A house in the Sicilian hills ¶197:

Back to Malyan ¶198:

Memory tools in early Mesopotamia ¶199:

Tell Hamoukar: early city in northeastern Syria ¶200:

The largest walled Shang City located in Anyang, China ¶201:

Discovery of two predicted Ancient Maya sites in Belize ¶202:

The origins of Timbuktu ¶203:

Archaeology in schools: an Indian example ¶204:

The Chester Beatty Library and its East Asian Collections: the new CBL Galleries ¶205:

Issam Kourbaj and Cambridge University Collection of Air Photographs ¶206:

Roman vineyards in Britain: finds from the Nene Valley and new research ¶207:

Recontextualizing Louisville ¶208:

Flake production at the Lower Palaeolithic site of Holon (Israel): implications for the origin of the Levallois method ¶209:

The analysis of flake production at the late Lower Palaeolithic site of Holon (Israel) suggests that the introduction of the Levallois method was an abrupt event related to a shift in the design of tools.¶210:

Hunter–gatherer subsistence at the end of the Pleistocene: preliminary results from Picareiro Cave, Central Portugal¶211:

Excavation at the site of Picareiro Cave in Portugal provides an important and rare sample of animal remains. Preliminary study shows that late Pleistocene hunter–gatherers hunted rabbits, deer and a wide variety of fauna, perhaps during seasonal occupation of the cave.¶212:

Palaeoindian artefact distributions: evidence and implications¶213:

The distribution of projectile points over broad geographic areas yields important insights about Palaeoindian settlement pattern and history. While traditionally viewed as a Great Plains adaptation, the data show that fluted points are far more common in Eastern North America. These artefacts are not evenly spread across the landscape, furthermore, but occur in distinct concentrations. Within some of these areas distinct cultural traditions quickly emerged, something that appears tied to the sudden onset of the Younger Dryas.¶214:

An Aurignacian point from Uphill Quarry (Somerset) and the earliest settlement of Britain by Homo sapiens sapiens¶215:

A rare and important AMS sample provides an Aurignacian date for Britain. The artefact and its implications are discussed.¶216:

Decay of delicate organic remains in shallow urban deposits: are we at a watershed?¶217:

What conditions preserve archaeology, and what conditions accelerate decay? Here experts from York, using the wealth of experience and data gathered from that city, discuss the issues.¶218:

Interpretation not record: the practice of archaeology¶219:

‘The separation of theory and practice is not one that will easily be overcome by academic and philosophical critique, however necessary and important these are.’ (Shanks & Tilley 1992: xxii). Here a team of archaeologists address this difficult theme, in the light of their experiences under the flightpath of Heathrow Airport.¶220:

The man, the woman and the hyoid bone: from archaeology to the burial practices of the Xiongnu people (Egyin Gol valley, Mongolia)¶221:

A man and a woman were found in a double burial dating from the 1st century BC and located in a Xiongnu burial site in northern Mongolia. An offering box at the head of the man's coffin contained both remains of domestic animals and a human hyoid bone. The skeleton of the man was complete whereas the woman's hyoid bone was missing. The isolated hyoid bone could belong to the buried woman, which suggests the removal of her tongue and probably her sacrifice.¶222:

Radiocarbon dating and marine reservoir correction of Viking Age Christian burials from Orkney¶223:

Neanderthal contraction and modern human colonization of Europe¶224:

The Upper Palaeolithic settlement of Iberia: first-generation maps¶225:

Studenoe-2 and the origins of microblade technologies in the Transbaikal, Siberia¶226:

Analysis and dating of new Upper Palaeolithic sites suggest that microblades emerged in the Transbaikal after 18,000 years ago. These findings encourage review of earlier assertions that such technologies developed in northeast Asia prior to the last glacial maximum. ¶227:

Death and society: a Marxist approach ¶228:

Argaric society: death at home ¶229:

Diversity, lifestyles and rites: new biological and archaeological evidence from British Earlier Neolithic mortuary assemblages ¶230:

The passage of axes: fire transformation of flint objects in the Neolithic of southern Sweden ¶231:

Palaeoenvironments and economy of Iron Age Saka-Wusun agro-pastoralists in southeastern Kazakhstan ¶232:

Indo-Roman trade: the ceramic evidence from Egypt ¶233:

Skeletal sex and gender in Merovingian mortuary archaeology ¶234:

Uppåkra — a centre in south Sweden in the 1st millennium AD ¶235:

Resource depression on the Northwest Coast of North America ¶236:

All at sea ¶237:

Archaeology and identity in south Asia — interpretations and consequences ¶238:

Whilst archaeological discoveries initiated by the Europeans have long encouraged a pride in India's past among its educated elite, there is even less evidence of nationalism influencing the practice of Indian Archaeology. TRIGGER 1995: 271 ¶239:

¶240:

In 1995 Bruce Trigger dismissed the role of nationalism within the archaeology of south Asia (1995: 271), apparently ignoring even the archaeological nature of the crest of the new Indian republic — the Sarnath lion; and his comments have acted as a catalyst for this special number of papers, many of which explore 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 individual communities over the last 200 years. In so doing we have used the concept of identity, as offered by Northrup (1989: 63), to encompass these disparate groups: ¶241:

Identity is the tendency for human beings, individually and in groups, to establish, maintain and protect a sense of self-meaning, predictability and purpose. It encompasses a sense of self-definition at multiple levels. ¶242:

¶243:

Colonial Indology and identity ¶244:

This paper argues that Indian identity, as built within the colonial Indological framework of race, language and culture and its Aryan–non-Aryan dichotomy, 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. 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. Further, 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. However, before we examine these twin formulations in some detail, it might be useful to look at how the question of identity is emerging as a major phenomenon in India in current years. ¶245:

Ethnic identity, biological history and dental morphology: 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 (Béteille 1998; Gardner 1985; Lukacs in press). 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' (Charsley 1996; Delikge 1992; 1993). Because the system of socioreligious stratification known as caste does not encourage social mobility, new ethnic identity is often sought by groups whose position in the hierarchy is low (Dumont 1980; Klass 1980; Kolinda 1978). Biological anthropologists are interested in the caste system for the opportunities it offers to understand the interaction of cultural behaviour with the biological patterning of human genetic and phenotypic diversity (Majumder 1998; Majumder et al. 1990; Malhotra 1974). Although most Westerners perceive caste as an immutable category, in which membership is ascribed, and hierarchal rank is forever fixed, many accounts of castes changing their occupational and ritual status have been documented (Silverberg 1968). Some castes seek to elevate their ritual or economic position by claiming higher status and adopting an appropriate new caste name, while others lay claim to indigenous origins seeking to benefit from rights and privileges that accompany autochthonous status. Such claims often involve adopting new or different patterns of behaviour commonly associated with the new social, religious, indigenous or occupational position claimed. 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' (Lynch 1969). ¶247:

Double identity in Orissa's Golden Triangle ¶248:

The Medieval Hindu temples of Puri, Rhubaneswar and Konark are promoted as Orissa's version of northern India's 'Golden Triangle' of Agra, Fatehpur Sikri and Jaipur. 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. Such duality is typical among the diversity of community, ethnic, communal, federalist and national values at issue in India (Chatterjee 1993: 75). ¶249:

Cultivation of the temples is nothing new. Whatever the original purposes of icons, significance is ascribed, not simply inherent. It depends on economic or political interest and context (Cohen 1985). Harrison (1999) has argued that images of ethnicity tend to be defended as if at risk of pollution or theft by outsiders. 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 (Smith 1981). Other than religion, one of the criteria for invoking the temples is the discipline of archaeology. However, archaeology too is a Western conceptual idiom (Cohn 1983: 209). Although literacy — including in the 'English medium' — is spreading, archaeology is not appreciated by everyone in Orissa. Partly for that reason, there have been various views as to how the temples should be presented and to whom. ¶250:



Archaeology and identity in colonial India ¶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 (Davis 1997: 164): ¶252:

'Sir, a gentleman whose name I do not remember, came to me to let him take the image of Lukshinee away, which stood on the point where the river and rivulet meet; and he said he would give me a sum of money if I could consent to it. 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'. The gentleman persisted. He returned four or five times, offered ample remuneration and even took the brahmin by boat to see the assemblage of gods in his Calcutta house, but still the brahmin refused to sell. 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:

Ayodhya's sacred landscape: ritual memory, politics and archaeological 'fact' ¶254:

Great astonishment has been expressed at the recent vitality of the Hindu religion at Ajudhia [sic], and it was to test the extent of this chiefly that ... this statement has been prepared. As the information it contains may be permanently useful, I have considered it well to give it a place here. This information is as correct as it can now be made and that is all that I can say CARNEGIE(1870: appendix A) ¶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 (Rao 1994). More importantly, Carnegie'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 Carnegie could ever have imagined. This literature can be divided into two main categories; firstly, 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 (VHP1990; New Delhi Historical Forum 1992). This was believed to have marked the birthplace of the Hindu god Rama (hence the name Rama Janmabhumi — literally 'birthplace of Rama'), and been demolished at the orders of the Mughal emperor Babur during the 16th century. As a response, a second group of 'progressive' Indian historians began a counter-argument, based on the same 'archaeological proof' that no such temple had ever existed (Gopal et al. 1992; Mandal 1993). The second category is a growing body of literature which has filled many pages of international publications (Rao 1994; Navlakha 1994). Especially following the World Archaeology Congress (WAC) in Delhi (1994), and subsequently in Brač, Croatia (1998), 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 (Kitchen 1998; Hassan 1995). ¶256:

Bangladesh: building national identity through archaeology ¶257:

For a developing nation, Bangladesh has a surprisingly large number of active archaeological excavations and museums. 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. These venues, identified by politicians and philosophers as the repositories for symbols of heritage and national identity, 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 of domestic tourism as a component of archaeological heritage management in developing nations. ¶1258:

The Vijayan colonization and the archaeology of identity in Sri Lanka ¶1259:

In my tours throughout the interior, I found ancient monuments, apparently defying decay, of which no one could tell the date or the founder; and temples and cities in ruins, whose destroyers were equally unknown. SIR JAMES EMERSON TENNANT(1859: xxv). ¶1260:

There are competing, yet interlinked, identities in Sri Lanka through which people 'establish, maintain, and protect a sense of self-meaning, predictability, and purpose' (Northrup 1989: 55). These have become established over hundreds of years, and communities are attributed labels including Sinhala, Tamil, Vadda, Buddhist and Hindu (Coningham & Lewer 1999: 857). Sri Lanka is now experiencing what Azar (1990) has called a 'protracted social conflict', wherein a section of the Tamil communities led by the Liberation Tigers of Tamil Eelam (LTTE) are engaged in a struggle to establish a Tamil homieland or Eelam. International links, especially with south India, have had important implications on the formation of identities in Sri Lanka. Here we will focus on a key influence which has deep archaeological and political implications, whose interpretation has informed and distorted the present understanding of the concept and evolution of identities. This theme, the Vijayan colonization of the island, illustrates the formulation of identities, especially as derived from a historical chronicle, the Mahavamsa, which was 'rediscovered' by colonial officials in AD 1826 and has played a major role in determining the dynamics of this conflict. ¶1261:

Anthropology ¶1262:

Anthropology and archaeology: a changing relationship. ¶1263:

History and theory in anthropology. ¶1264:

Eastern Mediterranean ¶1265:

Neolithic society in Greece ¶1266:

From Minoan farmers to Roman traders: sidelights on the economy of ancient Crete ¶1267:

Ancient art from Cyprus: ¶1268:

Ayia Paraskevi figurines in the University of Pennsylvania Museum. ¶1269:

Cyprus: the legacy - historic landmarks that influenced the art of Cyprus, Late Bronze Age to A.D. 1600. ¶1270:

The library of Alexandria: centre of learning in the ancient world. ¶1271:

Western Mediterranean ¶1272:

I Piceni: storia e archeologia delle Marche in epoca PreRomana ¶1273:

Produzione e circolazione della ceramica nella Sibaritide protostorica I: impasto e dolii ¶1274:

A Pompeian herbal: ancient and modern medicinal plants. ¶1275:

Le quartier antique des Bénédictins à Nîmes (Gard): découvertes anciennes et fouilles 1966–1992 ¶1276:

Los pueblos de España y el Mediterráneo en la antigüedad: estudios de arqueología, historia y arte. ¶1277:

Classical archaeology ¶1278:

Götter und Lararien aus Augusta Raurica: Herstellung, Fundzusammenhänge und sakrale Funktion figürlicher Bronzen in einer römischen Stadt ¶1279:

Roman clothing and fashion. ¶1280:

The Roman art of war. ¶1281:

L'équipement militaire et l'armement de la République ¶1282:

The end of the Western Roman Empire: an archaeological investigation. ¶1283:

Classical archaeology towards the Third Millennium: reflections and perspectives ¶1284:

The Athenian trireme: the history and reconstruction of an ancient Greek warship ¶1285:

Roman Britain ¶1286:

A portrait of Roman Britain. ¶1287:

The Romans at Ribchester: discovery and excavation. ¶1288:

Hadrian's Wall ¶1289:

From prehistory to the Middle Ages in Western Europe ¶1290:

Coití: logboats from Northern Ireland ¶1291:

Probleme der Küstenforschung im südlichen Nordseegebiet ¶1292:

Rural settlement and industry: studies in the Iron Age and Roman archaeology of lowland east Yorkshire ¶1293:

Roman Cambridge: excavations on Castle Hill 1956–1988 ¶1294:

Castulo, Jaén, España, II: el conjunto arquitectónico del Olivar ¶1295:

European paganism: the realities of cult from antiquity to the Middle Ages. ¶1296:

Celtic sacred landscapes. ¶1297:

British miscellanies - ¶1298:

Experiment and design: archaeological studies in honour of John Coles. ¶1299:

Patterns of the past: essays in landscape archaeology for Christopher Taylor. ¶1300:

Americas ¶1301:

South America (Cambridge History of the Native Peoples of the Americas Vol. III) ¶1302:

Mesoamerica (Cambridge History of the Native Peoples of the Americas Vol. II) ¶1303:

Ceramics and community organization among the Hohokam. ¶1304:

Great House communities across the Chacoan landscape ¶1305:

The archaeology of communities: a New World perspective. ¶1306:

The Inca world: the development of pre-columbian Peru, AD 1000–1534 ¶1307:

The great Maya droughts: water, life, and death, ¶308:

Anais da I Reunião Internacional de Teoria Arqueológica na América do Sul ¶309:

Living with the ancestors: kinship and kingship in ancient Maya society, ¶310:

Exploration of ancient key-dweller remains on the Gulf coast of Florida. ¶311:

Exploration of the Etowah Site in Georgia: the Etowah papers. ¶312:

The Pacific ¶313:

Sigatoka: the shifting sands of Fijian prehistory ¶314:

Hananiai: prehistoric colonization and cultural change in the Marquesas Islands ¶315:

Writing and power ¶316:

Ancestor of the West: writing, reasoning, and religion in Mesopotamia, Elam, and Greece ¶317:

The power of the written tradition. ¶318:

Writing the dead: death and writing strategies in the Western tradition ¶319:

Textbooks, handbooks and reference ¶320:

Archaeology: theories, methods and practice ¶321:

Human osteology in archaeology and forensic science. ¶322:

GIS:guide to good practice. ¶323:

Encyclopedic dictionary of archaeology. ¶324:

New journal - Stratum Plus ¶325:

The last barbarians: the discovery of the source of the Mekong in Tibet. ¶326:

The road to Ubar: finding the Atlantis of the sands. ¶327:

Neanderthals and Modern Humans ¶328:

Megaliths: perspective improves; central mystery remains ¶329:

Israelites and Phoenicians ¶330:

Klithi: Palaeolithic settlement and Quaternary landscapes in northwest Greece. ¶331:

Early Dynastic Egypt. ¶332:

Leadership strategies, economic activity, and interregional interaction: social complexity in northeast China. ¶333:

Waffen und Gräber: typologische und chronologische Studien zu skandinavischen Waffen gräbern 520/30 bis 900 n. Chr. ¶334:

Merowingerzeit am Niederrhein: Die frühmittelalterlichen Funde aus dem Regierungsbezirk Düsseldorf und dem Kreis Heinsberg. (¶335:

Rochester Cathedral 604–1540: an architectural history. ¶336:

The rise and fall of Swahili states. ¶337:

ISSUE 4 ¶338:

A recent find of a possible Lower Palaeolithic assemblage from the foothills of the Zagros Mountains ¶339:

Excavation of an Acheulian workshop at Isampur, Karnataka (India) ¶340:

Khmer artefacts return to Cambodia ¶341:

New rock-art find in Portugal ¶342:

New fieldwork at Shuqba Cave and in Wadi en-Natuf, Western Judea ¶343:

A new decorated menhir ¶344:

Digital enhancement of Torres Strait rock-art ¶345:

New evidence from Bryn yr Hen Bobl, Llanedwen, Anglesey ¶346:

Marki Alonia: a prehistoric Bronze Age settlement in Cyprus ¶347:

Refutation of the myth: new fortified settlement from Late Bronze Age/Early Iron Age in Wielkopolska region (Poland) ¶348:

The former Kano? Ethnoarchaeology of Kufan Kanawa, Niger ¶349:

In memoriam V. Gordon Childe ¶350:

A 3rd-millennium BC elite tomb from Tell Umm el-Marra, Syria ¶351:

The Ipatovo kurgan on the North Caucasian Steppe (Russia) ¶352:

Sanchi and its archaeological landscape: Buddhist monasteries, settlements & irrigation works in Central India ¶353:

Research on the Middle Palaeolithic in Dalmatia, Croatia ¶354:

Peau noire, masques blancs: self-image in the Mesolithic-Neolithic transition in Scotland ¶355:

Models attributing the origins of the British Neolithic to developing Mesolithic complexity founder on the paucity of evidence for activity during the 5th millennium cal BC. The Scottish transition is examined and it is argued that the onset of the Neolithic was primarily a cognitive and cultural event rather than an economic transformation. It is suggested that knowledge of the existence of complex neolithic societies in northern Europe may have inhibited Late Mesolithic self-confidence, resulting in suppression of identity, thus creating the impression of hiatus that precedes Neolithization. ¶356:

The living and the dead in northern Scotland 3500–2000 BC ¶357:

A fieldwalking project focused on the Neolithic/Early Bronze Age of northern Scotland investigates different regional traditions and changing relationships with ancestors. ¶358:

Radiocarbon chronology of the Kalmykia Catacomb culture of the west Eurasian steppe ¶359:

New calibration studies of burials from the Catacomb culture of western Eurasia enable better understanding of the spread and development of different Bronze Age traditions. ¶360:

Marija Gimbutas: some observations about her early years, 1921–1944¶361:

Many scholars emphasize the Soviet Union's invasion of Lithuania in 1940 as the first traumatic event in Marija Gimbutas' life, but she was exposed to conflict from the time of her birth. She was born in Vilnius, a city that was at the root of conflict between Lithuanians and Poles during the 1920s and 1930s. It is unclear why she created an image of a peaceful 'Goddess-oriented Old Europe', as her life was inseparable from various ethnic and ideological conflicts of 20th-century Europe.¶362:

Wall recesses for bee hives¶363:

Walls with recesses to hold and protect skeps of bees were studied in Britain, Ireland and France. From an analysis of 1214 site records, the distribution, dates and characteristics of these walls are reported; some conclusions are drawn about the beekeeping practised (1100–1900) and certain regional differences.¶364:

Palaeolithic perishables made permanent¶365:

Previous research has documented textile and basketry production at Moravian Upper Palaeolithic sites, c.27,000 BP. Recent research extends these technologies to Russia and Germany, and amplifies information on perishable fibre artefacts from France. Collectively, these data illustrate the ubiquity of perishable technologies across the late Pleistocene world.¶366:

Flaking properties, petrology and use of Polish flint¶367:

The technical and aesthetic qualities of the many varieties of Polish flint utilized from the Middle Palaeolithic to the Bronze Age are analysed and assessed, and show how different flints were selected for different purposes.¶368:

Weathering of petroglyphs: direct assessment and implications for dating methods¶369:

Petroglyphs weather at varying rates, compared to the unengraved host rock into which they are carved. Most petroglyphs are significantly harder or significantly softer than surrounding rock, depending on the nature of weathering. Variability and intensity of weathering probably introduces error into radiocarbon, rock varnish and microerosion dating methods.¶370:

Agro-pastoralist colonization of Cyprus in the 10th millennium BP: initial assessments¶371:

Unexpectedly early evidence for the precocious spread of farming has recently emerged in Cyprus. It is argued that the transmission occurred as a result of migration related to ecosystem stress in the Levant. So strong are the connections of the colonists with the mainland that we suggest the term Cypro-Pre-Pottery Neolithic B to describe what has hitherto been a major lacuna in Cypriot prehistory. Consistent dates from key sites and the evolution of material culture indicate that this Cypro-PPNB sequence represents the hitherto elusive ancestry for the Khirokitian.¶372:

Hammat al-Qa and the roots of urbanism in southwest Arabia¶373:

Prehistoric (Bronze Age) settlement has been little explored in the Yemen. Here, we report on new research at the small, semi-urban site of Hammat al-Qa in the Dhamar region of Yemen.¶374:

Pollen and phytoliths in stone mounds at Puerua, Northland, New Zealand: implications for the study of Polynesian farming¶375:

High-resolution pollen and phytolith analyses can provide direct evidence for farming in archaeological landscapes. This is demonstrated here in the analysis of two mounds at Puerua,

northern New Zealand, where evidence indicates both functional and temporal differences between the structures, and the presence of gourd *Lagenaria siceraria* provides direct, unequivocal evidence that this crop was cultivated and that the site was used as a garden. ¶1376:

Ana Manuku: a prehistoric ritualistic site on Mangaia, Cook Islands ¶1377:

A deposit of dismembered and cooked human remains from Ana Manuku in the Cook Islands, Polynesia, provides evidence for ritual practices c. AD 1390–1470. ¶1378:

The botanical identity and transport of incense during the Egyptian New Kingdom ¶1379:

Resin preserved on New Kingdom vessels from Amarna in Middle Egypt provides evidence for incense burning and trade. Here Margaret Serpico & Raymond White describe a new interdisciplinary research project. ¶1380:

Categorizing archaeological finds: the funerary material of Queen Hetepheres I at Giza ¶1381:

The undisturbed shaft deposit G7000x in front of the Great Pyramid at Giza has been regarded as the tomb of Queen Hetepheres I, even though it did not contain a mummy. The absence of the mummy has posed problems for the finds categorization as a tomb and has given rise to elaborate hypotheses. As shown here, these difficulties can be largely eliminated if the find is understood as a funerary deposit and not a tomb. The new categorization is also significant for the understanding of Old Kingdom funerary practices. ¶1382:

Time please ¶1383:

Professional archaeology in Britain has changed out of all recognition over the last 40 years, from an amateur world with a few paid professionals, to a fully professional activity. The changes have come about through different initiatives — popular and bureaucratic — and have led to new organizational structures, new funds, new people and different approaches. Few individuals have bridged this dynamic period as close to the driving seat as Professor Geoffrey Wainwright, or been able to see from where the many pressures for change came. Rarely were the initiatives widely published or documented, and the present state of things often seem to bear little relation to what went before. We have commissioned Professor Wainwright to review the changes and developments in the archaeology of England — from his perspective — and explain how and why many of the changes that underlie archaeology in 2000 have come about. ¶1384:

Responses to Geoffrey Wainwright's report 'The Stonehenge we deserve', ¶1385:

In June this year, we published Geoffrey Wainwright's paper on 'The Stonehenge we deserve'. This paper aimed to provide a review of progress towards sorting out the many problems of management, presentation and conservation of this World Heritage site and its landscape. As readers of ANTIQUITY are well aware, 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. Dr Wainwright outlined past strategies and the hope of future solutions as they were early this year. Already things have changed and the invited responses which we publish here discuss the recent changes of plan for Stonehenge. Baxter & Chippindale review the difficulties of the 'current' scheme and its incompatibility with visitor numbers. Fielden exposes the incompatibility of the A303 proposals for Stonehenge with legislation and planning; and Kennet & Young raise the problems of the various Plans and politics. ¶1386:

We sent these responses to Dr Wainwright for his current view of the situation. ¶1387:

¶1388:

Archaeometallurgy — an island? ¶1389:

The archaeology of Solvieux, an Upper Paleolithic open air site in France ¶1390:

On the road of the winds: an archaeological history of the Pacific islands before European contact. ¶1391:

Archaeology of Orissa (2 vols.). ¶1392:

The tomb of Tia and Tia: a royal monument of the Ramesside period in the Memphite necropolis. ¶1393:

The archaeology of Elam: formation and transformation of an ancient Iranian state. ¶1394:

Die Bronzezeitliche Nekropole von Demircihuyiik-Sariket: Ausgrabungen des Deutschen Archäologischen Instituts in Zusammenarbeit mit dem Museum Bursa 1990–1991 ¶1395:

The Central Palace sanctuary at Knossos ¶1396:

Ships on bronzes. A study in Bronze Age religion and iconography ¶1397:

Roman Oxfordshire. ¶1398:

Stargods of the Maya: astronomy in art, folklore, and calendars. ¶1399:

Stories in red and black: pictorial histories of the Aztecs and Mixtecs. ¶1400:

Landscape transformations and the archaeology of impact: social disruption and state formation in southern Africa. ¶1401:

The archaeology of Islam. ¶1402:

Archaeology and the social history of ships. ¶1403:

Sampling in archaeology.



**Name:** Antiquity 2001 abstracts

¶1: Antiquity 2001 abstracts

¶2: Issue 1

¶3: Rock-shelter research in central Sicily

¶4:

¶5: A new Neolithic site in Thessaly (Greece): the Belitsi magoula

¶6: A probable Neolithic causewayed enclosure in northern England

¶7: Neb-Re and the heart of darkness: the latest discoveries from Zawiyet Umm el-Rakham (Egypt)

¶8: The Cobata colossal head: an unfinished Olmec monument?

¶9: The 5th century BC at Bourges, Berry, France: new discoveries

¶10: The Butrint project

¶11:

¶12: A new Roman gladiator find from Piddington, Northants

¶13: Avebury: a Late Anglo-Saxon burh?

¶14: Precarious landscapes: prehistoric settlement of the Marshall Islands

¶15: Survey and excavation at the Gebel el-Asr gneiss and quartz quarries in Lower Nubia (1997–2000)

¶16: Antiquities Underground

¶17: The Ilisu Dam in Southeast Turkey: archaeology at risk

¶18: Understanding the Middle Palaeolithic assemblage typology

¶19: Middle Palaeolithic tool assemblages have a long history of controversy. This new analysis employing principal components addresses the recurrent issues of comparing tool assemblages from different sites, whilst retaining support from the seminal study of Bordes.

¶20: The Aurignacian in Altai

¶21: Research in the Altai region of central Asia is attempting to establish the development and expansion of the Aurignacian to Europe and the Caucasus. New sites and early dates provide important new data on this key question about the emergence of modern humans in Eurasia.

¶22: Orientations and origins: a symbolic dimension to the long house in Neolithic Europe

¶23: The long houses of the Linear Pottery Culture and its immediate successors are usually interpreted in functional terms, but they have certain anomalous features. This paper considers the processes by which they were built, lengthened, abandoned and replaced and suggests that they may have charted the development of the households who lived inside them. The buildings in Linear Pottery settlements were generally orientated towards the areas of the origin of the communities who lived there.

¶124: Land and sea: use of terrestrial mammal bones in coastal hunter–gatherer communities

¶125: Terrestrial mammals are frequently undervalued in interpretations of prehistoric coastal economies where middens are used to examine seasonality and diet. Using case-studies from the Northwest Coast of North America, and from Arctic Norway, a more integrated approach to subsistence and technology is proposed

¶126: Early horse remains from northern Cameroon

¶127: Horses were status symbols in central-west Africa in the last millennium. Here, the importance of some very early horse bones is discussed in the context of emerging African society.

¶128: Dating Egypt's oldest 'art': AMS 14C age determinations of rock varnishes covering petroglyphs at El-Hosh (Upper Egypt)

¶129: Direct dating, using the Accelerator Mass Spectrometry (AMS) 14C method, indicates that some petroglyphs (rock art) at El-Hosh in Upper Egypt pre-date the early 7th millennium BP (mid 6th millennium cal BC), making it the oldest graphic activity recorded in the Nile Valley.

¶130: Direction of dispersion of cochineal (*Dactylopius coccus* Costa) within the Americas

¶131: *Dactylopius coccus* has been used in Mexico and Peru as a source of natural dyes since pre-Columbian times. A phylogenetic analysis of the genus *Dactylopius*, and the disjoint distribution of *D. coccus*, suggest that the origin of *D. coccus* is South America and was introduced into North America by sea routes.

¶132: D-Day sites in England: an assessment

¶133: Between midnight on 6 June (D-Day) and 30 June 1944, over 850,000 men landed on the invasion beachheads of Normandy, together with nearly 150,000 vehicles and 570,000 tons of supplies. Assembled in camps and transit areas over the preceding months, this force was dispatched from a string of sites along Britain's coastline between East Anglia and South Wales (Dobinson 1996: 2). The article reviews those sites in England involved in this embarkation. English Heritage's Monuments Protection Programme (MPP) aims to identify surviving sites and recommend appropriate protection for them.

¶134: Archaeobotanical evidence for early date consumption on Dalma Island, United Arab Emirates

¶135: The discovery of carbonized date stones in the United Arab Emirates has made a contribution to the dating of early date consumption in the Near East.

¶136: Testing ancient Egyptian granite-working methods in Aswan, Upper Egypt

¶137: Rose granite was a favoured, but difficult, stone to work in ancient Egypt. Recent sawing, drilling and cutting tests of the granite in Aswan suggest how exacting were those tasks for craftworkers.

¶138: In situ preservation as a dynamic process: the example of Sutton Common, UK

¶139: In situ preservation is a complex and dynamic process, which requires an understanding of the nature and scale of the material to be preserved, an understanding of the context of the site in terms of managerial needs and a programme of scientific monitoring of changes within the burial environment. The example of a rural archaeological landscape in northeast England, which is undergoing a programme of hydrological management, is considered.

¶140: Archaeology and human genetics: lessons for both

¶141: New research fields and areas of scientific specialization often bring division and disciplinary divides. Here Brown & Pluciennik discuss the impact of genetic research on archaeology.

¶142: Middle Palaeolithic stone tool technology in the Kortallayar Basin, South India

¶143: A study of the Middle Palaeolithic stone tool technology from assemblages in South India reveals diverse reduction strategies, including preferences exercised in the choice of raw material and blanks for tool manufacture. Various behaviour patterns are identified which have significant implications for the relatively little known Indian Middle Palaeolithic

¶144: A pot in house 54 at Lepenski Vir I

¶145: Pottery was found in situ in the Mesolithic layers of the site Lepenski Vir in the Iron Gates gorges of the Danube. This discovery raises issues about Meso-Neolithic contact in the second half of the 7th millennium cal BC. Here discussion of the evidence from Lepenski Vir and Padina explores the Neolithic groups which made contact, opening the debate on the process of neolithization in the Balkans and southeast Europe in general.

¶146: The South Scandinavian barrows with well-preserved oak-log coffins

¶147: Recent archaeological and pedological research on South Scandinavian Bronze Age barrows reveals that the remarkable conditions of preservation in a number of mounds are the result of particular construction techniques or special activities during construction. Augerings indicate that the phenomenon is concentrated within specific groups of barrows with central positions in a hypothetical Bronze Age communication system.

¶148: Did the potter's wheel go out of use in Late Bronze Age Palestine?

¶149: Wheel-thrown pottery was widely produced in ancient Palestine during the Middle Bronze Age. However, evidence from two sites in Jordan has led to recent suggestions that this technique went out of use throughout the region during the Late Bronze Age. Investigation by xeroradiography of the pottery-forming techniques used in a Late Bronze Age potter's workshop at Lachish, Israel, suggests that the situation may be more complex and that further research is needed before generalized conclusions can be drawn.

¶150: Diet and ethnicity during the Viking colonization of northern Scotland: evidence from fish bones and stable carbon isotopes

¶151: Diet and ethnicity are strongly related. Recent work on fish-bone ratios and stable carbon isotopes suggest that the Vikings increased the fish contribution to the diet of Orkney and Shetland by a greater investment in deep-sea fishing.

¶152: Catastrophic seismic-related events and their impact on prehistoric human occupation, coastal New Zealand

¶153: The catastrophic 1855 AD Wellington earthquake is used to predict likely environmental impacts of earlier seismic events (earthquake and tsunami) that have been reported for the Cook Strait region in the period following first human settlement 700 years ago. Environmental changes around Palliser Bay in prehistoric Maori times, inferred from archaeological research, parallel those that occurred in 1855 AD. We consider that devastation caused by earthquake activity and subsequent tsunami, rather than climatic deterioration invoked previously, precipitated the rapid abandonment of the Palliser Bay coast by human communities in the 15th century AD.

¶154: The use of 'skailie' in Medieval and Post-Medieval Scotland

¶155: Recent archaeological reports from excavations carried out round the Royal castles and palaces suggest that a completely new chronology of roof covering for high-status buildings in Scotland should now be formulated.

¶156: Voyage to Polynesia's land's end

¶157: Evidence that the earliest settlers on Rapa Nui (Easter Island) may have come from Mangareva and its outlying islands in Central East Polynesia is supported by the journey of the experimental voyaging canoe Hōkūle'a from Mangareva to Rapa Nui.

¶158: Ostrich distribution and exploitation in the Arabian peninsula

¶159: Ethnohistoric and representational as well as egg-shell evidence shows that the ostrich was widely distributed in Arabia. However, the absence of ostrich bones in the archaeological record suggests that they were not hunted for meat.

¶160: Rules of engagement

¶161: A two-day conference, Fields of Conflict: progress and prospect in battlefield archaeology, held at the University of Glasgow, 15–16 April 2000, began by considering techniques of research and the interpretation of events and moved to consideration of site management and preservation

¶162: Stone and timber circles in Britain and adjacent countries

¶163: Burials

¶164: Environmental archaeology

¶165: The corrupting sea: study of Mediterranean history. x

¶166: The harmony of symbols: the Windmill Hill causewayed enclosure.

¶167: An archaeology of natural places.

¶168: The barbarians speak: how the conquered peoples shaped roman Europe.

¶169: Medieval yorkshire towns: People, buildings and spaces.

¶170: The people (The excavation of khok Phanom Di, a prehistoric site in central Thailand V).

¶171: Between the lines: the mystery of the giant ground drawings of ancient Nasca, Peru.

¶172: Ethnoarchaeology in jene, Mali: craft and status among smiths, potters and masons

¶173: Roman officers and English gentlemen: the imperial origins of Roman archaeology

¶174: The hunters: palaeontology in Greek and Roman times

¶175: ISSUE 2

¶176: A Visit to the Deh Luran Plain

¶177: The use of 'SRT' in sampling the Makapansgat Limeworks hominid palaeocave, South Africa

¶178: Seven thousand collections — on the Web

¶179:

¶180: Rock carvings, rubbings and lichen

¶181: An initial investigation into aspects of preservation potential of the Bradshaw rock-art system, Kimberley, northwestern Australia

¶182: Production and exchange of the earliest ceramic vessels in the Aegean: a view from Early Neolithic Knossos, Crete

¶183: Metalwork, burnt mounds and settlement on the West Sussex Coastal Plain: a contextual study

¶184: A beaker/food vessel assemblage from the Northumberland Cheviots

¶185: Recent excavations in Northwest Cambodia

¶186: A new Maya stela from La Milpa, Belize

¶187: Recent rescue excavations in Albania

¶188: Palaeolithic weaving — a contribution from Chauvet

¶189: The author draws attention to Gustave Chauvet's belief, 90 years ago, in Magdalenian weaving on the basis of ethnography, interpretation of Palaeolithic tools and motifs in portable art of the period.

¶190: Bronze Age Myanmar (Burma): a report on the people from the cemetery of Nyaunggan, Upper Myanmar

¶191: Rare information is presented on Bronze Age burials from Burma. Skeletal remains of 43 individuals are placed in a broader southeast Asian context.

¶192: Camels in antiquity: Roman Period finds from Slovenia

¶193: Camels were not native to Europe during the Holocene and were evidently imported by conquering peoples. The discovery of camel bones at two sites in Slovenia is an important contribution to understanding the distribution and function of these animals during the Roman Imperial Period.

¶194: Were the Scots Irish?

¶195: The author attributes the claimed migrations of the Irish into Argyll to a set of élite origin myths, finding no support in archaeological evidence. He goes on to ask how the Iron Age populations of Argyll established and changed their personal and group identity.

¶196: Megalithic engineering techniques: experiments using axe-based technology

¶197: The author reports on experiments in megalithic construction using axe-based technology and proposes methods whereby relatively small groups of skilled workers could effectively transport and erect standing stones and dolmens.

¶198: Were ancient seals secure?

¶199: Forgeries of ancient seals have been found in modern times, but there has been little previous analysis of how much security ancient seals might have offered. In this paper, we demonstrate four different vulnerabilities of clay seal impressions using attack methods and materials that were available thousands of years ago. The success of these attacks suggests that ancient stamp and cylinder seals may have been highly vulnerable to spoofing.

¶100: West Heselton seminar

¶101: We are pleased to present this assessment of a recent seminar on West Heslerton, one of the key sites of Anglo-Saxon northern England, as a prelude to the impact of its publication.

¶102: An engraved bone fragment from c. 70,000-year-old Middle Stone Age levels at Blombos Cave, South Africa: implications for the origin of symbolism and language

¶103: Examination of marks on a bone from Blombos Cave reveals that they were intentionally engraved and there is evidence of bone working techniques at the site. Engraved designs have also been identified on pieces of ochre from Blombos Cave, suggesting such engraving was a symbolic act with symbolic meaning.

¶104: Lithic assemblages from the Chang Tang Region, Northern Tibet

¶105: Archaeological evidence from the Chang Tang Reserve suggests that humans may have first colonized the Tibetan Plateau during the late Pleistocene. Blade, bladelet and microblade technologies are found as surface assemblages in a variety of contexts above 4500 m elevation. The lack of modern analogues for foraging populations in high-elevation environments brings about a reconsideration of the diversity and organization of Pleistocene hunter-gatherer adaptations.

¶106: Absolute age range of the Late Cypriot IIC Period on Cyprus

¶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.

¶108: Archaeobotanical evidence for pearl millet (*Pennisetum glaucum*) in sub-Saharan West Africa

¶109: The remains of pearl millet (*Pennisetum glaucum*) dating to  $3460 \pm 200$  and  $2960 \pm 370$  BP have been recovered at the archaeological site of Birimi, northern Ghana, associated with the Kintampo cultural complex. This finding represents the earliest known occurrence of pearl millet in sub-Saharan Africa. Results indicate that Kintampo peoples developed effective subsistence adaptations to savannas as well as tropical forest habitats.

¶110: The chronology of the Iron Age 'moats' of northeast Thailand

¶111: This paper reports the first chronometric study of the 'moats' of the abundant mounded Iron Age sites of northeast Thailand. Here AMS  $^{14}\text{C}$  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. The dates also contain preliminary evidence for the chronology of landscape change, which is critical to the understanding of the Iron Age occupation of this region.

¶112: A glimpse at Moche Phase III occupation at the Huacas of Moche site, northern Peru

¶113: The emergence of the Moche Civilization into an expansionist state is still a matter of debate. Burial data and stratigraphic and radiometric data are used to shed light on the Moche III phase at the Huacas of Moche site. The implications of this new set of data will enhance our understanding of the early history of the site.

¶114: Broken fingers: Classic Maya scribe capture and polity consolidation

¶115: This paper addresses how the rulers of the Classic Maya sought to promote polity cohesion and to maintain power. New information is presented on scribe capture and its importance in reinforcing the power and importance of the king.

¶1116: 'The Oldest British Industry': continuity and obsolescence in a flintknapper's sample set

¶1117: A set of gunflints and other artefacts produced by Fred Snare at Brandon is an example of ways in which craftsmen in a declining trade attempted to create new markets by introducing new techniques and forms, and finding new ways to sell traditional skills. 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.

¶1118: Fair Prehistory: archaeological exhibits at French Expositions Universelles

¶1119: International exhibitions in the 19th century were used as showcases for scientific and technological advances, but also often included exhibits of objects from the past, including prehistoric times. Three Expositions Universelles held in Paris in 1867, 1878 and 1889 are examined to see how archaeological artefacts were presented to the public and how they influenced the development of the subject of prehistoric archaeology at that period.

¶1120: Three-dimensional imaging in archaeology: its history and future

¶1121: 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.

¶1122: Harappan seeds and agriculture: some considerations

¶1123: Blind in a cloud of data: problems with the chronology of Neanderthal extinction and anatomically modern human expansion

¶1124: The blind leading the lame

¶1125: Expressiveness and communication: Insular Celtic art through six centuries

¶1126: Conservation

¶1127: Greek islands

¶1128: Gender agenda?

¶1129: Values, knowledge and ownership

¶1130: Beyond chiefdoms: pathways to complexity in Africa.

¶1131: La question du Campani-forme en France et dans les îles anglo-normandes: productions, chronologie et rôles d'un standard céramique.

¶1132: European societies in the Bronze Age.

¶1133: Mosaics of the Greek & Roman world.

¶1134: Late Iron Age and Roman Silchester: excavations on the site of the Forum-Basilica 1977, 1980–1986

¶1135: The Quoit Brooch style and Anglo-Saxon settlement: a casting and recasting of cultural identity symbols.

¶1136: Minster churches in the Dorset landscape

¶137: Hadrian's Wall: some aspects of its post-Roman influence on the landscape

¶138: Fields of deception: Britain's bombing decoys of World War II.

¶139: The archaeology of animal bones.

¶140: Critical approaches to fieldwork: contemporary and historical archaeological practice.

¶141: Aillen-a pioneering archaeologist.

¶142: ISSUE 3

¶143: Dramatic shifts in atmospheric radiocarbon during the last glacial period

¶144: Radiocarbon dates on cremated bone from Sanaigmhor Warren, Islay

¶145: Do-Ashkaft: a recently discovered Mousterian cave site in the Kermanshah Plain, Iran

¶146: Since Dorothy Garrod's pioneering work at the Mousterian site of Hazar Merd on the western slopes of the Zagros Mountains in 1928, a number of Middle Palaeolithic sites in the area have been discovered, sampled and, in some cases, partially excavated. Some of these sites are located in the Kermanshah Plain, Central Western Zagros Mountains. These sites include the Hunter's Cave and Gha-e Khar in Bisotun (Coon 1951; Young & Smith 1966), Kobeh and Warwasi in Tang-e Kenesht (Braidwood 1960), and two sites near Harsin (Smith 1986). All but the last two are among a large number of Palaeolithic localities on the south face of a series of calcareous mountain ranges (Kuh-e Parau/ Bisotun massif) on the northeastern rim of Qara Su basin in the Kermanshah Plain (FIGURE 1).

¶147: Following a hiatus in archaeological research after the Iranian Revolution of 1979, an independent series of surveys in the area by the authors led to the discovery of three Mousterian sites at Bisotun in 1986 (Biglari in press). During recent years, we located two more Mousterian sites, including Do-Ashkaft, the subject of this note.

¶148: Bridging the gap: new fieldwork in northern Morocco

¶149: The question of human contacts between Africa and the Iberian Peninsula in the Middle and Upper Pleistocene is of key interest in research of human origins. Discussion continues to focus on whether the sea gap separating the landmasses proved an effective barrier to cultural interchange and population movements. At its narrowest point the Gibraltar Strait is no more than 14 km wide and at times of lower sea level in the Pleistocene the gap would have been considerably reduced by the exposure of several offshore islands. Such sea crossings were apparently well within the capabilities of early human colonizers, as shown by the 800,000-year-old occupation of islands in the Indonesian archipelago. Despite these observations, many archaeologists have pointed to the ostensible lack of evidence for human interactions between Europe and North Africa until some time in the Upper Palaeolithic. This is surprising, given the presence of populations in both areas from the Lower Palaeolithic onwards. Such an 'isolationist' view is emphasized by the recent work of the Gibraltar Caves Project (Barton et al. 1999; Stringer et al. 2000) which has shown that Neanderthal populations with Middle Palaeolithic technology lived there until at least 32,000 years ago uncal, at a time when anatomically modern humans were already present elsewhere in Europe and Africa. Until now, no evidence of Neanderthals has been found in North Africa but the dating and nature of the Middle to Upper Palaeolithic transition in this region remains poorly understood.

¶150: Shell rings of the southeast US



¶151: Shell rings are circular and semi-circular deposits of shell (mostly oyster, *Crassostrea virginica*), faunal bone, artefacts and soil constructed along the Florida, Georgia and South Carolina coasts of the southeastern United States.

¶152: Rings in Georgia and South Carolina date to c. 4200–3200 BP and range in size from 1 to 3 m tall and 22 to 83 m across. These little-studied sites have been suggested to be the remains of gaming arenas, astronomical observatories, torture chambers, houses of state, and fish traps. Most archaeologists view the sites as the subsistence remains of egalitarian hunter/fisher encampments. 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. The general absence of exotic or prestige artefacts, elaborate burials and ceremonial mounds has reinforced the concept that these Late Archaic shell rings reflect rudimentary hunter/fisher cultures. Ironically, shell rings have also been cited as the earliest evidence for the rise of hierarchical social development in North America (Russo 1991; Russo & Saunders 1999). Shell rings have yielded evidence of the earliest permanent year-round occupations, the earliest development of pottery and the earliest examples of large-scale monumental architecture. Consequentially the function of shell rings remains an open question.

¶153: Prehistoric burial and ritual, in southwest Ireland

¶154: Archaeological monitoring of the construction of the N21 road improvements, Co. Kerry, Ireland, in 1999 uncovered four sub-circular features in the townland of Rockfield (FIGURE 1).

¶155: The central feature revealed itself to be small pit containing a cremation burial. The bones in this shallow pit had been subjected to intense heat, though the boulder clay beneath was unburnt. Radiocarbon (calibrated  $\sigma 2$ ) dating showed that this cremation dated from 1440–1140 BC, the date being firmly placed in the Irish Bronze Age. The total weight of the cremation was 29 g. The general size of the bone fragments recovered was very small with 72.4% being less than 5 mm in size. This severely limited the osteological analysis. At least some of the fragments, particularly some of the long bone pieces appeared to be human. On the basis of size, the cremation represents at least one adult. The uniform chalky white appearance of the bones recovered indicated that the individual was very well cremated and was probably processed by crushing or pounding of the bones after cremation.

¶156: Carnelian mines in Gujarat

¶157: In June–July 2000 a sample collection programme was completed in the extant carnelian mines of Jhagadia Taluka, Broach District, Gujarat, Western India (FIGURE 1). The predominant rationale behind the fieldwork is an Africanist one. Namely, 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. For besides local production of carnelian beads in West Africa, it seems that certain examples were also imported via trans-Saharan trade routes, probably from India (Insoll 2000). However, at present such an attribution remains purely hypothetical, based as it is upon the colour, workmanship, and shapes, resembling the carnelian bead production of Western India. Beads known to have been extensively exported in the medieval period, the focus here, and of course before (Theunissen et al. 2000). Thus 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.

¶158: Cut not smashed: a new type of evidence for nut exploitation from Sulawesi

¶159: In archaeology the recovery of 'nuts' means the recovery of any hard-shelled fruit or seeds, further qualified as those eaten by people. Recent analysis of environmental samples from Leang Burung-1 in the Maros district of Sulawesi (FIGURE 1) led to the recovery of a charred, almost intact nut, in deposits with an age range of 1430±600 BC (ANU-390) (Bulbeck 1997; Mulvaney & Soejono 1970).

¶160: The nut has a clear cut mark starting from the tapered end, running along the long axis. 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 (FIGURE 2). The cut was probably made before charring, using a sharp tool to cut deep enough for the instrument to pry open one of the locules to get to one of three kernels. Based on the associated materials recovered from the site, the cut probably was made using one of several flaked tool types recovered from the area, such as a levallois point — part of the Maros region blade assemblage (FIGURE 3).

¶161: Fleas From Pharaonic Amarna

¶162: The preservation of ectoparasites in archaeological sites is normally problematic, but the dry environment of the Egyptian desert keeps even the very fragile remains of fleas intact.

¶163: Fleas, Siphonaptera, can be divided in three large groups: the sedentary fleas that live in the nest of their hosts, the mobile fleas that still require a nest but can also live on the host, and the stick-tight fleas that attach themselves on the host. The human flea, *Pulex irritans* L. is one of the mobile fleas, nowadays cosmopolitan, and has been found on a wide range of hosts (Hopla 1980; Cooper 2001). Man evolved in the Old World and although the human flea is closely associated with him, it probably has a New World origin (Hopla 1980: 201; Traub 1985: 408; Buckland & Sadler 1989), as all its congeners are found in the Americas. Donkin (1985) thought that the original host for *P. irritans* was the peccary (family *Tayassuidae*). However peccaries do not have relatively permanent nest sites, and Buckland & Sadler (1989), after examining the profiles of different animal hosts, have suggested *Cavia porcellus* L., the guinea pig (cavy) as the primary host for the flea. *C. porcellus* was domesticated during the pre-Colombian period for its meat, but its contribution to the South American agricultural economy has always been on a local scale. Recent archaeological finds of *Pulex* sp. on a pre-Columbian *C. porcellus* from Peru (Dittmar 2000) support the above hypothesis.

¶164: An Amarna-period ostrakon from the Valley of the Kings

¶165: The Amarna Royal Tombs Project (ARTP) initiated its programme of archaeological survey and excavation in the central part of Egypt's Valley of the Kings in November 1998, and has now completed three successive seasons of work under the joint field-direction of Nicholas Reeves and Geoffrey T. Martin. The emphasis to date has been on the documentation and investigation of the ancient settlements which once occupied much of the central Valley — those neglected 'workmen's huts' which previous excavators have occasionally noted, sometimes 'cleared', and more rarely planned. A particular focus of ARTP's work has been that area of settlement located between tombs KV 56 ('The Gold Tomb') and KV 9 (Ramesses VI), which in the early years of the 20th century was partially explored both by Theodore Davis (who left little record: cf. Davis 1908: 31) and by Howard Carter (Carter & Mace 1923: 87; cf. Reeves 1990a: plate XIV Reeves & Wilkinson 1996: 84). The greater part of this restricted site — a good deal of its archaeology still intact, despite earlier sondages — has now been excavated down to bedrock, with intriguing results.

¶166: The Late Bronze Age and Early Iron Age landscape of interior western Sicily

¶167: The archaeology of complex societies in western Sicily has traditionally focused upon Greek and Phoenician colonization rather than the development of the indigenous peoples of the interior. The Salemi regional survey project in western Sicily was conceived as a means to track long-term landscape change of this interior 'indigenous' landscape. From 1998 to 2000, this survey has conducted an extensive survey of 150 sq. km of the Salemi region, an intensive survey of 8 sq. km around a nearby Late Bronze Age (LBA) hilltop settlement of Mokarta (Mannino & Spatafora 1995; Spatafora & Mannino 1992; Tusa 1992), and an intensive survey of 25 sq. km around the Early Iron Age (EIA) hilltop settlement of Monte Polizzo (FIGURE 1). Survey work is part of the Sicilian–Scandinavian archaeological project (Morris et al. in press; <http://dig.anthro.niu.edu/sicily>), an international team of scholars who are undertaking large-scale excavations at Monte Polizzo (FIGURE 2). Preliminary survey results reveal that these LBA and EIA peoples relied on an intricate valley hinterland around their hilltop residences. Moreover, marked differences exist between the LBA and EIA valley hinterlands.

¶168: A contextual study of the 'fossilized' prehispanic canal systems of the Tehuacan Valley, Puebla, Mexico

¶169: Nearly three decades ago, Woodbury & Neely (1972) published the first analysis of the extensive and complex system of Prehispanic Canals found in the northern portion of the Tehuacan Valley of Puebla, Mexico. These springfed canals, functioning to supply waters for irrigation and domestic uses, were uniquely preserved in near entirety by natural processes. The canals have been 'fossilized' in place through a process of mineral deposition. They are clearly visible on the landscape for many kilometres and have aggraded in height, now standing 2 to 3 m high in several places. Time, funding and the archaeological methodology of the mid 1960s limited Woodbury & Neely's fieldwork, and therefore the study did not fully investigate the system. Although a basic description and discussion of the technology and functioning of the system was accomplished, a detailed analysis of these aspects remained to be done. A schematic mapping of the system was accomplished, but an accurate mapping of the canals and associated habitation and administrative sites was lacking. The chronological placement of these canals was attempted by means of the cross-dating of ceramics on archaeological sites found bordering the channels, but an accurate chronological sequence of the system's development was not attainable. A general climatic reconstruction of the valley was generated, but since the emphasis placed by the Tehuacan Archaeological and Botanical Project was on the earlier periods of habitation that focused on the development of maize domestication, the climatic contexts into which the canals were later constructed was not known.

¶170: Roman armour and metalworking at Carlisle, Cumbria, England

¶171: Recent excavations at the Roman fort in Carlisle, Cumbria, have yielded a large number of pieces of articulated Roman armour and other items. This is the most important such find in Britain since the Corbridge hoard was excavated in 1964 (Allason-Jones & Bishop 1988).

¶172: On the north side of the *via principalis* adjacent to the headquarters building (*principia*), the corner of a timber building was uncovered (FIGURE 2). On the floor was a quantity of articulated and disarticulated fragments of predominantly ferrous Roman armour, including as many as three crushed, but complete, laminated arm defences. Although first used by Hellenistic cavalry and referred to in Xenophon's *Art of horsemanship* (XI.13–XII.5), and later used by gladiators, this type of armour was adopted by Roman legionaries. It was once thought that armguards (*manicae*) were very

rare and only employed under special circumstances, such as Trajan's wars in Dacia where they were used to counter the deadly scythe-like falx (Richmond 1982: 49–50). A number of similar finds have been made, as at Newstead (Curle 1911: plate XXIII) and Richborough, Kent (M. Lyne pers. comm.), but they are often isolated and the pieces crushed, making reconstruction difficult and speculative. A graffito from Dura-Europos (FIGURE 1) shows a mounted soldier with a tall helmet and a mail or scale neck-guard, with similar limb and abdominal defences (Robinson 1975: figure 190). The Carlisle assemblage is important for the retrieval of articulated pieces, with associated copper-alloy rivets and leather.

¶173: The Early Christian bema churches of Syria revisited

¶174: The Limestone Massif of northwest Syria has the largest concentration of late antique churches in the world. All date from between the second half of the 4th century and the first decade of the 7th century and are remarkably consistent in their conformity to a recognizably 'Syrian' architectural style. Almost without exception they are apsed basilicas varying only in terms of size and the quality of decoration.

¶175: This region was extensively surveyed in the 1950s by Georges Tchalenko, whose monumental three-volume study *Villages antiques de la Syrie du nord* remains the definitive work on the area. Of the many ecclesiastical buildings included in this survey Tchalenko identified a group of approximately 45 churches possessing a bema. The bema is a horseshoe-shaped structure in the nave that mirrors the curve of the apse. Entered via steps at the east end, it provided benches for the clergy and a pulpit at the west end that was used for scriptural expositions and homilies.

¶176: Early preserved Polynesian kumara cultivations in New Zealand

¶177: Archaeological evidence for prehistoric gardening practices in Polynesia includes stone boundary walls, storage pits and structures, drainage systems and evidence for the modification of soil, but often the remains of horticultural practise are ephemeral. Maori developed a range of novel modifications to their traditional horticultural methods which enabled the successful introduction of the range of Polynesian cultigens into the temperate New Zealand environment, the furthest southwards these crops were introduced. They modified the soil by adding charcoal, shell and alluvial gravels to change the friability and temperature retention, and stored tubers in semi-subteranean pits for the next growing season (Jones 1991: 14–8; Challis 1976). Here, we report what we believe is the first direct archaeological evidence for the actual layout of prehistoric kumara gardens in New Zealand. Our interpretation receives support from the accounts of early Europeans in New Zealand, including Joseph Banks and William Colenso.

¶178: The Water Island Archaeological Project: archaeology and history in the eastern Caribbean

¶179: In 1998 extensive investigations were undertaken on Water Island, US Virgin Islands, by a research team from the Southeast Archeological Center, National Park Service. The US government is relinquishing ownership of the island, an action that would affect cultural resources. Earlier surveys had located a number of sites, including the remains of three 18th- and 19th-century plantations, historic wells, prehistoric shell middens and an extensive World War II fortification complex (Wild & Anderson 1992; Knight 2001; Anderson et al. in preparation).

¶180: Water Island, located off St Thomas, encompasses about one square mile, and is characterized by steep rocky slopes, a pronounced central ridgeline and a highly indented coastline with numerous bays and beaches (FIGURE 1). Fresh water comes from rainfall, and in small brackish ponds. Vegetation ranges from dry tropical thorn scrub to mangrove/salt ponds.

¶181: Ringing the changes: when terminology matters

¶182: Under the old Treasure Trove laws, small, single items of precious metal were frequently dismissed by Coroners as casual losses (although they still had to be reported). This meant that numbers of small items never went to inquest, as one of the criteria for Treasure was that in all likelihood objects had been buried with the intention to recover them (the *animus revertendi*). This criterion was removed when the new Act was passed some five years ago. The extension of the law to cover such items has thrown up at least one problem of definition.

¶183: A later Bronze Age gold penannular ring was recently found not to be treasure at inquest, because the piece was held to be a coin. Single, stray finds of coins are not counted as treasure, whereas any ornament of precious metal at least 300 years old, small or large, is now eligible under the 1996 Treasure Act. This raises two issues. The first concerns the definition of 'coin' as explained in the Code of Practice; the second is about terminology, and specifically the use of the term 'ring-money' to describe such objects.

¶184: The Donghulin Woman from western Beijing: 14C age and an associated compound shell necklace

¶185: A female skeleton, whose 14C age is about 8540 BP (c. 7500 cal BC), from the basal part of the Holocene loess at Fenpo Gully, west of the village of Donghulin, Mentougou district of Beijing, was associated with a shell necklace restored from 68 gastropod shells. This unprecedented find also contributes new environmental information.

¶186: 'Fish-tail' projectile points and megamammals: new evidence from Paso Otero 5 (Argentina)

¶187: The Paso Otero 5 site is located in the middle basin of the Quequén Grande river (Buenos Aires Province, Argentina). This site is the first recorded Pleistocene-Holocene archaeological context in the grasslands of the Interserrana Bonaerense Area at which extinct megamammals and a 'fish-tail' projectile point have been recovered in association from buried soil dated to c. 10,200–10,450 BP.

¶188: AMS 14C age determinations of Rapanui (Easter Island) wood sculpture: moai kavakava ET 48.63 from Brussels

¶189: Direct dating, using the Accelerator Mass Spectrometry (AMS) 14C method, of a wooden moai kavakava (anthropomorphic woodcarving) in the collection of the Royal Museums of Art and History in Brussels has given a date of about cal AD 1390–1480. As there are reasons to believe that this age not only regards the raw material but also the carving itself, preserved examples of Easter Island wood sculpture may be much older than previously assumed and possibly contemporaneous with the giant monolithic sculpture of the first half of the 2nd millennium AD.

¶190: Remembering, forgetting and the invention of tradition: burial and natural places in the English Early Bronze Age

¶191: The author looks at construction and subsequent use-pattern of round barrows in the Cheshire Basin. He argues that the use of natural mounds for burial during the Early Bronze Age may be the result of mistaken identity, indicating a forgetting of the past.

¶192: Processing palm fruits in the Nile Valley — biomolecular evidence from Qasr Ibrim

¶193: While 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.

¶194: Emerging trends in rock-art research: hunter–gatherer culture, land and landscape

¶195: Where is rock-art study heading? The author analyses the current trends and proposes a landscape-based, gender-sensitive approach for future work.

¶196: Rameses II and the tobacco beetle

¶197: The use of a wide range of narcotic drugs in antiquity has been widely documented, although archaeologists have sometimes been too credulous of apparently scientific data, and have failed to appreciate the post-excavation histories of artefacts, including mummies. This paper examines the discovery of tobacco in the mummy of Rameses II, provides an alternative model for its origin, as a 19th-century insecticide used in conservation, and throws doubt upon the evidence for both cannabis and cocaine in ancient Egypt.

¶198: Fragmentary endings: a discussion of 3rd-millennium BC burial practices in the Oman Peninsula

¶199: This paper reviews the architectural and human skeletal remains from Umm an-Nar period tombs (c. 2500–2000 BC), found across the Oman Peninsula. Possible meanings for the regional dispersal of the tombs across the region are considered. Tomb Unar 2 may provide possible interpretations of 3rd-millennium BC burial practices.

¶200: The dynamics of wealth and poverty in the Transegalitarian societies of Southeast Asia

¶201: Understanding how differential wealth develops between households in villages is one key to understanding how socioeconomic inequalities develop; a key theoretical issue for archaeologists. An ethnoarchaeological perspective in Southeast Asia gains major insights into how socioeconomic inequalities emerged and were maintained, with numerous implications for other cereal and stock based prehistoric cultures, such as those of Neolithic Europe.

¶202: The second phase of Neolithization in east-central Europe

¶203: This paper presents archaeological and palynological evidence for long continuation of the Mesolithic way of life in east-central Europe irrespective of the presence of early Neolithic farmers. The complete Neolithization of the area took place only about 3500 BC, as a consequence of long-term interactions between indigenous foragers and exotic farmers.

¶204: Prehistoric human migration in the Linearbandkeramik of Central Europe

¶205: This paper presents a revised chronology for the Linearbandkeramik and strontium isotope measurements of human skeletal material from two cemeteries which indicate a high incidence of migration. It appears that LBK farmers were highly migratory and interacted with surrounding communities.

¶206: Responses to Geoffrey Wainwright's 'Time Please'

¶207: In December 2000 we published 'Time Please', a retrospective of archaeological transformation in England, by Geoffrey Wainwright, the former Chief Archaeologist of English Heritage. He reviewed the enormous changes over the last 30–40 years from his perspective at the heart of the 'Heritage' establishment.

¶1208: We have received three comments from fellow professionals which offer some alternative recollections of events, priorities and changes. Philip Rahtz, Emeritus Professor of Archaeology at York and a founder of Rescue, comments on that area, and the emergence of state archaeology in the early years. Peter Fowler, formerly Secretary to the Royal Commission on Historical Monuments (England) and Emeritus Professor of Archaeology at Newcastle, comments too on Rescue, and particularly on the role of academic archaeology, including that of Extra-Mural, as one of the principal promoters of public interest and action in archaeology. 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. Predictably, there are many perspectives on the route that archaeology, as a means to mitigate damage to the heritage, and to provide a record of the past, has taken over its years of increasingly high-profile professional and business activity.

¶1209: A view from the Old School

¶1210: Time for a last quick one?

¶1211: Last Orders?

¶1212: Interpreting the Neolithic of western Asia

¶1213: African innovations in the use of plants and animals

¶1214: Archaeologists out of steppe?

¶1215: Mediterranean myopia

¶1216: Danebury's landscape

¶1217: Later prehistory in the Outer Hebrides

¶1218: Franks and Crusaders in Palestine and the Lebanon

¶1219: Progress on Polynesia

¶1220: Hunter gatherers: an interdisciplinary perspective.

¶1221: Aurignacian lithic economy: ecological perspectives from southwestern France.

¶1222: Lagrotte ornée de Pergouset (Saint Géry, Lot): un sanctuaire secret paléolithique

¶1223: Facing the ocean: the Atlantic and its peoples 8000 BC-AD 1500.

¶1224: The Lockington gold hoard: an early Bronze Age barrow cemetery at Lockington, Leicestershire.

¶1225: Hellenistic sculpture II: The styles of c. 200–100 BC.

¶1226: Britain and the end of the Roman Empire.

¶1227: Hen Domen, Montgomery: a timber castle on the English-Welsh border- a final report.

¶1228: Blood red rose: the archaeology of a mass grave from the Battle of Towton, AD 1461.

¶1229: In the realm of Nachan kan: Postclassic Maya archaeology of Laguna de On, Belize.

¶1230: Last rites for the Tipu Maya: genetic structuring in a Colonial cemetery.

¶1231: The cosmos of Khnumhotep II at Beni Hasan.

¶1232: ISSUE 4

¶1233: My Second Century in Archaeology

¶1234: Two Early Holocene check dams from Southern Arabia

¶1235: Nakovana Cave: an Illyrian ritual site

¶1236: Rhys Maengwyn Jones

¶1237: A building for ritual use at Uppåkra, southernmost Sweden

¶1238: Prehistoric agricultural fields and water management technology of the Safford Valley, southeastern Arizona

¶1239: A Preclassic Maya sweatbath at Cuello, Belize

¶1240: Maya kingship at Holmul, Guatemala

¶1241: 'Olmec Blue' and Formative jade sources: new discoveries in Guatemala

¶1242: Knobbed spearbutts of the British and Irish Iron Age: new examples and new thoughts

¶1243: How can study of material objects be employed to develop archaeological explanation? Recent finds suggest that past views on the date and distribution of doorknob spearbutts need to be revised with consequent effects on the interpretation of their cultural significance.

¶1244: A large area archaeological excavation at Cuddie Springs

¶1245: Large area excavation at Cuddie Springs has revealed that the Pleistocene sediments have remained undisturbed. This eliminates the possibility that stone artefacts found in association with megafauna may have been introduced by disturbance from higher levels and indicates an overlap of megafauna with humans of at least 10,000 years.

¶1246: More time please

¶1247: This further comment on Geoffrey Wainwright's retrospective 'Time please' (ANTIQUITY 74: (2000): 909–43) is 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, and who has directed an independent Trust through the transition from state funding to private funding.

¶1248: Dating Shuidonggou and the Upper Palaeolithic blade industry in North China

¶1249: Shuidonggou is unique within the Chinese Palaeolithic sequence and its assemblage is reminiscent of Upper Palaeolithic core-and-blade technologies in Mongolia and southern Siberia. Limited chronological controls have prevented evaluation of this technology in both the Chinese and greater Eurasian Palaeolithic. Dating of recently discovered hearths at Locality 2 places Shuidonggou firmly at 29,000–24,000 BP, and suggests the spread of the Eurasian large blade technology was primarily from north to south. The concurrent production of small microblade-like bipolar bladelets at the site may also presage the development of a microlithic industry.

¶1250: A new dating sequence for Çatalhöyük



¶1251: A recent series of accelerator mass spectrometry dates from the earliest excavated deposits at Çatalhöyük 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.

¶1252: New AMS radiocarbon dates for the North Ferriby boats—a contribution to dating prehistoric seafaring in northwestern Europe

¶1253: Edward V. Wright, Robert E. M. Hedges, Alex Bayliss, Robert Van de Noort

¶1254: A new series of radiocarbon measurements on three sewn-plank boats from North Ferriby, Yorkshire, has provided consistent new dating for these craft, which suggests that the appearance of such boats may fall in the early Bronze Age.

¶1255: Geophysical and palynological investigations of the Tell El Dabaa archaeological site, Nile Delta, Egypt

¶1256: The authors present preliminary results of geophysical and palynological reconnaissance at the Tell El Dabaa, eastern Nile Delta. The geophysical survey reveals the presence of floodbasins, levees and channel deposits. 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.

¶1257: Roman vineyards in Britain: stratigraphic and palynological data from Wollaston in the Nene Valley, England

¶1258: Stratigraphic and palynological evidence from trenches at Wollaston, Northamptonshire, suggest viticulture was extensively practised at this Roman site. It is argued that the apparent lack of viticultural tools and wine presses in the archaeological record in Britain is not reliable evidence for the absence of viticulture at that time.

¶1259: Between fasting and feasting: the literary and archaeobotanical evidence for monastic diet in Late Antique Egypt

¶1260: Fasting was an important element of early Christian behaviour in Egypt. In spite of a wealth of Late Antique monastic sources describing acts of fasting, the reality must be that food was consumed at regular intervals. To date, discussion of monastic dietary practice has been largely a historical debate. Although we do not discount this approach and will use it ourselves, this paper departs from this academic tradition by incorporating new archaeobotanical evidence from the recent excavations of the 5th–7th-century AD monastery at Kom el-Nana. Middle Egypt into the study of monastic diet. It is our belief that the use of independent forms of evidence (in this case written sources on attitudes to fasting and archaeobotanical evidence) is the best way forward to answering fundamental questions about what monastic diet was like in Late Antique Egypt.

¶1261: Restless corpses: 'secondary burial' in the Babenberg and Habsburg dynasties

¶1262: The historically documented burial samples of the Babenberg and Habsburg dynasties allow a detailed analysis of the circumstances that led to dismemberment, evisceration, disturbance, exhumation and reburial over a millennium. The results may provide deeper and more broadly applicable insights into relevant cultural formation processes of élite burials.

¶1263: Why digital enhancement of rock paintings works: rescaling and saturating colours

¶1264: 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. Its use at a site in Torres Strait shows how it can be used successfully to reveal faded rock paintings.

¶1265: African archaeology today

¶1266: For most archaeologists across the globe, mention of Africa in the context of archaeological research will probably bring to mind the important discoveries of early stone tools and hominid remains in eastern and southern Africa, the spectacular stone-walled enclosures and other structures at Great Zimbabwe, and images of 'tribal' culture, subsistence practices, artefacts and housing that, to some Western eyes at least, can seem reminiscent of a more distant non-African past. For some, the architectural and artistic splendours of Egyptian civilization may also form part of this image of archaeology on the continent, although for complex geopolitical, historical and academic reasons the study of Egyptian archaeology, in all but a few instances, continues to be regarded as distinct from that of the rest of Africa. While accepting that the preceding sentences are something of a caricature of the non-Africanist's understanding and perception of the work of archaeologists on the continent, and that general introductory texts on archaeological methods and theory nowadays give wider coverage of African case-studies than was the case even a decade ago (e.g. Renfrew & Bahn 1991; Fagan 1995), the level of awareness of the breadth of African archaeology, current discoveries and research issues, as well as the many problems that practitioners and managers face on a daily basis, remains abysmally low.

¶1267: Ulster and the Indian Ocean? Recent maritime archaeological research on the East African coast

¶1268: In January 2001, a team of researchers from the University of Ulster (Northern Ireland) conducted an innovative maritime archaeology project on the East African coast in partnership with the British Institute in Eastern Africa and the National Museums of Kenya. Its focus was Mombasa Island on the southern Kenyan coast, a historical settlement and port for nearly 2000 years (Berg 1968; Sassoon 1980; 1982). The East African seaboard, stretching from Somalia in the north to Madagascar and Mozambique in the south, was culturally dynamic throughout the historical period. This area, traditionally known as the Swahili coast, is culturally defined as a maritime zone extending 2000 km from north to south, but reaching a mere 15 km inland. The origins of 'Swahili' cultural identity originated during the middle of the 1st millennium AD, following consolidation of earlier farming and metal-using Bantu-speaking communities along the coast and emergence of a distinctive 'maritime' orientation and set of cultural traditions (eg Allen 1993; Chami 1998; Helm 2000; Horton & Middleton 2000). Previous research produced evidence of exploitation of marine resources for food and an early engagement in longdistance exchange networks, linking parts of this coast with the Classical world by at least the BC/AD transition.

¶1269: Rock art in sub-Saharan Mali

¶1270: Sub-Saharan West Africa has remained largely a blank space on the world rock-art map, in spite of a steady trickle of reports during the past century on pictograph and petroglyph sites in the West African sahel and savanna belts. 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. From sub-Saharan Mali, for example, only two sites have been published to a satisfactory standard (Huysecom 1990; Huysecom et al. 1996). The richness of the region in rock art, as indicated by several authors (e.g. Griaule 1938; Huysecom & Mayor 1991/92; Togola et al. 1995), has been confirmed by on-going research on rock art in the Boucle du Baoulé region (map, FIGURE 5) in the southwest of the country (Kleinitz 2000). In three

field seasons, 14 known and 38 newly identified rock-shelters and open-air sites with pictographs and peboglyphs have been recorded.

¶1271: By donkey train to Kufra?—How Mr Meri went west

¶1272: In 1990, about 30 km southwest of Dakhla oasis, the most remote settlement in Egypt's Western Desert, a hieroglyphic rock inscription was discovered that turned out to be the first clear evidence of an Ancient Egyptian presence so far into the Sahara (Burkard 1997). The short text states that a higher official named Meri went out to meet (?) oasis dwellers. Details of translation, interpretation and palaeographic dating of the text are a matter of discussion among Egyptologists, but it clearly seems to be of Old or Early Middle Kingdom origin. The home of the 'oasis dwellers' can reasonably be inferred as lying further west or southwest. However, the nearest places with permanent water in these directions are the Kufra Oasis in Libya and the wells of Djebel Uweinat, which lie, respectively, some 600 km and 500 km away. How was it possible to master such distances under the then already prevailing hyperarid conditions by the only available means of transportation, a train of donkeys that have to drink at least every three days?

¶1273: Soil erosion, iron smelting and human settlement in the Haubi Basin, north-central Tanzania

¶1274: The Haubi Basin, situated in the Irangi Hills of Kondo District, Dodoma Region, Tanzania (FIGURE 1), exhibits some of the most extreme examples of erosion and associated sedimentation in the region (Christiansson 1981; Payton et al. 1992) (FIGURE 2). The severity of the problem, with its consequent loss of productive land, has been known since the beginning of the 20th century (Kannenberg 1900; Obst 1915). Recognition of the extent and severity of the issues encouraged the British colonial government to introduce a variety of measures aimed at soil conservation in the 1930s (Fosbrooke 1950). These included the construction of check-dams, contour bunds and contour planting with sisal. After independence, a second programme of soil conservation measures was launched. These were initially similar to those employed under colonialism, but later included de-stocking, resulting in the removal of some 90,000 livestock from the most severely eroded areas. As in the colonial period, recent overexploitation of land resources by local populations was regarded as the primary explanation for the continuing soil erosion.

¶1275: Rescue archaeology in eastern Cameroon

¶1276: Many infrastructural development projects are now being carried out in Cameroon (e.g. road building, oil pipeline construction, and urban renewal). At present, no specific data base exists to determine the current and potential extent of damage to archaeological and historical sites. To redress this, we believe that there is an urgent need to make impact assessments and mitigation work a mandatory precondition of development approval for entrepreneurs and public works professionals operating in the country.

¶1277: Research into the formlings in the rock art of Zimbabwe

¶1278: 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.

¶1279: Late Pliocene Oldowan excavations at Kanjera South, Kenya

¶1280: The appearance of Oldowan sites c. 2.5 million years ago signals one of the most important adaptive shifts in human evolution. Large mammal u butchery, stone artefact manufacture and novel transport and discard behaviours led to the accumulation of the first recognized archaeological debris. Although the earliest instances of these behaviours are 2.5 million years ago, most of what we know about Oldowan palaeoecology and behaviour is derived from localities more than half a million years younger, particularly c. 1.8 million-year-old sites from Bed I Olduvai Gorge, Tanzania (Potts 1988). Sites from Kanjera South, Homa Peninsula, southwestern Kenya, yield dense concentrations of artefacts in association with the oldest (c. 2.2 million years) substantial sample of archaeological fauna known thus far from Africa. This study is the first to use a wide range of traditional and innovative techniques to investigate Oldowan hominin behaviour and site formation processes before 2 million years ago.

¶1281: Bananas and the archaeology of Buganda

¶1282: The Buganda state, which flourished on the northern shores of Lake Victoria from the 17th to the 19th centuries AD, is widely regarded as one of the most significant socio-political developments of the African continent, most notably having featured prominently in Frazer's *The Golden Bough*. In bananas, Buganda had a unique subsistence base, and its later history suggests an unusual urban trend of large capitals occupied over short periods of time. Given these prominent characteristics it is incredible, therefore, that there has been no concerted archaeological research programme in Buganda.

¶1283: The Kintampo Archaeological Research Project (KARP): academic collaboration and field research in Ghana

¶1284: The Kintampo Archaeological Research Project is the first venture conducted under the auspices of the academic collaboration established between the Department of Archaeology, University of Ghana (UG) and the Institute of Archaeology, University College London (UCL). KARP is a field-based project designed around two separate areas of research, encompassing the Late Stone Age (LSA) Punpun (hunter-gatherers) and Kintampo Cultures (agropastoralists) and development and change within iron metallurgical technology in the region. These studies aim to elucidate the social, economic and technological dynamics of prehistoric Ghana and to generate material that will be made available to researchers from both Universities. The direct responsibility for supervision of the project on the British side is Dr Kevin MacDonald (UCL), Dr Yaw Bredwa-Mensah (UG) supervises and co-ordinates the research collaboration, and overall responsibility for the project lies with Professor Peter Ucko (UCL). To date the project has undertaken three field seasons: an initial survey of the study area, followed by the excavation of several suitable sites during the second season and this year. An additional season will be conducted during summer 2002, completing the first phase of KARP. However, continuing joint collaborations are envisaged.

¶1285: Environment and settlements in the Mid-Holocene palaeo-oasis of Wadi Tanezzuft (Libyan Sahara)

¶1286: Past research in the Acacus mountains has been mostly concerned with studies of rock art (Mori 1965) and site-oriented investigations, particularly rock-shelters in the central and northern Acacus (Uan Muhuggiag: Mori 1965; Barich 1987; Ti-n-Torha North: Barich 1974; 1987; Wadi Athal: Barich & Mori 1970). This important research disclosed the astonishing archaeological richness of the area. Particular emphasis was given to data suggesting the existence of early forms of pastoral economy in the region (Mori 1961; 1965; Barich 1987). This led to the hypothesis, differently and repeatedly formulated, of a Saharan focus for the emergence of food-producing activity, based on

cattle herding, independent from the Nile Valley and the Near East (Mori 1961; Barich 1987). This is not the place to discuss in detail this interesting, but now largely discarded, hypothesis; what is important to underline, however, is the limited database used in its formulation. The results of only three excavations, all located in the mountain ranges, provided the basis of the evidence presented without any attempt to place these sites in a broader regional framework.

¶1287: Time and the ancestors: landscape survey in the Andrantsay region of Madagascar

¶1288: 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. This is made manifest both in the on-the-ground experiences encountered during fieldwork, and in archaeological narratives, such as the one presented here. 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 and through which social identity is constructed and maintained. In the central highlands, and indeed elsewhere in Madagascar, there is an intimate relationship between peoples' understandings of their social and physical location in the world and their understanding of their relationship to the dead.

¶1289: The Dia archaeological project: rescuing cultural heritage in the Inland Niger Delta (Mali)

¶1290: Mali is a country with a rich history and diverse cultures. Its cultural heritage is, however, threatened by both the pillage of archaeological sites and illicit trade (ICOM 1995; Bedaux & Rowlands, this volume). Looting has dramatically increased in recent years, especially in the Inland Delta of the Niger, and has obliged Malian authorities to take measures to counteract this destruction. Within the framework of a long-term Malian-Dutch cultural heritage programme, the Rijksmuseum voor Volkenkunde at Leiden recently initiated large-scale excavations in the Inland Niger Delta at Dia, in close cooperation with the Université du Mali, the Institut des Sciences Humaines and the Musée National du Mali in Bamako, the Mission Culturelle in Djenné, the Universities of Paris I and VI, the C.N.R.S., University College London and Leiden University. This excavation, financed principally by the Dutch Ministry of Foreign Affairs, started in 1998 and will continue until 2004. It is a continuation of previous international programmes of site survey and documentation in the Inland Niger Delta, which the Institut des Sciences Humaines in Bamako has co-ordinated over the past two decades (e.g. Raimbault & Sanogo 1991; Dembele et al. 1993; Togola 1996). An initial season of prospection was carried out in 1998 in the Inland Delta, following which the vicinity of Dia was chosen as the principal research zone for the project.

¶1291: Urban precursors in the Horn: early 1st-millennium BC communities in Eritrea

¶1292: Eritrea fought a war of liberation for three decades between the early 1960s and 1991. While professional research stagnated because of the war, amateur archaeologists provided the sole source of information for ancient material culture in the country during this era. With the coming of independence in 1993, awareness of the potential value of Eritrea's heritage resources began to grow, leading to an initiative in 1997 to teach archaeology and heritage management at the University of Asmara.

¶1293: Out of the combined training and research programmes conducted by the University of Asmara have come several major discoveries that change the way that the rise of urbanism is seen in the Horn of Africa. We highlight research showing that between 800 BC and 400 BC the greater Asmara area of Eritrea supported the earliest settled agropastoralist communities known in the highlands of

the Horn. These communities pre-date and are contemporaneous with Pre-Aksumite settlements in the highlands of southern Eritrea and northern Ethiopia.

¶1294: Diversity in mastic-mounted stone adzes and the use of mastic in precolonial South Africa: evidence from Steenbokfontein Cave

¶1295: Composite tools and hafted tools were used world-wide over the last 35,000 years, and possibly earlier than that (Boëda et al. 1996; Holdaway 1996). Evidence for the use of composite tools in South Africa is provided by a small number of arrows from ethnohistorical and archaeological collections (Binneman 1994; Deacon & Deacon 1999: 158–9), a handful of mounted stone artefacts, and a significant number of mastic stained stone artefacts from archaeological sites (Deacon & Deacon 1999). On the basis of the limited sample of near intact mounted artefacts found in South Africa, it appears that small scrapers were side-mounted (at almost 90° to the axis of the handle) and fixed asymmetrically by surrounding resin (Deacon & Deacon 1980: 31–2). Adzes, on the other hand, were end-mounted (on one extreme, and along the same plane, of the handle) and held by a large ovoid lump of mastic (Hewitt 1921; Goodwin & Van Riet Lowe 1929: plate 42; Sampson 1974: figure 105). From their analysis of the available material two decades ago, Deacon & Deacon (1980: 37) concluded that the size and form of the insert was determined largely by the mode of hafting.

¶1296: Cultural resource management and Africanist archaeology

¶1297: 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. Popular images of the swashbuckling adventures of Indiana Jones, or somewhat more generally of intrepid archaeologists making the latest *Field of the Century*, do not accord well with the concept that the remains of past human activities are actual resources, ones that can and should be managed in the interest of nations and their citizens. All too often, the significance of CRM legislation and the archaeological research that stems from it is not recognized even by academic archaeologists, in part because publication procedures and venues are so different in the worlds of academic and contract archaeology.

¶1298: The future of Mali's past

¶1299: One of the greatest disasters for African archaeology is the systematic plundering of archaeological sites for the antiquities trade (e.g. Schmidt & McIntosh 1996; ICOM 1994). An eloquent proof of this plundering is the beautiful catalogue 'Earth and ore', published in 1997 by Schaedler. Of the 668 objects illustrated fullcolour in this catalogue all come, except for a dozen objects and some forgeries, from recent looting of sites in Mali, Niger, Burkina Faso, Chad, Ghana and Nigeria.

¶1300: Regions in Mali that are particularly rich in cultural heritage, such as the Niger Inner Delta and the Dogon country, are particularly shocking examples of this systematic plundering. Archaeological research in 1991 in the south of the Delta, undertaken within the framework of the Malian-Dutch 'Toguéré' project of the Institut des Sciences Humaines at Bamako, showed that 450h of the 830 visited sites exhibited traces of illicit excavations (Dembele et al. 1993). In 1996, a sample of 80 of these sites was revisited by Annette Schmidt. The percentage of plundered sites had increased by 20% (Annette Schmidt pers. comm.). One does not need much imagination to realize the scale of this disaster.

¶1301: On Archaic Greek orientalizing—weird or woolly?

¶1302: Issues for Historical Archaeology

¶1303: Lower and Middle Palaeolithic artefacts from deposits mapped as Clay-with-fints: a new synthesis with significant implications for the earliest occupation of Britain.

¶1304: Hunters of the Golden Age: the mid Upper palaeolithic of Eurasia 30,000-20-000-BP.

¶1305: East of Wallace's line: studies of past and present maritime cultures of the Indo-Pacific region

¶1306: Lerna, a Preclassical site in the Argolid: results of excavations conducted by the American School of Classical Studies at Athens (Vol. IV The architecture, stratification and pottery of Lerna III) (2 vols).

¶1307: The good stones: a new investigation of the Clava cairns

¶1308: The socketed bronze axes in Ireland

¶1309: The history of greek vases: potters, painters and pictures.

¶1310: Alternative leadership strategies in the Prehispanic Southwest.

¶1311: The decipherment of ancient Maya Writing.

¶1312: Ancient marbles to American shores. Classical archaeology in the United States.

¶1313: Dangerous energy: the archaeology of gunpowder and military explosives manufacture.

**Name:** Antiquity 2002 abstracts

¶1: Antiquity 2002 abstracts

¶2: ISSUE 1

¶3: Middle Palaeolithic birch-bark pitch

¶4: Recent excavations at the site of Erq-el-Ahmar

¶5: New research on the Palaeolithic of Lurestan, West Central Iran

¶6: Contexts for cruciforms: figurines of prehistoric Cyprus

¶7: A Neolithic building at Claish Farm, near Callander, Stirling Council, Scotland, UK

¶8: After Hallström: new directions in the study of Northern rock-art

¶9: Residential Terrace Excavations at El Palmillo, Oaxaca, Mexico

¶10: The Villa del Discobolo at Castelporziano on the Tyrrhenian coast of Central Italy

¶11: Caithness Archaeological Project: excavations at Everley Broch, Freswick

¶12: The Raqqa Ancient Industry Project

¶13: Reconstructing processes and facilities of production: a late medieval glasshouse in the Schönbuch Forest

¶14: Cuelillos: Early Colonial mapping of Precolumbian mounds

¶15: Fishing in the Lesotho Highlands

¶16: Stonehenge: the stone mason and his craft

¶17: Aerial archaeology of the southern Hawke's Bay coast, New Zealand

¶18: Excavation at Lene Hara Cave establishes occupation in East Timor at least 30,000–35,000 years ago

¶19: Reinvestigations of the cave of Lene Hara in East Timor have yielded new dating evidence showing occupation from before 30,000 BP. These will further fuel the debates on early colonization of the region.

¶20: Gardom's Edge: a landscape through time

¶21: Six seasons of excavation, survey and test pitting in the Peak District National Park, England, were conducted by the Park Authority and the Department of Archaeology & Prehistory, University of Sheffield, on a moorland rich in features surviving from Prehistoric use and occupation of the area. Investigated features include a Neolithic rubble-built enclosure bank, Bronze to Iron Age cairnfields and settlements and cup-and-ring rock art. From this work a long-term landscape narrative of the area is being produced.

¶22: Radiocarbon dating at the British Museum — the end of an era



¶123: 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.

¶124: Open-air rock-art, territories and modes of exploitation during the Upper Palaeolithic in the Côa Valley (Portugal)

¶125: A study of the differential preservation of the famous Côa engravings, in the light of the site of Fariseu, place the distribution of the art in a chronological setting, which is in turn placed within the context of lithic raw material procurement.

¶126: Problems of dating human bones from the Iron Gates

¶127: 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 <sup>14</sup>C reservoir ages, there has been little study of the freshwater equivalent. However, recent analyses of human bone from archaeological sites in the Danube Valley have confirmed the existence of a large freshwater <sup>14</sup>C reservoir effect.

¶128: Burnt animal sacrifice at the Mycenaean 'Palace of Nestor', Pylos

¶129: 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 the 'Palace of Nestor' at Mycenaean Pylos. This evidence is of great importance for understanding both the historical role of sacrifice in Greek religion and the significance of feasting in Mycenaean palatial society.

¶130: The visual in archaeology: photographic representation of archaeological practice in British India

¶131: Photographs produced during archaeological fieldwork can be employed in shaping the nature of archaeological discourse in different parts of the world. Such photographs are material objects that at times show what written texts fail to say. The focus of this paper is on the photographs produced during archaeological surveys and excavations in British India between the last quarter of the 19th and middle of the 20th centuries.

¶132: Excavating memories: archaeology and the Great War, 1914–2001

¶133: The First World War is beginning to receive archaeological attention. This paper highlights the technical, ethical and political challenges, including recovery and re-burial of the multi-faith dead, excavation of battlefield features and volatile ordnance, and incorporating the sensitive management of multi-vocal landscapes as cultural heritage and tourist destinations.

¶134: CORONA satellite photography: an archaeological application from the Middle East

¶135: The declassification of CORONA high-resolution space photography has made a valuable new resource available for the study of ancient landscapes. Using a recent case-study from Syria, examples are given of various ways in which CORONA imagery can significantly enhance regional survey work.

¶136: Too many ancestors

¶137: Have ancestors replaces chiefs as the defining entity of prehistory? This provocative view from the Mediterranean world may provoke a little debate.

¶138: Ancestral Archives: Explorations in the History of Archaeology

¶139: Historiographic revelations

¶140: Back from his famous visit to Boucher de Perthes in the spring of 1859, John Evans hastened to invite some antiquarians friends in London to examine his finds. The flint implements he had collected with Joseph Prestwich in the undisturbed gravel beds of the Somme valley were indeed. or so ho believed, altogether new in appearance and totally unlike anything known in this country [Evans 1869: 93-4]:

¶141: But while I was waiting in the rooms of the Society of Antiquaries, expecting some friends to come out of the meeting room, I looked at a case in one of the windows seats, and was ahsolutely horror-struck to see in it three or four implements precisely resembling those found at Abbeville and Amiens. I enquirer<sup>1</sup> where they came kom, but nobody knew, as they were not labelled. On reference, however, it turned out that they had been deposited in the museum of the Society for sixty years, and that an account of them had been published in *Archaeologia* ...

¶142: A feast for the eyes: celebrating prehistory in the de Mortillet dinners (an iconographic dossier)

¶143: Several menus designed as invitations/souvenirs for the de Mortillet dinners from 1898 onwards are presented here as an iconographic dossier to illustrate aspects of prehistoric archaeology. These menus are briefly discussed below, and ten of them are reproduced at appropriate locations throughout this special section (with reference to the present text).

¶144: Between antiquarians and archaeologists — continuities and ruptures

¶145: The current renewal of interest in the history of archaeology can be explained in several ways, and notably in view of the extraordinary extension of the discipline's objects and methods. In the last decades, the most far-flung regions of the earth have been subjected to systematic exploration, 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 been cast in new light by the changing boundaries between humanity and animality. A natural science for many founding fathers of prehistory, a social science for those who emphasize its anthropological dimensions, archaeology has remained for others a historical discipline by virtue of its proximity to ancient languages and inscriptions. At one end of the spectrum, some archaeologists see themselves as specialists in material culture, able to deal with ohjects, both ancient and modern, as simultaneously technical and semiotic systems. At the other end, there are those who will only put their faith in the detailed approach of singular, particular cultures. To put the matter in extreme terms; it seems as if there existed a universalist archaeology standing in opposition to a plethora of incompatible and irreducible vernacular archaeologies.

¶146: How to organize oneself within history: Pehr Tham and his relation to antiquity at the end of the 18th century

¶147: Recently a doctoral dissertation was submitted to the Department of Archaeology at IJppsala [Jniversity. The author, Michel Notelid, presented and defended a text, called *Den omvanda diskursen* (The Second Glance: A study of transitions in the history of archaeological discipline). This work (Notelid 2000; 2001) represents quite a new way of looking at the discipline's past, with the serious ambition to understand the romantic approach to prehistory in its own right, and not

primarily as a fumbling, imaginative and pre-scientific start of a new discipline. The archaeological community was puzzled by this work, and very few scholars were able to read and appreciate this distinctive and unexpected perspective. There were obstacles, and possibly the most difficult one was the very language used. This language was in itself a sort of romantic reconstruction, which did not clearly indicate the difference between the plain text and passages of citations.

¶148: Darwin among the archaeologists: the John Evans nexus and the Borneo Caves

¶149: The two decades from 1860 to 1880 were one of the most formative periods in the emergence of modern attitudes to scientific inquiry in England, in what were later to become the specialized disciplines of the natural and human sciences. At this high point of Victorian prosperity a small group of scholars established both the principal questions for future research, and the character of the institutions which were to pursue them, in increasingly professional ways, during the following century. Most of the men (for it was an overwhelmingly male community) who were involved with these developments had independent means, either as inherited wealth or as a result of their own involvement in business affairs; and in consequence they were less restricted in pursuit of their interests than many of their successors who occupied paid positions in scientific institutions and universities (Levine 1986; cf. Chapman 1998).

¶150: Boule's error: on the social context of scientific knowledge

¶151: On August 3, 1908, two young French clergymen with a passion for prehistory, the brothers Amédée and Jean Bouyssonie, discovered in a cave near the village of La Chapelle-aux-Sains (Department of Corrèze) an almost intact Neanderthal skeleton. Recognizing both the importance of their find and their own inexperience with such fossils, they handed the skeleton to Marcellin Boule, professor of palaeontology at the Muséum national d'histoire naturelle in Paris.

¶152: Mortimer Wheeler's science of order: the tradition of accuracy at Arikamedu

¶153: In February 1944 Mortimer Wheeler, having resigned his duties with the British 8th Army after the Salerno landings, was bound for India. Aboard the City of Exeter, in convoy to Bombay, Wheeler was planning another campaign —to sort out the 'scientifically deplorable' state of India's archaeological survey. Even before he had set a foot on Indian soil, Wheeler already had a plan. Like all good Officers, colonial and otherwise, Wheeler had determined his plan of attack before landing. It is no good to reach a foreign field of a battle and just see what happens. This he had learned from his idol, Lt. General Lane Fox Pitt Rivers; that you must always begin with a plan of attack.

¶154: On the international roots of prehistory

¶155: In recent years, considerable attention has been dedicated to the involvement of archaeology (and most notably prehistory) with nationalism. The probable causes of this recent fashion<sup>1</sup> need not concern us here, but the movement itself is certainly welcome, testifying to the reflection of archaeologists on their own practices and those of their predecessors. For historians, this trend is quite welcome insofar as it contributes to a general renaissance of interest in the past of the discipline. However, a more careful examination of this historiography leads us to some caution about its significance.

¶156: Archaeological arguments in national debates in late 19th-century France: Gabriel de Mortillet's *La Formation de la nation française* (1897)

¶157: Chauvinist reactions were rife in late 19th-century France, following the 1870 defeat to Prussia, the unification of Germany and the annexation of Alsace and part of Lorraine to the new empire.

Besides their political manifestations, as in the creation of the Ligue des patriotes in 1882, these reactions also received intellectual expression. For most of the cultivated elites, the revelation of Prussian militarism came to negate the prevailing image of Germany as the cosmopolitan heartland of philosophy and of a model university system. The French military defeat was interpreted as a sign of the political and moral weakness of the regime of Napoleon I<sup>11</sup> (Renan 1871), but also as a wider symptom of intellectual inferiority, itself due to the inadequacies of the French educational and university structure. There ensued in intellectual circles a veritable 'German crisis of French thought' (Digeon 1959).

¶158: The history of Iberian archaeology: one archaeology for two Spains

¶159: In this article we set out to analyse, from an archaeological point of view, a political problem which, as demonstrated by current debate, including acts of violence, goes well beyond archaeology. Throughout the 19th century, and especially in its latter half, a centralist political model for Spain was developed in which a political balance could not be found between the State and [lie autonomous traditions of the various regions of the Iberian Peninsula. As a result of this failure, legitimisation programmes began to be constructed towards the end of 19th century, based on the history of the peoples of these regions. 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.

¶160: Names and emblems: Greek archaeology, regional identities and national narratives at the turn of the 20th century

¶161: 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 and the formation of collective identities. 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 and identities (e.g. Atkinson et al. 1996; Jones 1997; Graves-Brown et al. 1996; Díaz-Andreu & Chanipion 1996; Kohl & Fawcett 1995).

¶162: Making the past for South Africa's future: the prehistory of Field-Marshal Smuts (1920s-1940s)

¶163: Introduction: turns and returns

¶164: 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 with the case of Field-Marshal Jan Christiaan Smuts (1870-1950), for half a century South Africa's leading soldier, statesman and intellectual, as well as a driving force behind the setting up of the Commonwealth and the United Nations (FIGURE 1).

¶165: German archaeology during the Third Reich, 1933-45: a case study based on archival evidence

¶166: The history of the archaeological disciplines in Germany during the Nazi era can be considered as a locus classicus of nationalist interpretation and misuse of the past. For some time now, various efforts have been made to enhance our understanding of this period, including several aspects related to archaeology and cultural politics. Most studies have been carried on by modern historians, but also archaeologists have engaged in historiographical research on their own discipline. Some frequently cited works like Bollmus (1970) Kater (1974) and Losemann (1977) are still fundamental

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

¶167: Past records, new views: Carnac 1830–2000

¶168: The megalithic monuments of Carnac, Brittany, in the Département of the Morbihan, are amongst the most famous in France. indeed in the world. This region has not only the densest concentration of such sites in Europe but also retained its importance as a centre of monument-building from the late 5th to the 3rd millennium BC, giving it a unique significance in the study of Neolithic landscapes (Sherratt 1990; 1998). Its menhirs, stone alignments, and megalithic tombs have attracted the attention of scholars since the 18th century, and there is thus an unusually full record, both written and pictorial, of the nature of these monuments as they were perceived over 3000 years.

¶169: Archaeological illustrations: a new development in 19th century science

¶170: A museum on paper

¶171: A recent colloquium on French archaeology in the second half of the 19th century drew attention to the work of a talented illustrator, Victor Cauché, several of whose watercolours may be seen at the musée in Compiègne. Additional research, intended to place this painter-archaeologist in historical context, showed that his situation was not unique and that, during the same period, in France well as elsewhere in Europe, there was a surge of interest in reproductions of objects and of archaeological sites. This is not to be confused with the fashion for romantic landscapes, of which Baron Taylor's *Voyages dans l'ancienne France* serves as a good example (Adhémar 1997), nor with the passion for monuments, as shown by the imposing collection of Laborde (Laborde 1816-1836). Rather, this activity was the doing of an archaeological school which, for three-quarters of a century, set out to explore the meaning of archaeological excavation and their associated finds.

¶172: Epilogue: why the history of archaeology matters

¶173: In recent years the history of archaeology has been enjoying something of a vogue in different research traditions, resulting in a wealth of new studies and publications. In the English-speaking world, our store of biographies and national histories has been considerably expanded by the five-volume *Encyclopedia of archaeology* (Murray 1999; 2001). The *Bulletin of the History of Archaeology* has provided a much needed forum for research, and the AREA project — Archives of European Archaeology — has begun to explore a range of resources bearing on the history of archaeology in Europe. At the same time, archaeologists have continued to justify and to advocate the significance of 'novel' approaches to archaeology through partial histories of the discipline (the most recent being those associated with the revival of 'Darwinian archaeologies' such as Lyman et al. 1997).

¶174: Special section: Ancestral Archives: Explorations in the History of Archaeology

¶175: Archaeology at the millennium:

¶176: Compare for the broad view

¶177: From lenders to rulers.

¶178: The domestic mode of production — and beyond: an archaeological inquiry into urban trends in Denmark, Iceland and Predynastic Egypt

¶179: Palaeolithic and the study of it

- ¶180: Palaeolithic archaeology of the Solent river: proceedings of the Lithic Studies Society day meeting held at the Department of Archaeology, University of Southampton
- ¶181: Les industries à bifaces de l'Europe du Nord-Quest au Pléistocène moyen: l'apport des données des gisements du bassin de la Somme, de l'Escaut et de la Baie de St-Brieuc
- ¶182: Sesselfelsgrötte I: Grabungsverlauf und Stratigraphie (Forschungsprojekt 'Das Paläolithikum und Mesolithikum des Unteren Altmühltals II')
- ¶183: Faunal and floral migrations and evolution in SE Asia-Australasia.
- ¶184: Studying human origins: disciplinary history and epistemology. #
- ¶185: Middle East & Egypt
- ¶186: Greater Anatolia and the Indo-Hittite language family:
- ¶187: Ancient Near Eastern glyptic in the National Gallery of Victoria, Melbourne, Australia
- ¶188: Bibliographic catalogue of texts (Documentation for Ancient Arabia Part II).
- ¶189: An Egyptian bestiary: animals in life and religion in the land of the pharaohs.
- ¶190: Integration and independence in the Mediterranean world
- ¶191: The nature of Mediterranean Europe: an ecological history.
- ¶192: Ambivalent Europeans: ritual, memory and the public sphere in Malta,
- ¶193: Becoming Roman: the origins of provincial civilization in Gaul,
- ¶194: The social context of technological change: Egypt and the Near East, 1650-1550 BC: ,
- ¶195: The Sea Peoples and their world: a reassessment
- ¶196: Trial trenches at Dromolaxia-Vyzakia adjacent to Areas 6 and 8
- ¶197: The stamp-seals of ancient Cyprus.
- ¶198: Zyprische Fibeln: Typologie und Chronologie.
- ¶199: The Dark Age of Greece: an archaeological survey of the eleventh to the eighth centuries BC
- ¶100: The Phoenicians and the West: politics, colonies and trade
- ¶101: Britain - AVEBURY ARCHAEOLOGICAL & HISTORICAL RESEARCH GROUP.
- ¶102: Archaeological research agenda for the Avebury World Heritage site,
- ¶103: Rough quarries, rocks and hills: John Pull and the Neolithic flint mines of Sussex
- ¶104: The excavation of a Romano-British shrine at Orton's Pasture, Rocester, Staffordshire
- ¶105: Aberdeen: an in-depth view of the city's past — excavations at seven sites within the medieval burgh
- ¶106: The Ashmolean Museum: a brief history of the institution and its collections.
- ¶107: Towns in Roman Britain

¶108: Post-Medieval pottery, 1650-1800.

¶109: Daylight on Stonehenge.

¶110: Preservation

¶111: Fleeting identities: perishable material culture in archaeological research

¶112: Stone monuments decay study 2000: an assessment of the degree of erosion and degradation of a sample of stone monuments in the Republic of Ireland.

¶113: Earthly remains: the history and science of preserved human bodies.

¶114: Marks and makers: appearance, distribution and function of Middle and Late Helladic manufacturers' marks on Aeginetan pottery

¶115: Knossos pottery handbook: Greek and Roman

¶116: Hacksilber to coinage: new insights into the monetary history of the Near East and Greece

¶117: Money, labour and land: approaches to the economies of ancient Greece,

¶118: Sparta

¶119: Sparta and Lakonia: a regional history, 1300 to 362 BC (

¶120: Hellenistic and Roman Sparta: a tale of two cities

¶121: Greeks and barbarians.

¶122: The Greek cast in the Roman context: proceedings of a colloquium organised by the Finnish Institute at Athens, May 21 and 22, 1999

¶123: Gymnastics of the mind: Greek education in Hellenistic and Roman Egypt.

¶124: Economy and exchange in the east Mediterranean during late antiquity: proceedings of a conference at Somerville College, Oxford, 29th May 1999.

¶125: Mountain and plain: from the Lycian coast to the Phrygian plateau in the late Roman and early Byzantine period.

¶126: Greek gold from Hellenistic Egypt,

¶127: Perceptions of Byzantium and its neighbors (843–1261).

¶128: Storming the heavens: soldiers, emperors, and civilians in the Roman Empire.

¶129: The Civitella Cesi survey (Archaeological Investigations in Southern Etruria 1; Skrifter Utgivna av Svenska Institutet i Rom 4° XXVIII: I, Acta Instituti Romani Regni Sueciae ser. in 4° XXVIII: I).

¶130: Arqueologia da Idade Média da Península ibérica (3° Congresso de arqueologia peninsular, UTAD, Vila Real, Portugal, Setembro de 1999, urna organização ADECAP-UTAD: actas Vol. 7).

¶131: The first fossil hunters: paleontology in Greek and Roman times,

¶132: Know how -

¶133: Anglo-Russian archaeology seminar: recording systems for archaeological projects

- ¶134: Scientific analysis of archaeological ceramics: a handbook of resources,
- ¶135: Digital archives from excavation and fieldwork: a guide to good practice
- ¶136: Classical archaeology in the field: approaches
- ¶137: Past lives: unlocking the secrets of our ancestors.
- ¶138: Eocene biodiversity: unusual occurrences and rarely sampled habitats.
- ¶139: Ideas and social context
- ¶140: Archaeological theory today,
- ¶141: Dialogue with the data: the archaeology of complex societies and its context in the 90s (Theory and practice of archaeological research III).
- ¶142: Interrogating pedagogies: archaeology in higher education
- ¶143: The responsibilities of archaeologists: archaeology and ethics
- ¶144: The Atlantis syndrome,
- ¶145: Rock art
- ¶146: Theoretical perspectives in rock art research.
- ¶147: Handbook of rock art research.
- ¶148: Sound & vision
- ¶149: Stone Age soundtracks: the acoustic archaeology of ancient sites.
- ¶150: The ethnographer's eye: ways of seeing in modern anthropology,
- ¶151: The dead
- ¶152: Gender and the archaeology of death,
- ¶153: The rise and fall of the afterlife: the 1995 Read-Tuckwell Lectures at the University of Bristol,
- ¶154: Netherworld: discovering the oracle of the dead and ancient techniques of foretelling the future,
- ¶155: Reference
- ¶156: Europe (Encyclopedia of Prehistory 4).
- ¶157: Middle America (Encyclopedia of Prehistory 5).
- ¶158: North America (Encyclopedia of Prehistory 6).
- ¶159: Le Berry antique: atlas 2000
- ¶160: Bibliographie zur Vor- und Frühgeschichte in der Bundesrepublik Deutschland und Berlin (West) in den Grenzen vor 1990: das Schrifttum der Jahre 1988 und 1989.
- ¶161: Overviews for the general reader
- ¶162: A peaceful realm: the rise and fall of the Indus civilization.



- ¶163: Aztecs & Maya: the ancient peoples of Middle America.
- ¶164: Lost and found
- ¶165: Amelia Earhart's shoes: is the mystery solved?
- ¶166: Artifacts: an archaeologist's year in Silicon Valley,
- ¶167: Creating and documenting electronic texts.
- ¶168: Creating digital resources for the visual arts: standards and good practice,
- ¶169: Splendid isolation: art of Easter Island.
- ¶170: Njal's Saga,
- ¶171: Health and population in South Asia from earliest times to the present,
- ¶172: Archaeology evolving: history, adaptation, self-organization
- ¶173: Whose perspective on Wales' prehistory?
- ¶174: Mesolithic: a Hebridean 'trend-setter'
- ¶175: Buoyant at the crossroads of Aegean and Greek archaeology
- ¶176: The Neolithic flint mines of England.
- ¶177: Phases of urbanism in Roman Britain
- ¶178: Constructing frames of reference: an analytical method for archaeological theory building using ethnographic and environmental data sets.
- ¶179: The field archaeology of Exmoor.
- ¶180: The creation of monuments: Neolithic causewayed enclosures in the British Isles.
- ¶181: Prehistoric rock art in Northumberland.
- ¶182: The decline and fall of Roman Britain.
- ¶183: The Rows of Chester: the Chester Rows Research Project
- ¶184: Ceramics and change in the Early Bronze Age of the southern Levant.
- ¶185: Rome in the East: the transformation of an empire.
- ¶186: Archaeology at Aksum, Ethiopia, 1993-7
- ¶187: Burma's Lost Kingdoms: Splendours of Arakan.
- ¶188: Prehispanic settlement patterns in the Upper Mantaro and Tarma drainages, Junín, Peru
- ¶189: Denver: an archaeological history.
- ¶190: The science and archaeology of materials: on investigation of inorganic materials.
- ¶191: Grahame Clark: an intellectual biography of an archaeologist.
- ¶192: ISSUE 2

¶193: Palaeoindian subsistence behaviour at the Clary Ranch site, Nebraska, USA

¶194: Geoarchaeological survey and the Epipalaeolithic in northern Jordan

¶195: A 9700-year-old shell midden on San Miguel Island, California

¶196: The earliest rock salt exploitation in Europe: a salt mountain in the Spanish Neolithic

¶197: Excavations at Politiko Phorades: a Bronze Age copper smelting site on Cyprus

¶198: A landscape of ancestors in southwest Germany

¶199: Recent roundhouse excavations in Cornwall

¶200: Infrared imaging of Precolumbian murals at Bonampak, Chiapas, Mexico

¶201: Squaring off: Late Middle Preclassic architectural innovation at Cuello, Belize

¶202: Early Islamic Bahrain

¶203: A massive undertaking: examining stone money in its archaeological context

¶204: African Diaspora archaeology in Guadeloupe, French West Indies

¶205: Palaeoenvironment and human population in West Africa: an international research project in Mali

¶206: Seeing is believing: questions of archaeological visibility in the Mediterranean

¶207: Ground-penetrating radar discovery at Petra, Jordan

¶208: Radiocarbon dates for pictographs in Ignatievskaya Cave, Russia: Holocene age for supposed Pleistocene fauna

¶209: Samples from three charcoal pictographs at Ignatievskaya Cave, in the southern Ural Mountains of Russia, have been radiocarbon dated. An advanced antiquity was expected, with some paintings thought to be more than 10,000 years old, as suggested by the imagery. One charcoal painting, for example, resembles a mammoth. The radiocarbon date of that motif, however, dates only to  $7370 \pm 50$  BP. If that motif actually represents a live mammoth, it places mammoth extinction in the Urals nearer to the present than is currently accepted. 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':  $7920 \pm 60$  BP. A charcoal line has been dated with an age of  $6030 \pm 110$  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. Radiocarbon dates on pictographs in Ignatievskaya Cave obtained so far suggest that the paintings may be more recent than has been supposed.

¶210: Alluvial landscapes in the temperate Balkan Neolithic: transitions to tells

¶211: This paper focuses on the 5th-millennium BC shift from short-term habitations to permanent tell settlements in southern Romania: from the Criş, Dudeşti and Boian to the Gumelniţa Cultures. Archaeological and geomorphologic data suggest that changes in river stability conditioned shifts in settlement and economies.

¶212: The chronology of the Mariupol-type cemeteries of Ukraine re-visited

¶1213: Recent results of radiocarbon analyses from sites in Ukraine suggest that a revision of the chronology of the Late mesolithic and early Neolithic is required. The subsequent Neolithic period up to the beginning of the Early Bronze Age (c.3000 cal BC) should be divided into two separate periods, the Neolithic and Neo-eneolithic.

¶1214: New evidence for the origins of textile production in Bronze Age Cyprus

¶1215: A complete metal spindle in the Zintilis Collection sheds light on the type of spinning practised in the Early to Middle Cypriot Bronze Age. It also indicates the appearance of such spindles and the mounting of the whorls.

¶1216: Death and the regeneration of life: a new interpretation of house urns in Northern Europe

¶1217: Ceramic models of buildings are found at later prehistoric sites in Northern Europe. Their most likely prototype is the granary. They are associated with cremation burials and the vessels may have taken this form to emphasize the relationship between death and the continuity of human life.

¶1218: The age of the common bean (*Phaseolus vulgaris* L.) in the northern Eastern Woodlands of North America

¶1219: This study addresses the lack of chronometric research on the common bean (*Phaseolus vulgaris* L.) to establish precisely the timing of its adoption and spread across the northern Eastern Woodlands of North America. Bean and directly associated maize samples were subjected to accelerator mass spectrometry (AMS) dating. The results show that the common bean apparently spread rapidly upon its introduction to the region, becoming archaeologically visible from the Illinois River valley to southern New England in the calibrated late 13th century AD, some 200–300 years later than previously thought.

¶1220: Emerging trends versus the popular paradigm in rock-art research

¶1221: Mairi Ross comments

¶1222: Further response to 'Time please'

¶1223: Deserted Britain: declining populations in the British Late Middle Pleistocene

¶1224: This paper defines the potential reasons for low population levels in Oxygen Isotope Stages 6–4: climate, habitat preferences and sea level.

¶1225: A critique of the Chinese 'Middle Palaeolithic'

¶1226: The Chinese Palaeolithic has traditionally been divided into three distinct cultural periods: Lower, Middle, and Upper. Analysis of four stone tool criteria (raw material procurement, core reduction, retouch, and typology) to determine if a distinct Middle Palaeolithic stage existed in China suggests that very little change occurred in lithic technology between the Lower and Middle Palaeolithic. Accordingly, a two-stage progression is proposed: Early and Late Palaeolithic. The transition between these two cultural periods occurred with the development of more refined stone tool making techniques (e.g. introduction of blade and microblade technology) and the presence of other archaeological indicators of more modern human behaviour (e.g. presence of art and/or symbolism) (c. 30,000 years ago).

¶1227: A Late Mesolithic kill site of aurochs at Jardinga, Netherlands

¶1228: A site beside the river Tjonger near Jardinga in the northern Netherlands is shown to be a rare Late Mesolithic kill and primary butchering site. Finds consist mainly of bones from aurochs and red deer, with a few flint artefacts. 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.

¶1229: Early Bronze Age metallurgy: a newly discovered copper manufactory in southern Jordan

¶1230: Recent excavations in southern Jordan have revealed the largest Early Bronze Age (c. 3600–2000 BC) metal manufactory in the ancient Near East. On-site Geographic Information Systems (GIS) analyses of the finds provide new evidence concerning the scale and organization of metal production at a time when the first cities emerged in this part of the Near East. Materials and lead isotope analyses of the metallurgical finds provide important data for reconstructing ancient metal processing and for identifying trade networks.

¶1231: Zebu: harbingers of doom in Bronze Age western Asia?

¶1232: The significance of zebu, or humped, cattle as potential indicators of episodes of aridification in the Bronze Age of western Asia is explored through study of figurines and faunal remains from Mesopotamia, the Levant and Anatolia.

¶1233: Worked bone tools: linking metal artisans and animal processors in medieval Islamic Morocco

¶1234: The authors examine the spatial distribution, use-wear patterns and surface residue of bone tools from al-Basra, concluding that they were likely to have been used by Islamic metalworkers. The presence of bone tools and butchery waste in an urban metalworking context underscores the close economic ties that existed between artisans and food producers in a pre-industrial urban centre in the western Mediterranean.

¶1235: The Venerable Bede, druidic tonsure and archaeology

¶1236: Dr Venclová is well known to readers of ANTIQUITY as the excavator of the site of Mšecké Žehrovice in Bohemia, find-place of the most famous example of Iron Age human representation. What she presents here is a provocative theory — that the Mšecké Žehrovice stone head represents a Celtic druid!

¶1237: Archaeology in Ireland

¶1238: Archaeology in Ireland during the last 50 years: an outline

¶1239: Throughout the 20th century there were many notable developments in Irish archaeology, both academically and administratively. Already by the middle of the century considerable change had taken place, that was a time when new attitudes and initiatives were underway. It was also a time of economic development and social adjustments in the wake of World War II. The changes that took place in archaeology during the following half-century were extensive and varied and involved most aspects of the subject. The year 1950 is, therefore, a reasonable starting-point for commencing this review but this does not imply that a new and altered archaeology had emerged. On the contrary established personnel and institutions continued to play a major role, while some longstanding research projects continued. What is offered in this paper is a brief historical review largely considered from the academic point of view, it is selective and is not intended to provide detailed information about all aspects of research and other developments that have taken place over the past half-century. However, an attempt will be made to review the causes and influences that brought about such developments, but it is not a potted history, neither is it a review of intellectual developments.

¶1240: The Irish Heritage Council

¶1241: The Heritage Act 1995 established An Chomhairle Oidhreachta, the Irish Heritage Council, as a statutory body with responsibility to propose policies and priorities for the identification, protection, preservation and enhancement of the Irish national heritage. The Heritage Act defines heritage as including both cultural and natural heritage and specifically refers to: monuments, archaeological objects, heritage objects, architectural heritage, flora, fauna, wildlife habitats, landscapes, seascapes, wrecks, geology, heritage gardens and parks and inland waterways.

¶1242: The role of the Environment and Heritage Service in Northern Ireland archaeology

¶1243: The Environment and Heritage Service (EHS), an agency within the Department of the Environment, aims 'to protect and conserve the natural and built environment and to promote its appreciation for the benefit of present and future generations' (EHS 1996: 7). EHS has a central statutory, regulatory, management and participatory role in Northern Ireland archaeology.

¶1244: Official care of archaeological sites and monuments in what is now Northern Ireland goes back to the Disestablishment of the Church of Ireland and the Irish Church Act of 1869. This made provision for the upkeep of certain important ecclesiastical sites; 137 ruined churches and crosses were vested in the Commissioners of Public Works, to be maintained as National Monuments. Of these, 17 were in what was to become Northern Ireland. This precedent was noted in Parliamentary debates on the Ancient Monuments Protection Act 1882, which applied to Britain and Ireland, and of the 18 Irish sites, 3 were in what is now Northern Ireland. The Ancient Monuments Protection (Ireland) Act 1892 increased the scope for protection of sites in the earlier schedule.

¶1245: Oak dendrochronology: some recent archaeological developments from an Irish perspective

¶1246: 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 constituent site chronologies, even individual trees, can be analysed for changes in common response to the environment through time and of course can be compared with other well-dated time series from around the world.

¶1247: Maritime archaeology in Northern Ireland

¶1248: The study of maritime archaeology is a relatively new activity in Northern Ireland. This paper introduces the approach that has been adopted in investigating the maritime cultural landscape and takes a detailed look at the maritime archaeology of Strangford Lough.

¶1249: Only in the last decade has government in Northern Ireland been responsible for the management of maritime archaeology. The Department of the Environment agency, Environment and Heritage Service (EHS), administers the Protection of Wrecks Act 1973 in Northern Ireland's territorial waters. Having no knowledge of the subject and faced with the management of shipwrecks, EHS first created a register of known shipwrecks. A Senior Fellow, Colin Breen, was appointed in 1993 in the Institute of Irish Studies at Queen's University Belfast. Using documentary sources such as Lloyd's List and Lloyd's Register, together with Parliamentary Sessional papers and many other documentary sources, he identified some 3000 wrecks around Northern Ireland's short coastline (Breen 1996).

¶1250: Human osteoarchaeology in Ireland: past, present and future

¶1251: The archaeological study of human skeletal remains has been undertaken in Ireland since the mid 19th century. This paper examines the development of human bone studies in Ireland up until the present day, reviews the various approaches which have been adopted, and takes a look at the formal structure of the discipline within an Irish context. The objective is to provide an overview of the study of archaeological human skeletal remains in Ireland from the 19th century through to modern times.

¶1252: Neolithic houses in Ireland: a broader perspective

¶1253: Over 90 structures have been identified as probable houses dating to the Neolithic period in Ireland (Grogan 1996; Cooney 1999; FIGURE 1; TABLES 1- 3). While there is a considerable variation in size and form two principal types are discernible, the large rectangular buildings of the Early Neolithic and circular or oval structures that have a much wider chronological span. In the past some of these have been readily accepted as houses while other, generally more ephemeral, structures have occasionally been classified as having more temporary or specialist functions

¶1254: A Neolithic ceremonial timber complex at Ballynahatty, Co. Down

¶1255: Belfast Lough is a deep indent of the Irish Sea into the coastline of Northern Ireland. Its southwestern continuation is the Lagan Valley, which separates the steep scarp of the Antrim Plateau (height c. 300 m) from the hills of Co Down (c. 120 m) to the southeast. The River Lagan flows along this broad, undulating valley floor through thick deposits of glacial sands and gravels before emptying into the Lough at Belfast. Eight kilometres southwest of Belfast, the river passes the townland of Ballynahatty, a sandy plateau 100 ha in extent. This was the site in the 4th millennium BC of a small passage tomb, orientated to the northwest (Collins 1954: 48; Lawlor 1918: 16–19). Though now denuded of its covering mound, it provided the subsequent focus for a series of atypical passage tombs utilizing ever smaller settings of stone (Hartwell 1998: 33–6). Shortly after 3000 BC this was followed by a complex of large and elaborate east-facing timber structures (Ballynahatty 5 and 6). These in turn were eventually replaced by the earth and stone hengiform enclosure of the Giant's Ring, built around the original passage tomb.

¶1256: Recent excavations and speculations on the Navan complex

¶1257: Emain Macha, the legendary seat of the kings of Ulster, has long been identified with the Navan complex, 2.6 km west of Armagh. This complex comprises more than a dozen proximate, in some cases presumably associated, prehistoric monuments (Warner 1994). Excepting a number of outlying monuments, the major portion of the Navan complex is anchored between two large enclosures, each with adjacent sites associated with votive depositions in water. On the east is Navan Fort defined by a hengiform bank-and-ditch enclosure some 230 m across and containing two field monuments: Site A, a ring-work c. 50 m across with a low rise in the centre, and Site B, a 6–7-m high mound (FIGURE 1). At the eastern base of the drumlin on which the enclosure sits is Loughnashade, a small lake from whose marshy edge four large Iron Age horns, at least one of which bore La Tène decoration, were recovered in the late 18th century (Raftery 1987).

¶1258: Preserving the monuments on Skellig Michael for the future

¶1259: This article will concentrate on the current conservation works programme, which started in the summer of 1978 and is currently on-going. It will deal with the scope of the work on Skellig Michael and the management plan in place to preserve the site and still allow a reasonable number of visitors access each season. Here I can only give a brief overview of the works: in due course a series of volumes will appear and will record in full the major programme outlined below.

¶1260: Lost infancy: Medieval archaeology in Ireland

¶1261: Medieval archaeology in Ireland has been described twice in the last 30 years as 'in its infancy', by Delaney (1977: 46) and by Barry (1987: 1). Neither was strictly correct. Ireland played a full part in the general English interest in medieval castles and churches around 1900, with Champneys, Orpen and Westropp in particular listing and describing them and relating to their historical and European context. In Ulster the medieval period had occupied a central place in archaeological research and excavation, remarkable within Europe and unique within the British Isles, from 1950 (Tope 1966).

¶1262: Post-Medieval and industrial archaeology in Ireland: an overview

¶1263: While the archaeological study of the early modern period was generally underplayed within Irish archaeology before the 1970s, since that time there has been a significant increase in research on post-medieval and industrial themes. The origins, achievements, and recent developments of post-medieval and industrial archaeology in Ireland are discussed, with a consideration of the future of these disciplines.

¶1264: Bodies

¶1265: The dead and their possessions: repatriation in principle, policy and practice,

¶1266: Thinking through the body: archaeologies of corporeality,

¶1267: Technology

¶1268: From huts to houses — transformations of ancient societies: proceedings of an international seminar organized by the Norwegian & Swedish Institutes in Rome,

¶1269: Irrigation et drainage dans l'Antiquité: qanats et canalisations souterraines en Iran, en Égypte et en Grèce — séminaire tenu au Collège de France (Persika 2).

¶1270: From industrial revolution to consumer revolution: international perspectives on the archaeology of industrialisation.

¶1271: Anthropological perspectives on technology

¶1272: Food

¶1273: Feasts: archaeological and ethnographic perspectives on food, politics, and power,

¶1274: Consuming passions and patterns of consumption,

¶1275: The quest for food: its role in human evolution and migration.

¶1276: Droughts, food and culture: ecological change and food security in Africa's later prehistory,

¶1277: South America and Mesoamerica

¶1278: The archaeological context and interpretation: errata

¶1279: Formativo sudamericano, una revaluación — ponencias presentadas en el Simposio internacional de Arqueología Sudamericana,

¶1280: Unknown Amazon.

¶1281: Mesoamerica's ancient cities

¶1282: The fall of the ancient Maya: solving the mystery of the Maya collapse.

- ¶1283: Ancient Maya women.
- ¶1284: How to read Maya hieroglyphs.
- ¶1285: Gender in Pre-hispanic America: a symposium at Dumbarton Oaks,
- ¶1286: The last saltmakers of Nexquipayac, Mexico: an archaeological ethnography
- ¶1287: Experimental presentations from New York and Carolina
- ¶1288: Unearthing Gotham: the archaeology of New York City,
- ¶1289: Archaeological pathways to historic site development,
- ¶1290: Excavating Occaneechi Town: archaeology of an Eighteenth Century Indian village in North Carolina.
- ¶1291: Egypt -
- ¶1292: The pyramids: their archaeology and history
- ¶1293: Sticks, stones and shadows: building the Egyptian pyramids,
- ¶1294: Cleopatra: beyond the myth
- ¶1295: The secret lore of Egypt: its impact on the West
- ¶1296: Everyday life in ancient Egypt
- ¶1297: Monastic visions: wall paintings in the monastery of St. Antony at the Red Sea.
- ¶1298: Mediterranean
- ¶1299: The earliest prehistory of Cyprus: from colonization to exploitation
- ¶1300: Greece before history: an archaeological companion and guide,
- ¶1301: Labyrinth revisited: rethinking 'Minoan' archaeology,
- ¶1302: The chronology of base-ring ware and bichrome wheel-made ware: proceedings of a colloquium held in the Royal Academy of Letters, History & Antiquities,
- ¶1303: Ceramics in context: proceedings of the Internordic Colloquium on ancient pottery,
- ¶1304: The emergence of state identities in Italy in the first millennium EC
- ¶1305: The synagogue of ancient Ostia and the Jews of Borne: interdisciplinary studies
- ¶1306: Religiones, ritos y creencias funerarias de la Hispania prerromana.
- ¶1307: Celti (Peñaflor): the archaeology of a Hispano-Roman town in Baetica
- ¶1308: Greek funerary sculpture: catalogue of the collections at the Getty Villa.
- ¶1309: Studia varia from the J. Paul Getty Museum #
- ¶1310: Agrarian change in late antiquity: gold, labour, and aristocratic dominance,
- ¶1311: The Roman mistress: ancient and modern representations,
- ¶1312: Northern Europe, mostly



- ¶1313: A hunter-gatherer landscape: southwest Germany in the Late Paleolithic and Mesolithic.
- ¶1314: Bland sälägare och får farmare: struktur och förändring i Västsveriges mellanneolitikum.
- ¶1315: Neolithic enclosures in Atlantic northwest Europe
- ¶1316: Neolithic Orkney in its European context,
- ¶1317: Plants in Neolithic Britain and beyond
- ¶1318: Bronsyxan som ting och tanke i skandinavisk senneolitikum och äldre bronsålder
- ¶1319: Le village celtique des Arènes à Levroux: synthèses
- ¶1320: Corseul (Côtes-d'Armor), un quartier de la ville antique
- ¶1321: Journey of civilisation: the Late Iron Age view of the human world
- ¶1322: Den synliga tron: runstenskors som en spegling av kristnandet i Sverige
- ¶1323: Britain & Ireland
- ¶1324: Prehistory in the Peak.
- ¶1325: Barra and the Bishop's Isles: living on the margin.
- ¶1326: Potterne, 1982-5: animal husbandry in later prehistoric Wiltshire
- ¶1327: Bronze Age landscapes: tradition and transformation,
- ¶1328: The Roman era: the British Isles, 55BC–AD410.
- ¶1329: Mercia, an Anglo-Saxon kingdom in Europe,
- ¶1330: Pattern and purpose in Insular art: proceedings of the 4th international conference on Insular art held at the National Museum & Gallery,
- ¶1331: Excavations at Medieval Cripplegate, London: archaeology after the Blitz, 1946–68.
- ¶1332: London Bridge: 2000 years of a river crossing
- ¶1333: Canterbury: 2000 years of history
- ¶1334: Methods & techniques
- ¶1335: Cultural resources archaeology: an introduction,
- ¶1336: Contemporary themes in archaeological computing.
- ¶1337: Geophysical data in archaeology: a guide to good practice,
- ¶1338: Copper and bronze in art: corrosion, colorants, conservation,
- ¶1339: Was ist Archäologie? Annäherung an einem Traum
- ¶1340: History of archaeology
- ¶1341: Alfred Maudslay and the Maya: a biography.
- ¶1342: Ruins and rivals: the making of Southwest archaeology,

- ¶1343: Arthur Evans's travels in Crete, 1894–1899
- ¶1344: The man who deciphered Linear B: the story of Michael Ventris.
- ¶1345: Reference
- ¶1346: The concise Oxford dictionary of archaeology,
- ¶1347: The Penguin archaeology guide.
- ¶1348: England: an Oxford archaeological guide to sites from earliest times to AD 1600.
- ¶1349: Catalogue of the collections of Sir Aurel Stein in the library of the Hungarian Academy of Sciences,
- ¶1350: A companion to American Indian history,
- ¶1351: Mediterranean Archaeology & Archaeometry International Journal
- ¶1352: Public Archaeology
- ¶1353: Behavioral archaeology.
- ¶1354: Method and theory in historical archaeology,
- ¶1355: A dictionary of archaeology.
- ¶1356: Amarna: ancient Egypt's age of revolution.
- ¶1357: Roman clothing and fashion.
- ¶1358: The extraordinary voyage of Pytheas the Greek,
- ¶1359: In the steps of St. Paul,
- ¶1360: Through lands of the Bible.
- ¶1361: The druids.
- ¶1362: Fighting ships.
- ¶1363: The Tudor age.
- ¶1364: The Boxer Rebellion, China's war on foreigners, 1900.
- ¶1365: The dragon seekers: how an extraordinary circle of fossilists discovered the dinosaurs and paved the way for Darwin.
- ¶1366: Biblical & pagan societies (
- ¶1367: Classical Arabic philology and poetry: a bibliographical handbook of important editions from 1960 to 2000
- ¶1368: The divided city: on memory and forgetting in ancient Athens
- ¶1369: Saltillo 1770-1810: town and region in the Mexican north,
- ¶1370: Kalambo Falls prehistoric site III: The earlier cultures: Middle and earlier Stone Age.

- ¶1371: Paleolit Respubliki Kot d'Ivuar (Zapadnaya Afrika) (English summary: The Palaeolithic of Republic Côte d'Ivoire (West Africa))
- ¶1372: Excavations at Ferriter's Cove, 1983–95: last foragers, first farmers in the Dingle Peninsula.
- ¶1373: Catalogue of Cycladic antiquities in the Ashmolean Museum: the captive spirit.
- ¶1374: House and society in the ancient Greek world.
- ¶1375: The treasures at Delphi: an architectural study.
- ¶1376: Plants and people in ancient Scotland.
- ¶1377: Importe und mediterrane Einflüsse auf der Heuneburg
- ¶1378: Deconstructing the Celts: a skeptic's guide to the archaeology of the Auvergne
- ¶1379: Death in Medieval England.
- ¶1380: Church monuments in Norfolk before 1850: an archaeology of commemoration
- ¶1381: If these pots could talk: collecting 2,000 years of British household pottery.
- ¶1382: The end of the great Harappan tradition.
- ¶1383: The sacred landscape of the Inca: the Cusco ceque system.
- ¶1384: Technology and social agency: outlining a practice framework for archaeology.
- ¶1385: Ethnoarchaeology in action.
- ¶1386: ISSUE 3
- ¶1387: Chilga Kernet: an Acheulean landscape on Ethiopia's western plateau
- ¶1388: A unique Palaeolithic sculpture from the site of Zaraysk (Russia)
- ¶1389: The Early Upper Palaeolithic of Üçağızlı Cave, Turkey
- ¶1390: Early evidence of reed boats from southeast Anatolia
- ¶1391: The Neolithic–Copper Age transition on the Great Hungarian Plain: recent excavations at the Tiszapolgár Culture settlement of Vésztő-Bikeri
- ¶1392: The Rocca di Manerba: a late Neolithic fortified and terraced site in northern Italy
- ¶1393: SPACES — exploring Neolithic landscapes in the Strumble–Preseli area of southwest Wales
- ¶1394: A life history approach: working on the site of Il Pizzo (Nepi VT, Italy)
- ¶1395: Visibility
- ¶1396: 'The Amesbury Archer': a well-furnished Early Bronze Age burial in southern England
- ¶1397: Los Cerritos: an early fishing–farming community on the Pacific Coast of Mexico
- ¶1398: Exploring heaven on earth: testing the cosmological model at La Milpa, Belize
- ¶1399: Crossing the line: the enveloped cross in Pohnpei, Federated States of Micronesia
- ¶1400: A Xiongnu cemetery found in Mongolia

- ¶401: Modelling terrain: the Global Positioning System (GPS) survey at Kerkenes Dağ, Turkey
- ¶402: Perforated *Homalopoma sanguineum* from Tito Bustillo (Asturias): mobility of Magdalenian groups in northern Spain
- ¶403: Finds of perforated *Homalopoma sanguineum* from Tito Bustillo add to the evidence of long-distance contact between Magdalenian groups. The new finds are placed in their European context.
- ¶404: New exploration in the Chitral Valley, Pakistan: an extension of the Gandharan Grave culture
- ¶405: New survey in the Chitral Valley has doubled the number of recorded Gandharan Grave culture sites in the region and extended their geographical range. The numbers and location of sites indicates that the Gandharan Grave culture was well established in the Chitral valley, suggesting that the valley may have been central to this cultural development, rather than marginal.
- ¶406: Bone stable isotope evidence for infant feeding in Mediaeval England
- ¶407: This paper is a first study of duration of breastfeeding using bone stable isotopes in infants in a British palaeopopulation, from the deserted Mediaeval village of Wharram Percy, England. Nitrogen stable isotope analysis suggests cessation of breastfeeding between 1 and 2 years of age. Comparison with Mediaeval documentary sources suggests that recommendations of physicians regarding infant feeding may have influenced common practice in this period.
- ¶408: Out of the blue: assessing military aircraft crash sites in England, 1912–45
- ¶409: Military aircraft crash sites are currently being reviewed by English Heritage's Monument Protection Programme. The aims are reviewed in a paper that shows the increasing interest in modern archaeology.
- ¶410: The Cold War
- ¶411: The structure and skills of British Neolithic Society: a brief response to Clive Ruggles & Gordon Barclay
- ¶412: Will the data drive the model? A further response to Euan MacKie
- ¶413: Palaeolithic landscape of extraction: flint surface quarries and workshops at Mt Pua, Israel
- ¶414: The authors report on investigations at quarrying sites on Mount Pua, Israel. they suggest that the area shows a degree of industrial organization from the late Lower Palaeolithic with a resultant impact on the landscape.
- ¶415: The Cioarei-Borosteni Cave (Carpathian Mountains, Romania): Middle Palaeolithic finds and technological analysis of the lithic assemblages
- ¶416: The authors provide the first report of a Middle Palaeolithic assemblage from Romania. The data suggest short-lived occupation and intriguing evidence of the use of ochre.
- ¶417: Hiatus or continuity? New results for the question of pleniglacial settlement in Central Europe
- ¶418: The authors present new dating evidence for a refined understanding of human presence in Central Europe between 23,000 and 14,000 BP.
- ¶419: The Mesolithic–Neolithic transition in the sandy lowlands of Belgium: new evidence

¶420: The site of Doel lies beside the Schelde, close to Antwerp. Excavations have uncovered the remains of two prehistoric zones, one from the Final Mesolithic and one from the Neolithic. Preliminary study suggests that current theories of the Mesolithic-Neolithic transition in northern Belgium require revision.

¶421: Congruent distribution of Neolithic painted pottery and ceramic figurines with Y-chromosome lineages

¶422: The authors propose a correlation between certain elements of Neolithic material culture — painted pottery and anthropomorphic figurines — and Y-chromosome haplotypes, suggesting a shared history of dispersal of human populations and cultural ideas.

¶423: Social integration of religion and ritual in prehistoric China

¶424: The authors employ examples from Chinese prehistory to demonstrate that religion could maintain and reinforce order in various aspects of social lives.

¶425: Pig domestication in ancient China

¶426: The pig appears to have been among the earliest domesticated animals in China, with evidence for pig domestication at Cishan from 8000 BP. The authors propose a model for the development of animal domestication.

¶427: New evidence for an early date for the Aegean Late Bronze Age and Thera eruption

¶428: The authors report on radiocarbon data derived from carefully selected organic material from Late Minoan IA and IB contexts. The results suggest that the accepted chronology of the period should be revised by 100 years and that the eruption of Thera/Santorini most likely occurred c. 1650–1620 BC.

¶429: Regional survey and the development of complex societies in southeastern Shandong, China

¶430: This article shows that full-coverage regional survey is an effective tool for understanding change over time in regional settlement patterns in north China. Five seasons of survey in the Rizhao area of southeastern Shandong demonstrate a nucleated pattern of settlement around the Longshan site of Liangchengzhen and a clear settlement hierarchy, with distinctly different patterns for later periods.

¶431: Ancestral Pueblo trails and the cultural landscape of the Pajarito Plateau, New Mexico

¶432: Although trails are widely recognized as an important element in the shaping of social and economic space, poor preservation and complex interpretations have meant that they are rarely the subject of systematic archaeological analysis. Ancestral Pueblo trails of New Mexico's Pajarito Plateau, in contrast, are both well-preserved and easily identified, providing an opportunity to study patterns of movement through the landscape during the 500 years prior to Spanish colonization. This study discusses the broader issues of analysing archaeological trails with specific reference to the Pajarito case.

¶433: Cultural landscapes on Garua Island, Papua New Guinea

¶434: Important new insights about long-term changes in human behaviour are gained when cultural landscapes rather than focal points or 'sites' are studied. The abundance of obsidian artefacts preserved on easily recognized, well-defined and short-lived ground surfaces makes Garua Island an excellent setting for monitoring the changing patterns of human behaviour through time and within

cultural landscapes. The results raise questions about traditional interpretations of settlement and land use in Near Oceania, particularly during the time of Lapita pottery.

¶435: Scotland 2002

¶436: '...it was not thought consistent with political wisdom, to draw the attention of the Scots to the ancient honours of their independent monarchy' (on the proposal in 1780 to found a Society of Antiquaries for Scotland) *Archaeologia Scoticum* 1 (1792): iv

¶437: From the Parliamentary Union with England of 1707 until the establishment of the new devolved parliament (although still within the Union) in Edinburgh in 1999 under the terms of the Scotland Act 1998, Scotland was a nation with a 'capital' and its own legal system; neither a colony nor sovereign: an active participant in rather than a victim of 19th-century imperialism (Davidson 2000). Since the Union the writing of the history of Britain has been a more or less political process (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' [Finlay 1998]. 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').

¶438: 4D archaeology

¶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.

¶440: Seeing the wood and the trees: dendrochronological studies in Scotland

¶441: The value of dendrochronology as a precise dating tool is well established (Ashmore, this volume) and this paper concentrates on other aspects of its value to Scottish archaeology and history. Timber in Scotland has been a resource under pressure for a long time, and consequently the history of timber trade and woodland exploitation is particularly interesting. Scotland now has very restricted semi-natural woodland, representing about 1% of land cover. While the extent of semi-natural woodland has undoubtedly shrunk in recent centuries, pollen evidence indicates that much of Scotland has been characterized by open landscapes since later prehistory (Tipping 1994).

¶442: The radiocarbon dating programmes of The National Museums of Scotland

¶1443: 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. This work was initially stimulated by the success of Caroline Earwood's research on dating bog butter containers and other wooden vessels from the National collections (Earwood 1990; 1993a; 1993b; 1997), which demonstrated among other things that the practice of bog butter deposition in Scotland extended at least as far back as the early centuries AD.

¶1444: Treasure Trove in Scotland

¶1445: The Treasure Trove system in Scotland operates to protect portable antiquities and ensure their preservation in perpetuity for the benefit of the nation. A broad interpretation is taken of 'portable antiquities', encompassing those items of past material culture to which archaeological, historical and/or cultural importance may be attached. Objects which are 'museumworthy' might be another way of expressing this, though 'worthiness' applies not just to items with obvious display potential but also to those likely to reside in study collections as reference material.

¶1446: Sound foundations: archaeology in Scotland's towns and cities and the role of the Scottish Burgh Survey

¶1447: We shall not cease from exploration

¶1448: And the end of all our exploring

¶1449: Will be to arrive where we started

¶1450: And know the place for the first time.

¶1451: T.S. ELIOT

¶1452: 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. Paradoxically, though, modern Scotland has an urban heart, with its people, the lifeblood of its economy and its cultural centres all concentrated in the towns and cities. Scotland is fortunate in the quantity and quality of its historic towns, with a preponderance of small and medium-sized towns, many of which escaped the insensitive 1960s and 1970s redevelopment so eloquently lamented elsewhere. Even Scotland's cities are small by English standards; the population of Glasgow, our largest city, was about 650,000 in the 1991 census, and Dundee, the smallest (before Inverness's elevation), only about 165,000. Today some 80% of the total population of around 5,000,000 live and work in towns and cities.

¶1453: Artefacts and the Iron Age of Atlantic Scotland: past, present and future

¶1454: This paper is concerned with the Iron Age of Atlantic Scotland, a period running from approximately 600 BC until the onset of Viking colonization and influence around AD 800. The definition of Atlantic Scotland for the purposes of this paper is taken to include the north and west of Scotland and its coastline and archipelagos including Shetland, Orkney and the Inner and Outer Hebrides. This area is also defined by the distribution of a particular kind of drystone monumental architecture, variously termed brochs, duns or more recently Atlantic roundhouses (Armit & Ralston 1997: 183–7). These structures are often well preserved, in the case of some standing as towers 10 m in height, and are thus highly visible in the landscape. In Orkney and Shetland brochs and other Iron Age houses often form only one part of a large and complex settlement mound, with both earlier and later settlement and activity dating over millennia on the same site, as at Howe and Pool (Uallin Smith 1994; Hunter et al. 1993).

¶1455: Investigating jet and jet-like artefacts from prehistoric Scotland: the National Museums of Scotland project

¶1456: The black spacer plate necklaces and bracelets of the Early Bronze Age (Figure 1) are among the most technically accomplished prestige items of this period in Britain and Ireland. There has been much debate over the years as to whether these artefacts and other prehistoric black jewellery and dress accessories are the product of specialist jetworkers based around Whitby in North Yorkshire — Britain's only significant source of jet. As early as 1916, for example, Callander was arguing that the Scottish finds had been made using locally available materials — cannel coal, shale and lignite — rather than Whitby jet. There has also been much confusion over the identification of these various materials. Furthermore, the conservation of newly discovered jet and jet-like artefacts can be problematical, and the correct identification of raw material is important in determining the best method of treatment.

¶1457: Scotland's First Settlers: the Mesolithic seascape of the Inner Sound, Skye and its contribution to the early prehistory of Scotland

¶1458: The Mesolithic occupation of Scotland began soon after the end of the last glaciation, between 10,000 and 9000 years ago. Considerable research has been undertaken in the past two decades (Mithen 2000; Pollard & Morrison 1996; Woodman 1989; Young 2000); much has been published, more is awaited, and work continues apace. Mesolithic sites occur throughout Scotland, though recent archaeological activity has been concentrated on the western seaboard.

¶1459: The coastal nature of much of the Scottish Mesolithic has long been recognized, although the contribution of inland sites is becoming more apparent. The relationship between shell middens and lithic scatters and the nature of the midden sites themselves are slowly becoming clearer (Bonsall 1996; Finlayson 1998), though the make-up of the material culture remains vague, as known early sites with preservation of organic materials are few and far between and specialists remain divided over their interpretation. More widely, it is generally recognized that the Mesolithic occurred during a time of dynamic environmental change although the impact on the human population remains to be documented.

¶1460: Zones of interaction: Roman and native in Scotland

¶1461: Northern Britain is one of the best known and most extensively researched frontier regions in the Roman Empire. The fluctuations of Roman occupation in the late 1st, mid 2nd and early 3rd centuries AD are quite well understood and emphasize the peripheral character of the area, which never completely succumbed to Roman conquest. It also offers the opportunity to study the processes of interaction between Rome and indigenous peoples at the limits of empire. Too often, however, these have been seen as incidental to the main action, as if the local people were only the supporting cast for the foreign stars. If separately considered at all, the indigenous population has tended to be relegated to discussion of the native background, but over the last decade or so research has moved them more strongly into the foreground.

¶1462: The stone circles of northeast Scotland in the light of excavation

¶1463: The stone circles of northeast Scotland (Figure 1) take a most distinctive form. On one level, they are made up of structural elements that are widely distributed in Britain: they are built from raw materials that had been selected for their colour and texture; the monoliths are graded in height towards the southwest and may have been aligned on the moon (Burl 2000). On another level, they have a character all of their own. They are known as 'recumbent' stone circles because their most



massive component is a large flat block which is bracketed by two tall pillars or 'flankers' (Burl 2000: 215–33).

¶1464: Bronze Age fuel: the oldest direct evidence for deep peat cutting and stack construction?

¶1465: Peat has been used as a fuel and as an additive to arable fields to aid fertility since prehistoric times in many parts of northern Europe (e.g. Fenton 1986; Whittle et al. 1986). The cutting of deep peat and the construction of peat stacks as part of the drying process has been documented from Medieval times, but the antiquity of such activities is unknown. Peat stacks are ephemeral structures whose purpose is to aid the drying of hard-won, wet peat in areas where other fuels such as wood and coal are expensive or unobtainable. They are typically cleared within a few months of construction and leave no traces of their former presence. Here we report the unprecedented discovery of a 'fossil' pyramidal peat stack dating to the 2nd millennium BC, from the Isle of Barra in the Outer Hebrides of Scotland. Individual turves contained finger and thumb impressions and pollen analysis reveals environmental conditions at around the time of cutting. The method of extracting and stacking the peat used some 3500 years ago may be similar to that used today.

¶1466: The past surveyed tomorrow

¶1467: The last 25 years has been a period of rapid change in the approach to archaeological fieldwork in Britain and this has been reflected in the development of survey within the Royal Commission on the Ancient & Historical Monuments of Scotland (RCAHMS), the government financed body responsible for maintaining the national record of archaeology and architecture. The monolithic county-based inventory approach of RCAHMS' first 60 years has been replaced by a more broadly-based archaeological strategy founded on programmes of work that range from national overviews and regional surveys to individual site plans. Archaeological mapping has superseded monument planning as the key field objective, and all survey, whether terrestrial, aerial or desk-based, is underpinned by the RCAHMS Geographical Information System (GIS). The radical changes in field data-capture have been mirrored by parallel developments in making that data accessible once it has been collected.

¶1468: Scapa Flow and the protection and management of Scotland's historic military shipwrecks

¶1469: In the past Britain has been a global naval, mercantile and industrial power and, as an island which has benefited from successive waves of settlement, its history is inextricably linked to its surrounding seas (Lavery 2001). High volumes of shipping traffic and a long history of seafaring and warfare have contributed to a density of shipwreck remains in UK territorial waters which is likely to be amongst the highest in the world.

¶1470: Recently warship wrecks have been given a significantly higher degree of attention in the UK and world-wide, and the recent 'scheduling' of the German High Seas Fleet wrecks under the terms of the Ancient Monuments and Archaeological Areas Act 2979 (AMAA 1979) has led to new challenges in heritage management. At the same time as we are becoming aware of the value of these resources, the administrative, legislative, environmental and social frameworks in which they have to be managed are changing rapidly.

¶1471: Contract archaeology in Scotland

¶1472: The subject matter for this article is a large one and could be approached in a number of different ways. I have chosen to focus on some of the more distinctive characteristics of contract archaeology as it is currently practised in Scotland. This may encourage comparison with the

situation elsewhere but it is not my intention to 'compare and contrast'. I will leave it up to the reader, if they wish, to set their own experiences against the Scottish situation.

¶473: I define contract archaeology as all types of archaeological work undertaken through a commercial contract. Scotland is a small country with a small economy and it has a commercial archaeological sector to scale. The number of commercial archaeological organizations working regularly in Scotland is somewhere between 10 and 20 depending on your point of view. Only five of these organizations have permanent staff numbers in double figures; some of the others are effectively sole traders who may take on staff with project-specific contracts.

¶474: Islamic cities

¶475: The places where men pray together: cities in Islamic lands, Seventh through the Tenth Centuries.

¶476: War

¶477: Matériel culture: the archaeology of twentieth century conflict.

¶478: Landscapes of war: the archaeology of aggression and defence.

¶479: Migrations

¶480: Lapita: a view from the east

¶481: The archaeology of Lapita dispersal in Oceania: papers from the 4th Lapita Conference,

¶482: Migrants and invaders: the movement of peoples in the ancient world.

¶483: The archaeology of colonialism.

¶484: Europe

¶485: Retouchoirs, conipresseurs, percuteurs ... os à impressions et éailles

¶486: La protohistoire.

¶487: The archaeology of cult and religion.

¶488: Monuments und landscape in Atlantic Europe: perception and society during the Neolithic and Early Bronze Age.

¶489: Europe's cultural landscape: archaeologists and the management of change.

¶490: Art offlip Middle Ages.

¶491: Greeks & Romans

¶492: Corinthian conventionalizing pottery (Corinth: results of excavations conducted by the American School of Classical Studies at Athens Vol. 7:5).

¶493: Hellenicity: between ethnicity and culture.

¶494: The Greek world, 479-323 BC

¶495: The archaeology of the Olympics: the Olympics and other festivals in antiquity(

¶496: Romans and Christians.

- ¶497: The historians of late antiquity.
- ¶498: The Parthenon.
- ¶499: Britain & Ireland
- ¶500: The peopling of Britain: the shaping of a human landscape — the Linacre Lectures 1999.
- ¶501: Star Carr in context: new archaeological and palaeoecological investigations at the early Mesolithic site of Star Carr, North Yorkshire.
- ¶502: Prehistoric Avebury
- ¶503: Purbeck papers
- ¶504: AD 43, the Roman invasion of Britain: a reassessment.
- ¶505: Roman Carlisle & the lands of the Solway.
- ¶506: Roads in Roman Britain.
- ¶507: Architecture in Roman Britain.
- ¶508: Romano-British coin hoards.
- ¶509: A guide to the Roman remains in Britain
- ¶510: The archaeology of mills and milling.
- ¶511: English local history: an introduction
- ¶512: South Asia
- ¶513: Ancient Ruhuna: Sri Lankan-German Archaeological Project in the Southern Province
- ¶514: The hoe and the axe: an ethnohistory of shifting cultivation in eastern India.
- ¶515: Numerals in Orissan inscriptions.
- ¶516: The archaeology and architecture of Afghanistan.
- ¶517: Southwest Asia
- ¶518: Of pots and pans: papers on the archaeology & history of Mesopotamia and Syria presented to David Oates in honour of his 75th birthday.
- ¶519: Canhasan I: stratigraphy and structures (Canhasan Sites 1; British Institute of Archaeology at Ankara Monograph 23).
- ¶520: The Biblical engineer: how the Temple in Jerusalem was built.
- ¶521: The complete world of the Dead Sea scrolls.
- ¶522: Sheba revealed: a posting to Bayhan in the Yemen.
- ¶523: Hällristningar från Högsbyn i Tisselskogs socken {Arkeologisk Rapport 2 från Vitlyckemuséet}.
- ¶524: Africa, Egypt
- ¶525: L'Algérie des premiers hommes.

- ¶1526: Objects and skeletal remains (The tomb of Maya & Meryt Vol. 2).
- ¶1527: The civilizations of Africa: a history to 1800.
- ¶1528: West Africa during the Atlantic slave trade: archaeological perspectives.
- ¶1529: Americas
- ¶1530: South America (Encyclopedia of Prehistory 7).
- ¶1531: First encounters: Native Americans & Europeans in the Mississippi Valley.
- ¶1532: Mexico from the Olmecs to the Aztecs
- ¶1533: Hällristningar från Askums socken Bohuslän Vol. 1. Arkeologisk Rapport 3 från Vitlyckemuséet).
- ¶1534: Hällristningar från Askums socken Bohuslän (Vol. 2; Arkeologisk Rapport 4 från Vitlyckemuséet).
- ¶1535: Writing
- ¶1536: Lost languages: the enigma of the world's undeciphered scripts.
- ¶1537: Encoded archival description on the Internet.
- ¶1538: The World Heritage Site's central area and Grebestad
- ¶1539: History of archaeology
- ¶1540: Forntid i historien: en arkeologihistorisk studie av synen på forntid lämningar, från medeltiden till och med förupplysningeen
- ¶1541: Much more tbon stones & bones: Australian archaeology in the late Twentieth Century.
- ¶1542: Sir Aurel Stein in The Times.
- ¶1543: Bronze age economics: the beginnings of political economies.
- ¶1544: A marxist archaeology
- ¶1545: The extraordinary voyage of Pytheas the Greek
- ¶1546: Report of the Department of Antiquities, Cyprus,
- ¶1547: Digging holes in popular culture: archaeology and science fiction
- ¶1548: The sleep of reason: erotic experience and sexual ethics in ancient Greece & Rome.
- ¶1549: Sexuality and gender in the Classical world: readings and sources.
- ¶1550: Sextus Empiricus: the transmission and recovery of Pyrrhonism.
- ¶1551: From hunting to drinking: the devastating effects of alcohol on an Australian Aboriginal community.
- ¶1552: The Royal Flying Corps in World War I.
- ¶1553: The godless mun: a mystery of Alexander the Greut.
- ¶1554: The great Mughuls: India's most flamboyant rulers
- ¶1555: Achilles.

- ¶1556: The house of death: a mystery of Alexander the Great.
- ¶1557: What is modern behaviour?
- ¶1558: Interpretations and narratives of the Neolithic of southeast Europe
- ¶1559: The Northern Isles
- ¶1560: Inching into the worlds of ancient Greek pottery
- ¶1561: 'Foule and flabby quagmires': the archaeology of wetlands
- ¶1562:
- ¶1563: The chambered cairns of the central Highlands: an inventory of the structures and their contents.
- ¶1564: Hällristningar från Litsleby, Tegneby & Socken
- ¶1565: Hällristningar från Högsbyn i Tisselskogs socken
- ¶1566: Hällristningar från Askums socken Bohuslän
- ¶1567: Hällristningar från Askums socken Bohuslän
- ¶1568: The World Heritage Site's central area and Grebestad
- ¶1569: Private life in New Kingdom Egypt.
- ¶1570: Zapotec hieroglyphic writing.
- ¶1571: The end of antiquity: archaeology, society and religion AD 235–700.
- ¶1572: The archaeology of Wigford and the Brayford Pool (Lincoln Archaeological Studies 2).
- ¶1573: Shotley Peninsula: the making of a unique Suffolk landscape.
- ¶1574: Loot, legitimacy and ownership: the ethical crisis in archaeology.
- ¶1575: Archaeology: the widening debate.
- ¶1576: Death by theory: a tale of mystery and archaeological theory.
- ¶1577: ISSUE 4
- ¶1578: FxJ43: an Early Stone Age locality in northern Kenya
- ¶1579: Current Middle & Upper Palaeolithic research in the southern Caucasus
- ¶1580: Palaeolithic archaeology and 3D visualization technology: recent developments
- ¶1581: The role of the Panamanian land bridge during the initial colonization of the Americas
- ¶1582: Conservation and presentation of Neolithic Beidha, southern Jordan
- ¶1583: Kani Mikail: a seasonal cave site of the Middle Neolithic period in Kurdistan, Iran
- ¶1584: Exploring Neolithic and Megalithic south India: the Bellary District archaeological project
- ¶1585: Late Bronze Age Gaza: prestige production at el-Moghraqa

¶1586: A First Pompeii: the Early Bronze Age village of Nola–Croce del Papa (Palma Campania phase)

¶1587: Manching revisited

¶1588: Power in context: the Lismore landscape project

¶1589: Giant murals of Baja California: new regional archaeological perspectives

¶1590: Recent finds from the northern Mesopotamian city of Tell Brak

¶1591: Ancestral faces: a Preclassic Maya skull-mask from Cuello, Belize

¶1592: Satellite image analysis and archaeological fieldwork in El-Markha Plain (South Sinai)

¶1593: Combating the destruction of Ethiopia's archaeological heritage

¶1594: Upper Palaeolithic and Mesolithic human fossils from Moravia and Bohemia (Czech Republic): some new 14C dates

¶1595: 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 from Mladeč confirm its early Upper Palaeolithic age, the chronologies of the other three sites require revision.

¶1596: Birch-bark tar at Neolithic Makriyalos, Greece

¶1597: The authors discuss the first evidence for the use of birch-bark tar on Late Neolithic pottery from Greece. This appears to have been used for two different purposes, to seal a fracture and to line the interior walls. The authors also discuss other possible uses.

¶1598: Archaeology and 'QAA subject review': what did we learn?

¶1599: The authors recount their personal experience of the recent assessment of archaeology teaching in the United Kingdom.

¶1600: The non-fraud of the Middle Bronze Age stone goddess from Ustica: a reverse Piltdown hoax

¶1601: The authors examine claims that the sole surviving example of relief sculpture from the Middle Bronze of Italy or Sicily, discovered in the excavations on the island of Ustica in 1991, is a forgery that was deliberately planted on the site. Their refutation is based on examination of the photographic evidence that has been published in support of these claims.

¶1602: The Palaeoindian–Archaic transition in North America: new evidence from Texas

¶1603: The transition from Palaeoindian to Archaic societies in North America is often viewed as a linear progression over a brief but time-transgressive period. New evidence from the Wilson-Leonard site in Texas suggests social experimentation by Palaeoindians over a 2500-year period eventually resulted in Archaic societies. The process was neither short nor linear, and the evidence shows that different but contemporaneous lifeways existed in a variety of locales in the south-central US in the Early Holocene.

¶1604: Taphonomic interpretation of the Developed Oldowan site of Garba IV (Melka Kunture, Ethiopia) through a GIS application

¶1605: A GIS intra-site application for the taphonomic interpretation of the Developed Oldowan site of Garba IV (Melka Kunture, Ethiopia) 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.

¶606: Did prehistoric landscape management retard the post-glacial spread of woodland in Southwest Asia?

¶607: Pre-Bronze Age human impacts on the East Mediterranean environment have been hard to detect in pollen diagrams and other off-site contexts. New evidence shows that despite a relatively rapid post-glacial wetting-up of the climate, the re-advance of oak woodland across Southwest Asia was slow. Among the factors likely to have contributed to the apparent disjunction between climate and vegetation is Neolithic landscape management, particularly through regular use of late-season ground fires to encourage grasses at the expense of trees and shrubs.

¶608: Finding the coastal Mesolithic in southwest Britain: AMS dates and stable isotope results on human remains from Caldey Island, south Wales

¶609: The implications of new evidence are presented for the generally high level of marine diet in the coastal Mesolithic populations of Wales. Within these generally high levels, some variations may point to seasonal movement. These data provide a strong contrast with the mainland terrestrial diet of early Neolithic populations in the same area.

¶610: The Lepenski Vir conundrum: reinterpretation of the Mesolithic and Neolithic sequences in the Danube Gorges

¶611: This paper employs new evidence—including new AMS dates—to support a reinterpretation of the stratigraphic and architectural phasing of Lepenski Vir, and links this new evidence with the Mesolithic–Neolithic transition in the region by critiquing dominant models.

¶612: Beads and Beakers: heirlooms and relics in the British Early Bronze Age

¶613: During extended biographies, some artefact types may have functioned at times as heirlooms or relics. It is possible to illustrate this process by studying fragmentation, and two case-studies involving British Beaker pottery and amber spacer plate beads are presented. Wider social and chronological implications are also considered.

¶614: Special section: Another perspective

¶615: Introduction

¶616: A politician's perspective of archaeology

¶617: Anyone for writing?

¶618: 'Archaeonist Man'

¶619: Special section: Celebrating 75 years of Antiquity

¶620: Introduction

¶621: Opening comments for the 75th anniversary of ANTIQUITY, SAA meeting, Denver (CO) 2002

¶622: ANTIQUITY and the scope of archaeology

¶623: ANTIQUITY — the first 75 years

¶624: Looking out at ANTIQUITY, from England to the world, 1927–2028

- ¶625: ANTIQUITY and early humanity
- ¶626: ANTIQUITY and the Old World
- ¶627: ANTIQUITY and the New World
- ¶628: 'It's better to dig than dance': archaeological method and theory in ANTIQUITY 1927 – 2002
- ¶629: ANTIQUITY, Wheeler and Classical archaeology
- ¶630: The innocents and the sceptics: ANTIQUITY and Classical archaeology
- ¶631: ANTIQUITY and Britain
- ¶632: Trends in ANTIQUITY
- ¶633: Antiquities compared
- ¶634: ANTIQUITY at 75
- ¶635: The trade in plunder
- ¶636: Trade in illicit antiquities: the destruction of the world's archaeological heritage.
- ¶637: Illicit antiquities. The theft of culture and the extinction of archaeology
- ¶638: Archaeological practice and the nation-state
- ¶639: Politics, archaeology and the creation of a national museum of Ireland: an expression of national life.
- ¶640: The Acropolis: global fame, local claim.
- ¶641: Facts on the ground: archaeological practice and territorial self-fashioning in Israeli society.
- ¶642: Late Iron Age sacred space in western Europe
- ¶643: The differential use of constructed sacred space in southern Britain, from the late Iron Age to the 4th century AD
- ¶644: Rites et espaces en pays celte et méditerranéen: étude comparée à partir du sanctuaire d'Acy-Romance
- ¶645: Contrasting perspectives on Roman Britain
- ¶646: The heirs of King Verica: culture & politics in Roman Britain.
- ¶647: The Roman house in Britain.
- ¶648: Rome's diverse Egyptian deserts
- ¶649: Topography and quarries (The Roman imperial quarries: survey and excavation at Mons Porphyrites, 1994–1998)
- ¶650: At empire's edge: exploring Rome's Egyptian frontier.
- ¶651: Migration Period Europe
- ¶652: Les Huns: le grand empire barbare d'Europe, IVe–Ve siècles



¶1653: Les Sarmates: amazones et lanciers cuirassés entre Oural et Danube (VIIe siècle av. J.-C.-VIe siècle apr. J.-C.).

¶1654: The early Slavs: culture and society in early Medieval eastern Europe.

¶1655: Questions of identity for historical archaeology -

¶1656: Knowing the past: philosophical issues of history and archaeology.

¶1657: Archaeology and text.

¶1658: Indian archaeology in retrospect

¶1659: The biological anthropology of human skeletal remains from Bhimbetka, central India.

¶1660: An archaeological history of Japan, 30,000 BC to AD 700.

¶1661: Prehistoric rock art in Cumbria: landscapes and monuments.

¶1662: Die Kelten in Deutschland.

¶1663: Moche art and archaeology in ancient Peru.

¶1664: The archaeology of Athens.

¶1665: Die römischen Provinzen: eine Einführung in ihre Archäologie.

## **Name:** Antiquity 2003 abstracts

¶1: Antiquity 2003 abstracts

¶2: ISSUE 1

¶3: A Palaeolithic 'Pompeii' at Kostenki, Russia

¶4: A new Upper Palaeolithic occupation layer has been discovered in 2000 at the site of Markina Gora (Kostenki 14) on the River Don (the Voronezh Oblast), in Russia. The layer was sealed by volcanic ash, suggesting that a natural catastrophe had put an end to a human settlement there, just as Pompeii, Herculaneum and Stabiae were destroyed and buried following the powerful eruption of Mt. Vesuvius in AD 79. The Palaeolithic site is notable for its assemblage of ornaments

¶5: The Gravettian burial known as the Prince ("Il Principe"): new evidence for his age and diet

¶6: The famous upper Palaeolithic (Gravettian) burial with shell ornaments known as "Il Principe" was discovered in Italy sixty years ago. Here the authors present recent scientific research on his skeleton, leading to new assessments of the date of the burial and indications of diet.

¶7: The Wolf of Baikal: the "Lokomotiv" Early Neolithic Cemetery in Siberia (Russia)

¶8: The authors present a synopsis of research on the remarkable early Neolithic cemetery near Lake Baikal known as "The Lokomotiv" which was first discovered by the constructors of the Trans-Siberian Railway in the 1880s. A current campaign of research is beginning to understand the great variety of the burial rites and their contexts. The rites include communal burials, burial in pairs head to toe and decapitation before burial, the position of the skull being sometimes taken by a carved object. Among the earliest graves was one containing a Tundra wolf.

¶9: The earliest writing? Sign use in the seventh millennium BC at Jiahu, Henan Province, China

¶10: Early Neolithic graves at Jiahu, Henan Province, China, include tortoise shells which are incised with signs – some of which anticipate later Chinese characters and may be intended as words. Is this the earliest writing? The authors decide 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.

¶11: Neolithic transition in Europe: the radiocarbon record revisited

¶12: Understanding the introduction of farming and the adoption of Neolithic culture continues to be a major research objective in Europe. The authors make use of a new database of radiocarbon dates from Mesolithic and Neolithic sites to map the transition. While the overall effect is still a diffusion into Europe from the south-east, detailed spatial analysis reveals fascinating local variations: in some places change was rapid, and one population replaced another, in others it was gradual and owed to incoming ideas rather than people.

¶13: The Neolithic transition in Europe: comparing broad scale genetic and local scale isotopic evidence

¶14: Genetic studies of modern populations are raising many interesting questions about how far the modern gene pool is owed to incoming populations during the agricultural revolution in Neolithic Europe. But, as the authors show, studies of isotopic data from cemeteries reveal a picture of

increasing subtlety at local level. While early farmers may have been initially newcomers in the upper Rhine they may also have soon intermarried with contemporary hunter-gatherers in the uplands.

¶15: Thoughts on the 'Repacked' Neolithic Revolution

¶16: Was the British Neolithic a take-it-or-leave-it "package" which included building monuments and giving up fish? Julian Thomas thinks there was some room for creative packaging on the home front.

¶17: Mesolithic to Neolithic transitions: new results from shell-middens in the western Algarve, Portugal

¶18: New research on shell middens in the Algarve region of southern Portugal shows continuity of marine exploitation from the Mesolithic into the early Neolithic periods, where the Neolithic period is defined by the appearance of pottery in c 5500BC. The authors propose that either shellfish remained important to Neolithic people in Portugal or that Mesolithic and Neolithic subsistence strategies co-existed in this area for a relatively long time.

¶19: Agricultural origins in the Korean Peninsula

¶20: The authors report the first direct scientific evidence for the beginnings of agriculture in the Korean peninsula.

¶21: In B or not in B: a reappraisal of the Natufian burials at Shukbah Cave, Judaea, Palestine

¶22: Dorothy Garrod's classic excavation of Shukbah Cave revealed a sequence of burials from the middle Palaeolithic into a period transitional between the Palaeolithic and Neolithic which she named the Natufian after the wadi in which the cave is located. Using the original field notebooks, the author re-examines the stratigraphy (Layers A–D) and proposes most of the human bone is Natufian (from Layer B) except a group burial which may in fact belong to a later layer. This research implies a redefinition of burial-types belonging to the Natufian.

¶23: CORONA Satellite Photography and Ancient Road Networks: A Northern Mesopotamian Case Study

¶24: Middle-eastern archaeologists are winning new information from declassified military photographs taken 25 years ago. This study shows how pictures of north-eastern Syria are revealing the routeways, and by inference the agricultural systems of Mesopotamia in the early Bronze Age.

¶25: A wiggle-match date for Polynesian settlement of New Zealand

¶26: Dating initial colonisation and environmental impacts by Polynesians in New Zealand is controversial. A key horizon is provided by the Kaharoa Tephra, deposited from an eruption of Mt Tarawera, because just underneath this layer are the first signs of forest clearance which imply human settlement. The authors used a log of celery pine from within Kaharoa deposits 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  $1314 \pm 12$  AD ( $2\sigma$  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. This date is contemporary with earliest settlement dates determined from archaeological sites in the New Zealand archipelago.

¶27: Dating resin coating on pottery: the Spirit Cave early ceramic dates revised

¶128: Pottery found at Spirit Cave, Thailand, has been claimed as among the earliest ceramics in the world – 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

¶129: Current problems in dating Palaeolithic cave art: Candamo and Chauvet

¶130: New discoveries of cave art at Chauvet and elsewhere have produced radiocarbon dates which may seem startlingly early and demand dramatic revision to the traditional stylistic sequence. The authors warn that the radiocarbon dates may themselves need better validation.

¶131: Style, Chauvet and radiocarbon

¶132: The article by Bahn and Pettitt (above) carries the suggestion that the diverse dates obtained for Candamo in some way throw doubt on those for Chauvet and by implication on the performance of the Laboratoire des Sciences du Climat et de l'Environnement (LSCE) at Yvette-sur-Gif (Gif). The authors respond. Readers might also like to note the article by Marian Scott and colleagues which follows.

¶133: How reliable are radiocarbon laboratories? A report on the Fourth International Radiocarbon Inter-comparison (FIRI) (1998–2001)

¶134: 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.

¶135: Direct dating of plaster and mortar using AMS Radiocarbon: a pilot project from Khirbet Qana, Israel

¶136: The authors demonstrate 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.

¶137: Putting the record straight: Rock art and shamanism

¶138: Is the term shamanism being applied uncritically and subjectively to rock art? J D Lewis - Williams responds to criticism from Alice B Kehoe and Mairi Ross featured in earlier numbers of *Antiquity*.

¶139: Centres and peripheries amongst archaeologists – archaeological theory after communism

¶140: How should archaeological theory in eastern Europe respond to its new theoretical circumstances? Dragos Gheorghiu advises us to be even-handed

¶141: Don't knock the ancestors

¶142: “Too many ancestors?” said James Whitley. Mike Pitts responds.

¶143: Roman archaeology: crisis and revolution

¶144: Roman archaeological research in Britain has undergone a revolution in recent years, becoming a theoretically-informed subdiscipline exploring exceptionally rich data sets in new ways. It has a

great deal to offer the rest of archaeology: however, it remains unduly isolated, and some perceive serious threats to its future. These were issues discussed at the recent seminar, 'Whither Roman Archaeology?'

¶145: Columbus' foundation of Hispanic America

¶146: The tombs of three Memphite officials,

¶147: Mexico's Indigenous Past.

¶148: The Past Prehistoric Societies.

¶149: Internet Archaeology.

¶150: The Buried Soul.

¶151: The Aztecs in London at the Royal Academy, Piccadilly,

¶152: What is television doing for us? Reflections on some recent British programmes

¶153: The Private Lives of Pompeii

¶154: Robert J. Braidwood. 1907 – 2003

¶155: ISSUE 2

¶156: Discovery of Palaeolithic cave art in Britain

¶157: We are pleased to present here a preliminary account of the first discovery of Palaeolithic cave art in Britain.

¶158: On 14 April 2003 we made the first discovery of Palaeolithic cave art in Britain. 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; but as far as we knew, nobody with a trained eye and advantageous lighting had combed the British caves in search of engravings, which are often extremely difficult to see. Such was the purpose of our initial survey and, sure enough, we rapidly encountered engraved marks in a number of caves, which we will be investigating more fully and systematically in the near future. At the well-known sites of Creswell Crags, in Derbyshire, we found both figurative and non-figurative engravings of the period. What follows is a brief, preliminary announcement of a discovery soon to be further amplified in print following systematic investigation.

¶159: The Late Glacial human reoccupation of north-western Europe: new approaches to space-time modelling

¶160: How and when was northern Europe reoccupied at the end of the last Ice Age? 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.

¶161: Gardening, foraging and herding: Neolithic land use and social territories in Southern Italy

¶162: The authors explore the use of land in Neolithic south Italy, showing how the new territories combined arable farming with hunting and foraging wild resources from the hinterland.

¶163: Tombs with a view: landscape, monuments and trees

¶164: The authors consider the impact that trees would have had on the visibility of the landscape from and around Neolithic monuments. It is suggested that woodland may have been an integral part of the way monuments were experienced.

¶165: Social identities and the expansion of stone bead-making in Neolithic Western Asia: new evidence from Jordan

¶166: From their research in Jordan, the authors show that the appearance of early farming and herding communities in western Asia coincided with a large expansion in stone bead production. This reflects a new social role for personal ornament.

¶167: Beads, social change and interaction between India and South-east Asia

¶168: The author shows how technical studies of beads made of agate and carnelian are informative indicators of social conditions and contacts between regions. The beads in question throw new light on the relations between India and South-east Asia in the first millennium BC.

¶169: Iron Age society and chronology in South-east Kazakhstan

¶170: This new view of Iron Age society in Kazakhstan breaks away from the old documentary and ethnic framework and offers an independent archaeological chronology. Excavated house types and new environmental data show that nomadism and cultivation were practised side by side. Scholars had previously tended to emphasise the ability of documented Saka leaders to plunder and collect tribute from sedentary agriculture groups through military aggression. But what really gave them a political and economic edge over other steppe groups was a dual economy based upon farming and herding.

¶171: A catastrophe remembered: a meteorite impact of the fifth century AD in the Abruzzo, central Italy

¶172: A meteorite impact crater in the Sirente mountains, central Abruzzo has recently been dated to the four/fifth century AD. The author shows that this catastrophic event can be equated with a locally preserved legend which describes how local people saw a new star fall to earth during a pagan festival. Their conversion to Christianity was expeditiously effected ... .

¶173: Hidden in view: African spiritual spaces in North American landscapes

¶174: How did enslaved African people in North America use material culture to create and signal their own identity? In a paper that has much significance for many other periods and places, the authors draw on archaeological and documentary evidence 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

¶175: The management of space in a Palaeolithic rock shelter: defining activity areas by spatial analysis

¶176: Flints scattered in the earliest stratum of Mandrin, a rock shelter in the Rhône valley, were clustered by k-means and Principal Component Analysis to reveal areas dominated by particular tools or waste products. These areas suggest the way in which Palaeolithic people managed their domestic space.

¶177: Grapes or raisins? An early Bronze Age larder under the microscope

¶178: The sudden conflagration of an Early Bronze Age room at Tell es-Sa'idiyeh in the Jordan valley resulted in the preservation of a remarkable assemblage of plant remains. Using microscopy and experiment, the author was able to detect fruits previously sun dried for preservation. Grapes, figs, pomegranate, olives, cereals, legumes and capers provided the most conclusive evidence for the drying and preservation of food.

¶179: A future for Dark Earth?

¶180: A recent workshop on 'dark earth', the homogeneous soil layer that often separates Roman from Early Medieval and Medieval strata in towns, prompted the authors to show how this concept, which developed in England, became altered when employed in mainland Europe. They present new research on what is actually a widespread phenomenon, and warn that uncritical assumptions about such layers made on the ground are losing important information.

¶181: Imaging the past: recent applications of multispectral imaging technology to deciphering manuscripts

¶182: 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 carbonised and damaged fragments of papyrus scrolls from Herculaneum, Petra and the Judean Desert. The method has potential for investigating the degraded ornamental surfaces of other artefacts.

¶183: Corridors of power: a case study in access analysis from medieval England

¶184: One of the most important techniques to be applied in medieval archaeology is access analysis, in which the spaces inside a structure are categorised by their relative ease of access and interpreted in terms of privilege and privacy. The author demonstrates the method, taking buildings from Salisbury town and Cathedral Close as a case study.

¶185: Faith in the past: debating an archaeology of religion

¶186: William Stukeley: an eighteenth-century phenomenologist?

¶187: Phenomenology is the modern theoretical archaeologist's word for the appreciation of how a prehistoric monument relates to its landscape. The author shows how the one of the earliest antiquaries, William Stukeley, pre-echoed some of its principles methods and thinking.

¶188: Response to Mike Pitt's 'Don't Knock the Ancestors'

¶189: Human figures in portable art of the European Upper Palaeolithic

¶190: A platform for studying the Scythians

¶191: The Irish coast: progress and potential

¶192: The Acheulian site of Gesher Benot Ya'aqov, Israel: wood assemblage.

¶193: The mind in the cave: consciousness and the origins of art.

¶194: A Late Minoan Iron Age ceramic kiln in south-central Crete: function and pottery production

¶195: Salt: white gold of the ancient Maya.

¶196: Skovgårde: ein Bestattungsplatz mit reichen Frauerngräbern des 3. Jhs. n. Chr. auf Seeland (Nordiske Fortidsminder ser. B Vol. 19).

¶197: The Viking way: religion and war in late Iron Age Scandinavia

¶198: Gordon Randolph Willey 1913–2002

¶199: ISSUE 3

¶100: Dance of the Cranes: Crane symbolism at Çatalhöyük and beyond

¶101: In this article, the authors reveal the symbolic role of cranes at Neolithic Çatalhöyük, Turkey. Worked bones of the Common Crane (*Grus grus*) are interpreted as coming from a spread wing used in dances, a ritual practice perhaps connected with the celebration of marriage.

¶102: Settlement and economy in Neolithic Ukraine: a new chronology

¶103: The authors use their revised chronology for the Mariupol-type cemeteries (presented in *Antiquity* 76: 356-63 (2002)) to offer a new sequence for Neolithic settlement and economy in Ukraine. They find that the transition to the Neolithic began about 6500 cal BC, but co-existed with Mesolithic communities for a further millennium. In about 4500 cal BC early copper age cultures appeared, which in turn coexisted with the Neolithic in neighbouring areas. Co-existent cultures are defined in terms of their artefacts, subsistence strategies, burial practice and physical types. The Mariupol-type cemeteries seem to have had their origins in the late Mesolithic and endured into the Copper Age, a period of more than two thousand years (c. 6500–4000 cal BC).

¶104: Wood charcoal from Santorini (Thera): new evidence for climate, vegetation and timber imports in the Aegean Bronze Age

¶105: Wood charcoal from stratified layers at Akrotiri is helping to map the ecology of the island of Santorini before the volcanic eruption in the second millennium BC which brought Bronze Age settlement to an end. Far from being treeless like today, the island had a relatively moist and cool climate with diverse vegetation including open oak woodland. Olive cultivation can be traced back to the Early Bronze Age. Cedar, yew and beech were also imported from Lebanon, Cyprus and Anatolia as artefacts, or for building.

¶106: The Egyptian origin of the Greek alphabetic numerals

¶107: Traditionally, it has been assumed that the Greek alphabetic numerals were independently invented in the sixth century BC. However, the author finds a remarkable structural similarity between this system and the Egyptian demotic numerals. He proposes that trade between Asia Minor and Egypt provided the context in which the Greek numerals were adopted from Egyptian models.

¶108: Monuments in a flood zone: “builders” and “recipients” in ancient Varendri, (Eastern India and Bangladesh)

¶109: The modern study of ancient landscapes is showing how the landscape and the monuments within it may have been perceived by those alive at the time. The author here broadens the discussion, distinguishing the perceptions of those who built the monuments from those who viewed them. In this example from the area comprising eastern India and Bangladesh where settlements were regularly washed away, the monuments acted as icons of permanence, and continue to impress today. However, they may not have been so appreciated by the riverside dwellers ...

¶110: Prehistory and its perception in a Melanesian Archipelago: the New Caledonia example



¶111: What were the social structures of prehistoric Melanesia really like – and how did they evolve? This study of the archaeology of New Caledonia shows how the west has had a double impact on its prehistory. First, explorers altered the social structure by their arrival and the introduction of western diseases, and then anthropologists created an image of communities which were ancient, simple and static. New archaeological field data by contrast is mapping nearly 3000 pre-European years of occupation which was marked by dynamic social and cultural change involving sophisticated economic strategies. The evidence suggests that the European anthropologists of the twentieth century were actually interpreting the social effects of the European explorers of the nineteenth century. The new archaeological model is providing food for thought for the modern multi-cultural country of New Caledonia.

¶112: Population expansion in the western Pacific (Austronesia): a wave of advance model

¶113: The author reconsiders the 'wave of advance model' used to describe (and partly explain) the rate at which people adopted farming. It is usually applied to large open areas, where one population group can easily see or meet another – but the populations considered here live on islands. Joaquim Fort finds that the 5000 km extent of the South Pacific was settled in the Neolithic period at a rate of at least 8 km per year.

¶114: An Iron Age chariot burial from Scotland

¶115: The chance discovery of a chariot burial shows Iron Age Scotland to be in direct contact with the European continent.

¶116: The origins of iron working in India: new evidence from the Central Ganga Plain and the Eastern Vindhya

¶117: Recent excavations in Uttar Pradesh have turned up iron artefacts, furnaces, tuyeres and slag in layers radiocarbon dated between 1800 and 1000 BC. This raises again the question of whether iron working was brought to India during supposed immigrations in the second millennium BC, or developed independently

¶118: Andean luxury foods: special food for the ancestors, deities and the élite

¶119: Certain kinds of food can be classed as "luxurious" because they are difficult to procure and reserved for an élite – but luxury foods can be more surely defined from their context of use. 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.

¶120: Living Lithics: ethnoarchaeology in Highland Papua New Guinea

¶121: This paper represents the joint work of two very different specialists. The fieldwork was undertaken by Sillitoe as part of his ethnographic research in Papua New Guinea (PNG) and the interpretative work was done by an archaeologist, Hardy. The work described here represents some of the last direct evidence from users of stone tools. It shows how procurement, manufacture, use, storage and the relative roles of men and women in the process was dependant on what other materials were available – material often sadly elusive in the archaeological record. Discard did not reflect use, but was often guided by the thoughtful wish to avoid cut feet.

¶122: A measure of conviction: recording emphasis in Scandinavian rock carvings

¶123: Making sense of rock carvings requires that the busy scenes depicted be resolved into groups. Using Swedish examples, John Coles shows how the depth of carvings can help identify images and subjects and urges that the depths become a regular part of the record.

¶124: Immutable laws of friction: preparing and fitting stone blocks into the Great Pyramid of Giza

¶125: How did the pyramid builders prepare and fit large stone blocks so that they were horizontal, orthogonal and flattened to within one hundredth of an inch? The author's experiments suggest that the surfaces were prepared using basic instruments made of rods and string, while to move the blocks the immutable laws of friction were mitigated by lubricating with mud and gypsum

¶126: Archaeology under the Judiciary: Ayodhya 2003

¶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. The site is considered sacred by Hindus as the birthplace of their god Rama, and 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.

¶128: On desert origins for the ancient Egyptians

¶129: Early local habitation in Europe

¶130: Bronze Age urban households of the Levant: how do we really know the past?

¶131: Territorial organisation in Iron Age Western and Central Europe

¶132: Getting history from Greek archaeology – 'some way to go'

¶133: Viking ships

¶134: Hedging 'power' in the European tradition: functions, finery or fear?

¶135:

¶136: The archaeology of southern Africa.

¶137: Acheulian culture in peninsular India: an ecological perspective.

¶138: Ramad: site Néolithique en Damascène (Syrie) aux VIIIe et VIIe millénaires avant l'ère Chrétienne.

¶139: Sacred and secular: ancient Egyptian ships and boats

¶140: Egypt and the Near East: politics in the Bronze Age.

¶141: Minoans.

¶142: In the shadow of the brochs: the Iron Age in Scotland.

¶143: Klassische Archäologie: Grundwissen.

¶144: Earth, water, fleece and fabric: an ethnography and archaeology of Andean camelid herding.

¶145: Teotihuacan: ceramics, chronology and cultural trends.

¶146: Greek vases in new contexts: the collecting and trading of Greek vases - an aspect of the modern reception of antiquity.

¶147: The languages of archaeology: dialogue, narrative, and writing.

¶148: Cyril Fox, archaeologist extraordinary.

¶149: A Neanderthal face? The proto-figurine from La Roche-Cotard, Langeais (Indre-et-Loire, France)

¶150: A worked stone from a secure Mousterian context has a bone splinter driven through it and appears to modern eyes like an attempt to represent a face. The authors argue that a face was indeed intended, and that the Roche-Cotard “proto-figurine” can be counted among the earliest art objects. At this place and date it should refer to a Neanderthal people.

¶151: The Middle Palaeolithic of Arabia: Implications for modern human origins, behaviour and dispersals

¶152: The Middle Palaeolithic record of the Arabian Peninsula can provide crucial evidence for understanding human dispersal. The authors summarise the archaeological evidence and suggest some of the routes taken by the earliest humans coming out of Africa, including one implying the use of boats. Early populations adapted to a hospitable environment, but had later to adapt to the advance of the desert.

¶153: Mesolithic dwelling places in south Scandinavia: their definition and social interpretation

¶154: In this paper the author assembles the evidence for Mesolithic dwelling places surviving as posts, floors and assemblages. This evidence can be used to show how space was organised, where men and women slept, and how some of the implied family relationships anticipated Neolithic practice.

¶155: Did Neanderthals eat inner bark?

¶156: Using ethnographic parallels the authors identify ‘bark peelers’ used in Ice Age Europe. They suggest that Palaeolithic Europeans used these to extract edible and nourishing new growth from the trunks of spring trees.

¶157: Early human burials in the western Pacific: evidence for c.3000 year old occupation on Palau

¶158: The author reports the oldest human skeletal assemblage found so far in the Pacific Islands: at the site of Chalechol Ra Orrak on Palau, Micronesia.

¶159: Mesolithic and Neolithic cultures co-existing in the upper Rhône valley

¶160: The cultural transition from the Mesolithic to Neolithic in the Rhône valley has been radically illuminated by excavation in the Grotte du Gardon (Ain). Examination of the well-stratified assemblages shows that flint and pottery associated with early Neolithic cultures in the Mediterranean occurred with lithics of local Mesolithic traditions. The author proposes that during the transitional period in this region in the sixth millennium BC, peoples of the two cultures lived side by side.

¶161: Cutting a long story short? The process of neolithization in the Dutch delta re-examined

¶162: Traditionally, the process of neolithization in the Dutch delta has been considered to have been slow, spanning some 1500 years. Re-examination of the available evidence makes clear that a ‘short transition model’ fits the available data equally well.

¶163: Early multi-resource nomadism: Excavations at the Camel Site in the central Negev

¶164: Excavations at the Camel Site, in the Negev, provide evidence of desert cottage industries making (and probably trading) beads and millstones in the Early Bronze Age. But these were people for whom nomadism was the 'default lifestyle'.

¶165: Bronzes, mortuary practice and political strategies of the Yan during the early Western Zhou period

¶166: The relations between the emergent Yan state, local groups and the power blocks of the Shang and Zhou are vividly chronicled by bronze vessels, weapons and burials rites in Bronze Age northern China.

¶167: Recent radiocarbon results and King Solomon

¶168: Radiocarbon dating and stratigraphy here offer a new chronological structure for the Iron Age in the Levant. The credit for the construction of massive public monuments in the northern part of Israel is here wrested from David and Solomon and attributed to the later Omride dynasty. The early Israelite monarchs actually ruled over a small kingdom in the highlands around Jerusalem rather than a great empire.

¶169: The Warrior of Lattes: an Iron Age statue discovered in Mediterranean France

¶170: Antiquity is pleased to present a preliminary report on the stone statue of a Celtic warrior recently discovered at the celebrated excavation at Lattes, southern France, and dating to around 500 BC.

¶171: Prehistoric trade between Ecuador and West Mexico: a computer simulation of coastal voyages

¶172: The author studies prehistoric sea travel along the coast between West Mexico and Ecuador using a computer simulation incorporating the performance characteristics of sailing rafts. The model predicts that while northward voyages may have taken as little as two months, southward voyages would have entailed at least five months and may have required a strategy that took the rafts offshore for as long as a month.

¶173: Towards an understanding of hafting: the macro- and microscopic evidence

¶174: How were stone tools hafted? Based on experimental evidence the author shows how hafting arrangements can be recognised from macro- and microwear traces on the stone objects.

¶175: Neanderthals as fiction in archaeological narrative

¶176: The authors deconstruct the fictional image of Neanderthals, showing why we see them in the way we do.

¶177: The British Museum at 250

¶178: The British Museum marked the 250th anniversary of its foundation this year, with an exhibition, The Museum of the Mind: art and memory in world cultures. We asked four archaeologists to review the show: Barry Cunliffe, professor at Oxford University and a trustee of the Museum; Colin Renfrew, professor at Cambridge University and former trustee; Chris Godsen, curator at the Pitt-Rivers Museum, Oxford University and Helen Geake, formerly at Norwich Castle Museum and now working on the British government's portable Antiquities scheme for England and Wales. Here is what they say.

¶179: Palaeolithic archaeology in an united Europe

¶180: Eastern Woodlands of North America

¶181: Classic period south-eastern Maya households

¶182: Bronze Age and early Iron Age Crete

¶183: Crannogs: a study of peoples interaction with lakes, with particular reference to Lough Gara in the north-west of Ireland.

¶184: The souterrains of Ireland.

¶185: Excavations on St Patrick's Isle, Peel, Isle of Man, 1982–88: prehistoric, Viking, Medieval and later.

¶186: Cold war: building for nuclear confrontation 1946–1989.

¶187: The Protogeometric Aegean: the archaeology of the late eleventh and tenth centuries BC.

¶188: Naples from Roman town to city-state (

¶189: The human skeletal remains: Ban Chiang, a prehistoric village site in northeast Thailand

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

¶191: The Zimbabwe culture: origins and decline of southern Zambezi states.

¶192: Genes, memes and human history: Darwinian archaeology and cultural evolution.

¶193: Archaeological survey.

¶194: Robert T. Farrell. 1939–2003

¶195: John Hurst. 1927–2003

## Name: Antiquity 2004 abstracts

¶1: Antiquity 2004 abstracts

¶2: ISSUE 1

¶3: Change of diet in Northern Europe's Mesolithic – Neolithic transition: a new critique

¶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. Among the most remarkable results from such investigations is the dramatic change in diet which is thought to have occurred between the Mesolithic and the Neolithic when people turned from maritime to terrestrial food, from fish to meat and vegetables. The three contributions which follow challenge, modify, enhance or reflect on this model. In a pivotal critique of the evidence from Britain and Denmark, Milner et al. present a range of explanations for the signals of a maritime or terrestrial emphasis in diet and conclude that the change need not have been either rapid or total. Lidén et al. show that, in southern Sweden, the preferences for fish over meat were related less to period or culture, but (reasonably enough) to location: fish-eaters live by the sea. Finally Robert Hedges takes up the question of partial marine diets and how to detect them, developing the idea that marine diets might give a fainter signal in people who were only getting small amounts of protein. Perhaps there were many such people in the new order of the Neolithic ...

¶5: Something fishy in the Neolithic? A re-evaluation of stable isotope analysis of Mesolithic and Neolithic coastal populations

¶6: “The wet and the wild followed by the dry and the tame” – or did they occur at the same time? Diet in Mesolithic – Neolithic southern Sweden

¶7: Isotopes and red herrings: comments on Milner et al. and Lidén et al.

¶8: Rock art and rock music: Petroglyphs of the south Indian Neolithic

¶9: The rock art of Kupgal, south India, represents an archive of images amassed over five millennia. The author works out a first sequence and 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.

¶10: Neolithic nomads at El Multaga, Upper Nubia, Sudan

¶11: Investigations in the El Multaga area, located in Upper Nubia, brought to light Neolithic burials differing from other known local and contemporary burial sites. The skeletons lay under mounds in a very contracted positions inside pits just large enough to contain them. Grave goods are not regular and rather poor. The authors feel that such practices probably relate to local nomadic groups. The cemetery which had not been picked up by research surveys was discovered in a salvage project.

¶12: The Tula Adze: manufacture and purpose

¶13: Toolmakers in Queensland Australia used ingenious knapping techniques to produce an implement with a large bulb of percussion and a gouge-shaped cutting edge: the “gull-wing tula adze”. The author concludes that the tool results from a unique compromise between an inefficient knapping technique and a peculiar – but in this case desirable – phenomenon of fracture mechanics

¶14: The meanings of standardisation: conical cups in the late Bronze Age Aegean

¶15: Standardisation is not simply an indicator of economic factors, such as mass-production or craft specialization but can have roots which may be technical, social or political. Here the fabric, forming technique and dimensions of conical cups in the Bronze Age Aegean are studied by comparing products from the islands of Kea and Melos. While the fabric and forming technique on both islands are standardised and emulate Cretan models, the degree of standardisation of the pottery shapes varies between the two sites. This is explained by their having different social contexts of production.

¶16: Ivory production & consumption in Ghana in the early second millennium AD

¶17: In the eighteenth to nineteenth century West Africa was the scene of the infamous Atlantic trade in ivory and slaves. The authors' researches show a different situation in the fourteenth to seventeenth centuries, when the people of Ghana were engaged in the indigenous procurement, manufacture and trade in ivory with neighbours across the Sahara

¶18: Temple Sites in Kahikinui, Maui, Hawaiian Islands: their orientations decoded

¶19: Hawaiian temple sites of the sixteenth to nineteenth centuries have diverse orientations previously thought to be random. Using precise measurements and nineteenth-century native Hawaiian sources, the author shows that the temples cluster into groups whose orientation was deliberate and likely to relate to a particular god.

¶20: Tracing Comanche history: Eighteenth-century rock art depictions of leatherarmoured horses from the Arkansas River basin, south-eastern Colorado, USA

¶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.

¶22: Investigating population movement by stable isotope analysis: a report from Britain

¶23: Stable isotopes present in local ground water get into people's teeth before they are 12 years old, and act as a signature to the area where they grew up (and drank the water). In a review of recent work in Britain the authors show the huge potential of this method for detecting population movement – and thus ultimately for investigating questions of migration, exogamy and slavery.

¶24: Theory and practice in the study of Mesopotamian domestic space

¶25: This study compares the results of space syntax analysis of houses in Babylonian Ur with similar analyses on modern households in Baghdad and among the Ashanti. The social organisations identified were then compared with the written evidence for Ur surviving on site in cuneiform tablets. This opportunity to examine spatial, ethnographic and documentary evidence together offers a deep reading of Ur society.

¶26: Goba of Mua: archaeology working with oral tradition

¶27: A team of Elders and community officials from the island of Mua in the Torres Straits got together with archaeologists from Australia to study an episode which occurred on the island before the coming of Christianity in 1871. Oral tradition located the burial place of the father of an ancestral islander named Goba, and the investigation of a rock shelter nearby gave a dated sequence of occupation and a fresh sighting of rock paintings, all relating to the period. Each type of evidence gave context to the other, and the project offered a vivid example of how history is fashioned.

¶128: Retrospect (But certainly not a necrology!)

¶129: Thus the sum of things is ever being renewed, and mortals live dependent one upon another...and in a short space the generations of living creatures are changed and like runners hand on the torch of life.

¶130: Comment on dates from a resin-coated sherd from Spirit Cave, Thailand

¶131: Part of the enormous importance of the Spirit Cave pottery lies in the early date (7500BP) implied by radiocarbon dates from charcoal associated with some of the sherds. This was challenged by Lampert et al. who directly dated one Spirit Cave sherd from its resin to 3000 BP (*Antiquity* 77: 126–133). But here Joyce White argues that the stratigraphic context and typology of the dated sherd do not provide a valid basis to support a revision of dating for the earliest sherds. A response from Lampert et al. follows.

¶132: Hunter-gatherer subsistence and settlement in northwest Europe

¶133: Aegean surveys

¶134: Approaches to the Iron Age Levant

¶135: Iron Age Iberia

¶136: Roman military equipment

¶137: Concept, design and build: Romans beyond Pompeii

¶138: Watercraft: new field, endangered resource

¶139: Orientals and Orientalists

¶140: Portrait of the artist as a young child: the Gravettian human skeleton from the Abrigo do Lagar Velho and its archeological context

¶141: African foragers: environment, technology, interactions.

¶142: The monumental building, U6 (*Archaeological Investigation in Western Crimea: Panskoye I [Vol. 1]*)

¶143: Farming in the First Millennium AD: British agriculture between Julius Caesar and William the Conqueror.

¶144: The excavation of a medieval manor house of the bishops of Winchester at Mount House, Witney, Oxfordshire, 1984–92

¶145: Ancient Tula: Tula and the Toltec heartland.

¶146: Une histoire de la religion des Maya: du panthéisme au panthéon.

¶147: Archéologie précolombienne et coloniale des Caraïbes. 3

¶148: Statistics in archaeology.

¶149: ISSUE 2

¶150: Eastern Central Europe during the Pleniglacial



¶151: New dating of several key sites in eastern Central Europe refines our view of human presence there around the Last Glacial Maximum. The author shows that, with the advancing Ice Age, this part of Europe was abandoned later than the west, and a critical environmental factor was increasing aridity rather than the dropping temperatures.

¶152: An infant cemetery of the Classic Kerma period (1750–1500 BC, Island of Sai, Sudan)

¶153: Excavation of a Classic Kerma cemetery in Sudan revealed a number of burials segregated by age, throwing into question a presumed disregard for the burial of the young. Burial rites were varied according to the age of the deceased and show a remarkable concern for the ritual burial of infants and the stillborn

¶154: Trees for food – a 3000 year record of subarctic plant use

¶155: The authors present a unique long record of inner bark use by the Sami people of northern Scandinavia extending back to 2800 BP. Consistent patterns with respect to the direction and size of bark peeling scars shows that common values and standards were early applied. They further conclude that inner bark was important as a regular food and a vitamin C source at these northern latitudes. Bark-peeled trees as biological artefacts in forests also provide important data to understand subsistence strategies and spatial patterns of land use unique to areas with long winter seasons.

¶156: An Indian trader in ancient Bali?

¶157: DNA analysis of a tooth found with imported pottery in Bali offers a strong possibility of the presence of a trader of Indian extraction in the late first millennium BC.

¶158: Interpreting standing stones in Africa: a case study in north-west Cameroon

¶159: Combining history and ethnography with a survey on the ground, the author shows how the megalithic monuments of Cameroon were the remains of many different kinds of site. Some were house platforms, others places for washing dishes. Others are certainly ceremonial, for family and kin-group meetings. The memory and opinion of current residents adds a fascinating aside to the function of these monuments, probably introduced four centuries ago, and their subsequent rôles in society.

¶160: Three cemeteries and a Byzantine Church: a ritual landscape at Yasielah, Jordan

¶161: The Byzantine period in Jordan represents a dramatic change in landscape from the Roman period that preceded it. In this case study the author shows how a sixth century Byzantine church was surrounded by three cemeteries which reflected and maintained the social ranks of the congregation and their different roles in agricultural production.

¶162: The beginnings of Slavic settlement east of the river Elbe

¶163: Did the Slavs invade eastern Europe and settle there? The traditional verdict of placename and historical studies is “yes – in the sixth century”, and the archaeological evidence once seemed to fit this model too. Now Sebastian Brather presents some new archaeological thinking about the area: the cultural zones represented by pottery and burial practice are different from each other and must have other causes than invasion by homogeneous cultural groups; while new dating of the hillforts places them in the late eighth to the tenth century. Welcome to an exciting new world of local cultural diversity ...

¶164: The Rose Theatre, London: the state of knowledge and what we still need to know

¶165: The Rose theatre – the place in Elizabethan London where one could see Shakespeare and Marlowe performed – may have started life as a bear-baiting arena. This is one of the deductions drawn from this new study of the archive from the excavations of 1989. The authors also present a new model for the theatre’s evolution, offer a fresh reconstruction of the building in its heyday and put in a powerful plea for more archaeological investigation on the ground.

¶166: A rival to Stonehenge? Geophysical survey at Stanton Drew, England

¶167: The development of geophysical survey remains a spearhead-priority for new research and cultural resource management alike – since geophysics can find and map sites without destroying them. However, there are current weaknesses of sensitivity and resolution – the instruments cannot easily “see” small features like graves and post-holes of which so many ancient sites are principally composed. Great hopes have been invested in caesium vapour magnetometers, which the Centre for Archaeology has been promoting in England – perhaps nowhere with such dramatic success as at Stanton Drew, Somerset. Here, geophysical techniques have brought to light the lines of broad circles belonging to a previously unrecognised henge monument, and the caesium magnetometer showed these circles to be composed of individual pits about 1.4 m in diameter. The fine focus achieved for these buried features augers well for the discovery and preservation of similar sites and monuments in the future.

¶168: Non-destructive provenancing of bluestone axe-heads in Britain

¶169: The authors present a new procedure for discovering where stone artefacts come from without having to cut a slice through them. The method is tested on axes of spotted dolerite bluestone from Preseli in Wales, source of monoliths at Stonehenge.

¶170: The degradation of archaeological bronzes underground: evidence from museum collections

¶171: This interdisciplinary project, initiated by the National Heritage Board in Sweden, was undertaken to determine the environmental factors affecting the deterioration of archaeological bronzes in Scandinavia – while they still lie underground. The possible influence of soil acidification was obviously of special interest. The method was to examine 3200 prehistoric bronze artefacts from different museum collections in Sweden and Norway and compare the condition of specimens dug up in different areas at different times. The results showed that the condition of excavated bronzes had greatly deteriorated during the last 50–60 years, particularly along the North West Coast of Sweden, where the soil is very sensitive to pollutants. The archaeological context, e.g. the burial rite, was also among the factors influencing the preservation of the artefacts.

¶172: Evaluating CORONA: A case study in the Altai Republic (South Siberia)

¶173: Satellite photographs, such as the CORONA series, are proving valuable instruments of archaeological reconnaissance, especially for landscapes that are relatively unknown or unprotected. Moreover, satellite imagery can be used for detailed mapping of remote areas, so that a topographic map or Digital Elevation Model can form the background for the archaeological information. However, images seen on the photographs may not be immediately recognisable as sites, and sites on the ground may escape detection from a satellite. In a current project in south Siberia the authors test the visibility of the one against the other.

¶174: The repatriation of human remains – problem or opportunity?

¶175: The editor’s question “who do human skeletons belong to?” (Antiquity 78: 5) can be answered positively, but it must be answered in context. The question was prompted by reports from the

Working Group on Human Remains established by the British government's Department for Culture, Media and Sport (DCMS) in 2001 to review the current legal status of human remains held in all publicly funded museums and galleries, and to consider and review submissions on the issue of the return of non-UK human remains to their descendent communities (DCMS 2003: 1-8). In effect, the report was primarily concerned with human remains from Indigenous communities, using a definition which follows the UN Draft Declaration on the Rights of Indigenous Peoples as "distinct cultural groups having a historical continuity with pre-colonial societies that developed on their territories" (DCMS 2003:7). Consequently, the report deals primarily with the Indigenous communities of Australia, New Zealand and North America.

¶176: Bring out your dead: people, pots and politics

¶177: When Davis and Thurman produced in 1865 their massive volume on aspects of the ancient skeletons excavated from British tombs and cemeteries, 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. I say this to dispatch the idea, common in archaeology and the media, that these early scholars were only interested in establishing hierarchies of inferiority by reference to skeletal material. If anything, Victorian science was disadvantaged by the ever present class consciousness of the times, but these early scientists did try to avoid such influences.

¶178: Handle with care: thoughts on the return of human bone collections

¶179: The repatriation of human remains (Editorial *Antiquity* 78: 5) is a matter in which two viewpoints, both equally valid, are confronted. Human skeletal remains are part of the record of our past. They tell about our shared past – about the story of human adaptive radiation and dispersion. Recent research using modern and ancient DNA evidence is adding considerably to this understanding, and 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. Research on human skeletal remains tells us also about how our predecessors lived and died, and has considerable potential to contribute to medical research. Medieval skeletons from a deserted medieval village in Yorkshire, for instance, have showed that osteoporosis was just as common among medieval women as it is now, giving fresh insight into the causes of osteoporosis and calling into question ideas that blame our modern lifestyle. The techniques used in this study were not available when the remains were first excavated; this illustrates the value of long-term retention of skeletal material, which allows application of new techniques so that new information can be obtained from old collections.

¶180: Buried treasure at the British Museum: a view from abroad

¶181: Treasure seems to be a popular subject in Britain at the moment. The BBC was first out with the television series *Hidden Treasure*, controversially focussing on the monetary value of archaeological finds, to the predictable and appropriate dismay of archaeologists. The programme is supported by an accompanying book (Faulkner 2003) and website ([www.bbc.co.uk/history/archaeology/treasure](http://www.bbc.co.uk/history/archaeology/treasure)) that fortunately both take a more balanced view. A professional offering on the same subject appeared almost simultaneously, in the shape of a conference at the British Museum and what the same institution has described as the first major exhibition of national archaeology for fifteen years.

¶182: Retrospective

¶183: Philip Rahtz, one of Britain's finest excavators and first Professor of Archaeology at the University of York, offers his perception of the development of theory, practice – and, especially, of medieval archaeology.

¶184: Hellenisation

¶185: Housing in New Halos: a Hellenistic town in Thessaly, Greece.

¶186: Portraits of the Ptolemies: Greek kings as Egyptian pharaohs.

¶187: Uruk: Siegelabdrücke auf hellenistischen Tonbullen und Tontafeln.

¶188: Recording Roman London -

¶189: Excavations at 25 Cannon Street, City of London: from the Middle Bronze Age to the Great Fire

¶190: Roman defences and medieval industry: excavations at Baltic House, City of London

¶191: The Roman tower at Shadwell, London: a reappraisal

¶192: Roman and medieval townhouses on the London waterfront: excavations at Governor's House, City of London

¶193: Settlement in Roman Southwark: archaeological investigations (1991-8) for the London Underground Limited Jubilee Line Extension Project (

¶194: The debate on migration and identity in Europe -

¶195: The Britons.

¶196: Origins of the English.

¶197: The British settlement of Brittany: the first Bretons in Armorica.

¶198: Images of women, Classical and Late Antique -

¶199: The Athenian woman: an iconographic handbook.

¶1100: Frauen in der Spätantike - Status und Repräsentation: ein Untersuchung zur römischen und frühbyzantinischen Bildniskunst.

¶1101: Making sense of Merovingian burials -

¶1102: Caring for body & soul: burial and the afterlife in the Merovingian world.

¶1103: Merovingian mortuary archaeology and the making of the early Middle Ages.

¶1104: Ancient Maya aristocracy -

¶1105: Tikal: dynasties, foreigners, and affairs of state: advancing Maya archaeology.

¶1106: The Maya and Teotihuacan: reinterpreting Early Classic interaction.

¶1107: Maya palaces and elite residences: an interdisciplinary approach. x

¶1108: Early Cyprus: crossroads of the Mediterranean.

¶1109: David Oates. 1927–2004

¶1110: ISSUE 3

¶111: The earliest evidence for clay hearths: Aurignacian features in Klisoura Cave 1, southern Greece

¶112: The authors describe clay features dating from c. 34-23 000 years ago discovered in a stratified occupation sequence in a Greek cave. The clay was brought from outside the cave, puddled with water and shaped into shallow basins. Laboratory analyses have shown that these clay features were burnt. This together with the occurrence of fragments of wood ash and phytoliths lying on their surfaces suggest that these features were hearths used for cooking, including the roasting of wild grasses.

¶113: Birth and death: infant burials from Vlasac and Lepenski Vir

¶114: Why were infants buried beneath house-floors at the Mesolithic and early Neolithic site of Lepenski Vir? Undertaking a new analysis of the neonate remains at Vlasac and Lepenski Vir the authors reject the idea of sacrificial infanticide, and demonstrate a consistency of respect in these burials. They suggest that the deaths were mourned and the dead, like the living, were given protection by the houses they were buried in. The treatment of mothers and children suggests increasing social cohesion from the Mesolithic at Vlasac to the early Neolithic at Lepenski Vir.

¶115: Neanderthal behaviour and stone tool function at the Middle Palaeolithic site of La Quina, France

¶116: Neanderthal diet is explored by examining stone tools found at the site of La Quina for residues and microwear. The Neanderthal people are found to be using their scrapers for working plants and woods as well as meat.

¶117: Discovery of the first Neolithic cemetery in Egypt's western desert

¶118: The authors report the discovery of a cemetery of richly furnished graves in the western desert of south Egypt. Artefacts, burial rites and radiocarbon dates relate the cemetery to pastoralists practising transhumance in the later Neolithic period. The first such cemetery to be investigated, its cultural affiliations offer a pre-echo of what would become the Egyptian civilisation.

¶119: Ounjougou (Mali): A history of holocene settlement at the southern edge of the Sahara

¶120: The area of Ounjougou consists of a series of gullies cut through Upper Pleistocene and Holocene formations on the Dogon Plateau in the Sahel at the south edge of the Sahara Desert. Here the authors have chronicled a stratified sequence of human occupation from the tenth to the second millennium BC, recording natural and anthropogenic strata containing artefacts and micro- and macro- palaeoecological remains, mostly in an excellent state of preservation. They present a first synthesis of the archaeological and environmental sequence for the Holocene period, define five main occupation phases for Ounjougou, and attempt to place them within the context of West African prehistory.

¶121: How inscriptions and style reflect politics: the bronzes of King Cuo

¶122: The magnificent tomb of King Cuo now published throws a bright light on a kingdom of the Warring States period. Here the author shows how the bronze vessels in the tomb, blessed with dated inscriptions, can chronicle the political fortunes and alliances of King Cuo's reign.

¶123: Roman Game Boards from Abu Sha'ar (Red Sea Coast, Egypt)

¶124: The discovery of twenty game boards – including some in a dedicated den or gaming room – in the late Roman fort at Abu Sha'ar, on the Red Sea coast of Egypt, conjures up images of daily life at a well established, but remote Roman military station. Here, during the long hot days and cool nights,

soldiers no doubt played board games and gambled incessantly. This paper describes the boards, the likely games played on them and the areas of the fort where they were played.

¶125: 'Dark Age Economics' revisited: the English fish bone evidence AD 600-1600

¶126: When did the market economy come to Europe? Fish might seem an unlikely commodity to throw light on the matter, but the authors use fish bones from English sites to offer a vivid account of the rise and rise of the market as a factor in European development from the late tenth century.

¶127: Saw-toothed sickles and bone anvils: a medieval technique from Spain

¶128: Two curiously marked bones from a Medieval deposit in Tarragona are seen to have functioned as anvils, on which iron sickles were anchored while they were being given saw teeth. The interpretation drew on the knowledge of a modern blacksmith working in a village near the town, and the practice turns out to have been widespread in Spain Portugal and Morocco from the tenth to the eighteenth centuries.

¶129: High Place: symbolism and monumentality on Mount Moriah, Jerusalem

¶130: Jerusalem's Temple Mount, the Haram al-Sharif, is one of the most iconic archaeological sites in the world. The author relates its functions to that of other local prehistoric high places, and in tracing its history up to the present day draws a distinction between state-sponsored and popular shrines.

¶131: Ochre in hafting in Middle Stone Age southern Africa: a practical role

¶132: Ochre is well-known as a substance used in Stone Age symbolism, but it can be shown to have had practical functions too. The authors used microscopic examination of Middle Stone Age tools to show they had been hafted, making use of an adhesive compound which included ochre in its recipe.

¶133: New evidence for the antiquity of the intestinal parasite *Trichuris* (whipworm) in Europe

¶134: The whipworm, *Trichuris trichiura* L., is one of the most common human intestinal parasites worldwide, yet little is known of its origin and global spread. Archaeological records for this nematode have all been of Neolithic or later date, suggesting a possible association between the spread of pastoral farming and human acquisition of whipworm. This paper reports the discovery of eggs of the genus *Trichuris* in late Mesolithic deposits from south Wales, indicating that whipworm was present in Europe before the arrival of agriculture. This raises the possibility that human infection by *Trichuris* arose through contact with wild animals in parts of the landscape frequented by both human and animal groups.

¶135: Direct detection of maize in pottery residues via compound specific stable carbon isotope analysis

¶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 – probably the most important foodstuff in later prehistoric North America. The uptake of maize is confirmed as coincident with the Mississippian fluorescence.

¶137: Towards three-dimensional non-invasive recording of incised rock art

¶138: Ancient art cut into rock is difficult to research and manage off-site without precise three-dimensional records. Experiments with photographic modelling by the authors led to a relatively accessible and economical way of making them.

¶139: Measures against the illicit trade in cultural objects: the emerging strategy in Britain

¶140: Until recently the UK was notorious for its illicit market in unlawfully removed art and antiquities from around the globe. Today the UK marketplace is operating in a very different climate. 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, central to which is the creation of a new criminal offence of dishonestly dealing in cultural objects unlawfully removed anywhere in the world. These also include the development of effective tools to aid enforcement and due-diligence. Recent events in Iraq have also forced the UK Government to announce its intention to ratify the 1954 Hague Convention.

¶141: The Neolithic transition and European population history

¶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.

¶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. The authors justify this by referring to the bad state of publication and public availability of radiocarbon dates in Europe. This certainly does not hold for the Belgian territory. In the last decade over a hundred new Mesolithic and Neolithic dates have been produced, the majority published in journals available world-wide such as *Radiocarbon* (Van Strydonck et al. 1995; 2001a), *Antiquity* (Crombé et al. 2002), *Archaeometry* (Cauwe et al. 2002) proceedings of the international congresses such as *14C and archaeology* (Crombé et al. 1999) and *The Mesolithic in Europe* (Crombé 1999), and the *IRPA- datelists* (Van Strydonck et al. 2001b; Van Strydonck et al. 2002). The authors assert that these “shortcomings” to the database probably do not affect their conclusions. This is a rash and provocative statement, which minimises all recent progress in absolute dating of the European Mesolithic and Neolithic. We believe that for the Belgian situation a hundred new dates can make a difference. In recent years, for example, these new dates have allowed a thorough revision of Mesolithic chronology (Crombé 1999; Van Strydonck et al. 2001a) and a refinement of the (early) Neolithic chronology (Jadin & Cahen 2003). This will certainly also be the case for the other study-areas in Europe.

¶144: The Neolithic transition and European population history – a response

¶145: We thank Crombé and Van Strydonck for their comments on our earlier paper (Gkiasta et al. 2003). They kindly draw attention to recent surveys of radiocarbon data from Belgium, most of which were published subsequent to our own work, which was carried out in 1999. Even at the time we were under no illusion that our compilation was complete: “It became clear in the course of the project that, despite the large sums of money which have been spent over the years on radiocarbon dating in Europe, the state of public availability of the dates, their context and associations and

details which enable users to judge the reliability of dates is in general very poor. Thus, no claim is made that the database is in any sense complete” (Gkiasta et al. 2003: 48). It would probably also be as well to correct the impression that the dates we used were mainly derived from Gob (1990). Over half those finally included were extracted from the University of Lyon Banadora database; the remainder came from a wide range of other sources. The new dates from Belgium may well shed new light on the chronology of the transition in that region. New discoveries frequently do cause old interpretations to be modified or revised; we look forward to their analysis and demonstration of the implications of the new data to which they refer.

¶146: Interpreting Pompeian treasures -

¶147: The natural history of Pompeii. x

¶148: The Silver Treasure (The Insula of the Menander at Pompeii Vol. IV).

¶149: Roman and Visigothic conditions in Spain -

¶150: Baetica Felix: people and prosperity in southern Spain from Caesar to Septimius Severus.

¶151: Vandals to Visigoths: rural settlement patterns in early Medieval Spain.

¶152: The early Church in Egypt and Libya -

¶153: Christliche Architektur in Ägypten

¶154: Christian monuments of Cyrenaica.

¶155: The shaping of Medieval north-western Europe -

¶156: Dunadd: an early Dalriadic capital.

¶157: Kings & warriors, craftsmen & priests in northern Britain AD 550-850.

¶158: Landscapes of power, landscapes of conflict: state formation in the south Scandinavian Iron Age.

¶159: Markets in early Medieval Europe: trading and ‘productive’ sites, 650-850.

¶160: Neanderthal burials: excavations of the Dederiyeh Cave, Afrin, Syria.

¶161: ISSUE 4

¶162: The early development of music. Analysis of the Jiahu bone flutes

¶163: The authors present the musical properties of well-preserved bone flutes recently recovered from Jiahu, an early Neolithic site in central China with a sequence beginning in the seventh millennium BC (*Antiquity* 77: 31–44). Tonal analyses of five of the flutes indicate a gradual development from four-tone to seven-tone scale. By adding more holes to the pipe, structuring the pitch intervals closer to each other, and by alternating the keynote, the prehistoric musicians could play increasingly expressive and varied music. In addition, the flutes became progressively standardised in pitch, presumably so they could play in harmony. The study shows that the Jiahu flute makers and their musicians became progressively familiar with acoustics and developed a cognitive scheme of music comparable to that of modern times.

¶164: The making and meaning of a Mississippian axe-head cache



¶165: The recent discovery of a cache of 70 groundstone axe-heads at the Grossmann site, near Cahokia, in the Mississippi valley prompts a new interpretation of the commemorative and ritual value of such deposits. The makers of these axe-heads seem to belong to a community of specialists who had a contributory role in the foundation of the Cahokia polity.

¶166: An unfinished temple at the Classic Maya centre of Aguateca, Guatemala

¶167: The authors demonstrate that a temple examined at the Classic Maya site of Aguateca, Guatemala, was still in the process of construction when it was attacked and abandoned at the beginning of the ninth century AD. Study of the ruin has provided valuable information on Maya building methods and processes, as well as guidance on how unfinished buildings may be identified.

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

¶169: Is ecology or agency the principal imperative of the formation of complex societies? Using new survey data, the author shows how both interest in the development of the riverside settlement area of the American Bottom and how the different modern histories of the northern (industrial) and the southern (agricultural) American Bottom, have affected the survival of evidence and how this in turn has favoured a different emphasis in interpretation for each.

¶170: Vegetation disturbance and human population in Colombia – a regional reconstruction

¶171: Palaeoecologists using pollen to map vegetation since the last ice age have noted numerous changes – which they feel increasingly obliged to blame on humans. These changes, such as deforestation or the dominance of certain plants, may happen suddenly or take place over thousands of years. The authors study the pollen record in Colombia, identify plants diagnostic of cultivation or disturbed ground (“degraded vegetation”) and use them to map human activities by proxy. They show how the people move and the landscape changes between 5000 BP and the present day, from the coast inland, and from the lowlands up into the Andes.

¶172: New evidence and revised interpretations of early agriculture in Highland New Guinea

¶173: This review of the evidence for early agriculture in New Guinea supported by new data from Kuk Swamp demonstrates that cultivation had begun there by at least 6950–6440 cal BP and probably much earlier. Contrary to previous ideas, the first farming in New Guinea was not owed to SouthEast Asia, but emerged independently in the Highlands. Indeed plants such as the banana were probably first domesticated in New Guinea and later diffused into the Asian continent.

¶174: An early eighteenth-century denture from Rochester, Kent, England

¶175: The authors report an unusual denture, fashioned from elephant ivory and designed for someone who had probably lost their teeth. It was found in a latrine pit together with pottery and tobacco pipes, indicating that it had belonged to a wealthy tea-drinker of the early eighteenth century.

¶176: Reassessing the chronology of Biblical Edom: new excavations and 14C dates from Khirbat en-Nahas (Jordan)

¶177: An international team of researchers show how high-precision radiocarbon dating is liberating us from chronological assumptions based on Biblical research. Surface and topographic mapping at the large copper-working site of Khirbat en-Nahas was followed by stratigraphic excavations at an ancient fortress and two metal processing facilities located on the site surface. The results were spectacular. Occupation begins here in the eleventh century BC and the monumental fortress is built

in the tenth. If this site can be equated with the rise of the Biblical kingdom of Edom it can now be seen to: have its roots in local Iron Age societies; is considerably earlier than previous scholars assumed; and proves that complex societies existed in Edom long before the influence of Assyrian imperialism was felt in the region from the eighth – sixth centuries BC.

¶178: Ancient roads and GPS survey: modelling the Amarna Plain

¶179: Remote mapping is painting in the context and filling the gaps of some of the best known archaeological places. Here Helen Fenwick shows what can be done to understand the 'blank' part of the great site at Tell el-Amarna using a differential GPS.

¶180: Neolithic land-use and environmental degradation: a study from the Western Isles of Scotland

¶181: Investigation of a partially waterlogged Neolithic site, on an islet in a Scottish Hebridean loch, showed that early strategies of exploitation were already environmentally damaging. Loss of soil fertility through intensive ploughing is well-documented, but stripping the turf can be equally damaging to the environment. Working on the lake settlement of Eilean Domhnuill in North Uist, the authors show that turf was cut for building material and used as fuel and that this practice contributed to a rapid degradation of the land surface through erosion.

¶182: Palaeogeography around the Harappan port of Lothal, Gujarat, western India

¶183: The authors report a reconstruction of the palaeogeography around the Harappan town of Lothal, major port of the Indus civilisation, using multispectral satellite imagery and environmental analysis. Key results include the identification of a broad tidally influenced palaeochannel adjoining the western part of Lothal and a former estuary towards the east. Micropalaeontological analyses show that Lothal developed over a tidal salt marsh and was subsequently left high and dry as the sea level dropped.

¶184: Retrospect

¶185: The innovative and gregarious Viking scholar and former director of the British Museum contemplates his travels in the changing landscape of early medieval Europe.

¶186: Exhibitions: exotica and exigencies

¶187: Two exhibitions, in England and France, are showing different ways to promote interest in archaeology and history from regions afar. Sudan: ancient treasures is a lavish and elegant show at the British Museum, London. In Auch, *Le crépuscule des dieux*, on the Americas, is imaginative but penurious. The first raises an ethical worry, the second a couple of technical principles.

¶188: Sudan displays some 350 exhibits, from an Acheulian handaxe to Medieval inscriptions, all from the Sudan National Museum, celebrating its centenary. Most are clearly arranged in chronological sections, and amplifying the narrative are an effective introduction and sections on goldwork, pottery and burials. The exhibition is completed by photographs of the multinational Meroe Dam Archaeological Salvage Project, which (it is claimed) has enhanced knowledge of the Sudan's northern Nile. My visit was amidst a steady flow of highly attentive visitors from the world over and an excited but also attentive school party.

¶189: Hunter-gatherers 'on the move'? -

¶190: Mesolithic on the move: papers presented at the 6th International Conference on the Mesolithic in Europe, Stockholm 2000.

¶191: Les camps mésolithiques du Tillet: analyses typologique, typométrique, structurelle et spatiale

¶192: Le site mésolithique des Baraquettes (Velzic, Cantal) et le peuplement de la moyenne montagne cantalienne, des origines à la fin du Mésolithique

¶193: Campements mésolithiques en Bresse jurassienne: Choisey et Ruffey-sur-Seille.

¶194: The Greek Mesolithic: problems and perspectives.

¶195: Beyond foraging and collecting: evolutionary change in hunter-gatherer systems.

¶196: Minoans emerging -

¶197: The Late Minoan IIIB:2 settlement (The Greek-Swedish Excavations at the Agia Aikaterini Square, Kastelli, Khania, 1970-87 and 2001: results of the excavations under the direction of Yannis Tzedakis & Carl-Gustaf Styrenius Vol. 3)

¶198: Knossos: the South House

¶199: The Pseira cemetery 1: the surface survey

¶200: The Pseira cemetery 2: excavation of the tombs

¶201: Burial in late prehistoric France

¶202: Nécropoles protohistoriques de la région de Castres (Tarn): Le Causse, Gourjade, Le Martinet

¶203: Pratiques funéraires et sociétés de l'âge du Fer dans le Bassin parisien (fin du VIII<sup>e</sup> s. – troisième quart du II<sup>e</sup> s. avant J.-C)

¶204: Ancient uses of the past -

¶205: The archaeology of nostalgia: how the Greeks re-created their mythical past.

¶206: Archaeologies of the Greek past: landscape, monuments, and memories.

¶207: Archaeologies of memory.

¶208: From 'questions that count' to stories that 'matter' in Historical Archaeology -

¶209: An archaeological study of rural capitalism and material life: the Gibbs farmstead in southern Appalachia, 1790-1920.

¶210: Rural society in the Age of Reason: an archaeology of the emergence of Modern life in the southern Scottish Highlands.

¶211: Archaeologies of the British: explorations of identity in Great Britain and its colonies, 1600-1945.

¶212: Early state and civilization -

¶213: Understanding early civilizations: a comparative study.

¶214: The political landscape: constellations of authority in early complex polities.

¶215: Archaeologies of complexity.

¶216: Ancient cities: the archaeology of urban life in the ancient Near East and Egypt, Greece, and Rome.

¶217: European prehistory: a survey.

**Name:** Antiquity 2005 abstracts

¶1: Antiquity 2005 abstracts

¶2: Issue 1

¶3: The wounded roan: a contribution to the relation of hunting and trance in southern African rock art

¶4: A 1934 photograph of a man dressed in an animal skin and a painting of three figures in a cave at Melikane, Lesotho 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: Microlith to macrolith: the reasons behind the transformation of production in the Irish Mesolithic

¶6: In a new study the authors explore the reasons behind the remarkable change in the procurement and choice of stone tools that occurred half way through the Irish Mesolithic. The abandonment of microliths and the adoption of a broad blade technology around 7000 BC is here attributed to a need for multi-purpose tools made from a variety of materials, serving smaller and more mobile communities.

¶7: The politics of supply: the Neolithic axe industry in Alpine Europe

¶8: By examining their rock sources and mode of manufacture, the author offers a new interpretation for the Neolithic polished axe blades found in the western Alpine region. The dominant examples were made from rock extracted on the Italian side of the Alps (eclogitic) and finished in workshops on the French side. These first appeared as large blades with symbolic status, as part of the Neolithic expansion in North Italy. By the middle Neolithic the blades were reduced in size, but enjoying their widest distribution, creating a cultural zone on the left bank of the Rhône, more than 200 km from their source. In the late Neolithic, although the zone of influence was still large, the eclogites in the Rhône Valley were giving way to more local rock sources and copper. The fluctuations in this supply are interpreted as reflecting the varied political relations of Alpine communities.

¶9: Raw, pre-heated or ready to use: discovering specialist supply systems for flint industries in mid-Neolithic (Chassey culture) communities in southern France

¶10: The silex blond or honey-coloured (Bédoulien) flints which originate in the Vaucluse are distributed over a wide area of the south of France and beyond. Examination of the features of cores and blades shows that a variety of supply systems were in use: in some cases the raw material was transported as blades, in others as heated preforms to make it easier to knap. Different places were targeted with different products. The paper is dedicated to Patricia Phillips who beat a path through to this more sophisticated, more diverse Neolithic world.

¶11: Mid fourth-millennium copper mining in Liguria, north-west Italy: the earliest known copper mines in Western Europe

¶12: This paper presents twelve new radiocarbon dates from copper mines at Monte Loreto in Liguria, northwest Italy, which indicate that extraction began around 3500 cal BC, making these the earliest copper mines to be discovered in Western Europe so far. The dates are placed in their

regional context, with a discussion of results from Libiola and other sites associated with early copper mining.

¶13: Core–periphery relations in the Recuay hinterlands: economic interaction at Chinchawas, Peru

¶14: The author explores a changing core–periphery relationship in first millennium AD Peru, from the viewpoint of a small North Highlands village.

¶15: Focus On Islam I: What is ‘Islamic’ archaeology?

¶16: The flight of Muhammad and his companions from Mecca to Medina in AD 622 (the hijra) initiated one of the world’s great intellectual and cultural movements, which in a few centuries was to extend from China to the Atlantic. As western archaeologists, we have probably accorded relative neglect to the study of the material culture arising from Islam, although it clearly has much to offer for the understanding of all societies. To help redress the balance, Antiquity has invited a number of scholars active in the archaeology of Islamic culture to give us a taste of work in progress. This special series, which will feature in each issue in 2005, is introduced by its convenor, Andrew Petersen.

¶17: On the eve of Islam: archaeological evidence from Eastern Arabia

¶18: What was the archaeological context of the rise of Islam in Arabia? The author uses new work from Eastern Arabia to show that the advent of Islam coincided with the decline of the Sasanian hegemony and one of Arabia’s least affluent periods in 3500 years of history.

¶19: Remarks on Samarra and the archaeology of large cities

¶20: Samarra, built and abandoned during the ninth century, can claim to be the largest archaeological site in the world. Here, Alastair Northedge offers a brief account of what is known about it, and begins by placing it in the context of the world’s most famous historic cities.

¶21: Experiment and innovation: early Islamic industry at al-Raqqa, Syria

¶22: The city of al-Raqqa in north central Syria rivalled early Baghdad in scale, and was briefly during the ‘Abbasid caliphate the imperial capital of an empire stretching from North Africa to Central Asia. Now largely levelled the multifaceted Islamic cityscape is revealed by aerial and satellite imagery. It is at this site that the evidence of innovative Islamic industries has been revealed by excavations undertaken by the Raqqa Ancient Industry project since 1994. Here they discuss the production models for glass and ceramics in their socio-economic contexts.

¶23: Detecting plague: palaeodemographic characterisation of a catastrophic death assemblage

¶24: The archaeological definition of a plague should be possible from skeletal populations, because the age profile of a population afflicted by a catastrophe will be different to that of a community exposed to a more normal mortality. The authors show how this can be done using a Bayesian statistical analysis.

¶25: Mapping prehistoric statue roads on Easter Island

¶26: High resolution satellite photographs offer a new picture of the tracks along which the Easter Island giant statues were hauled from the central quarry to the exhibition sites. The survey traced 32 km of seven major roads, confirmed by features on the ground, where their current condition gives reasons for concern. The authors suggest that the radial pattern implies social division into small groups.

¶127: The role of Rapa Nui (Easter Island) statuary as territorial boundary markers

¶128: A new survey and spatial analysis enables the author to argue that inland examples of Easter Island's famous stone statues were not in transport to the coast but mark out ancient territories proposed by ethnologist Katherine Routledge in 1919.

¶129: Ethnic identity and archaeology in the Black Sea region of Turkey

¶130: How has Turkey used archaeology to define itself and address political goals? How have these goals clashed with western Europeans in pursuit of the Hittites and ancient Greeks? 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.

¶131: Stable isotopes and faunal bones. Comments on Milner et al. (2004)

¶132: The authors comment on ways of comparing the results of stable isotopes, on the one hand, and faunal remains, on the other, as evidence for diet

¶133: DNA -

¶134: Human evolutionary genetics: origins, peoples and disease. x

¶135: Ancient DNA typing: methods, strategies and applications. x

¶136: Out of Eden: the peopling of the world.

¶137: Diseases -

¶138: The bioarchaeology of tuberculosis: a global view to a reemerging disease.

¶139: Health & disease in Britain from prehistory to the present day.

¶140: Northern European Neolithic -

¶141: Les tumulus de Bougon: complexe mégalithique du Vé au III<sup>e</sup> millénaire.

¶142: Lines in the landscape – cursus monuments in the Upper Thames Valley: excavations at the Drayton and Lechlade cursuses.

¶143: Henge monuments of the British Isles.

¶144: The Neolithic of south Sweden: TRB, GRK, and STR.

¶145: Wessex landscapes -

¶146: The field archaeology of the Salisbury Plain Training Area.

¶147: Avebury: the biography of a landscape.

¶148: Urban development in England -

¶149: Oxford before the University: the Late Saxon and Norman archaeology of the Thames crossing, the defences and the town

¶150: The city by the pool: assessing the archaeology of the city of Lincoln

¶151: Urban growth and the Medieval Church: Gloucester and Worcester.

¶152: Maya political history -

¶153: Understanding Early Classic Copan.

¶154: Heterarchy, political economy, and the ancient Maya: the Three Rivers region of the east-central Yucatán peninsula.

¶155: Lightning Warrior: Maya art and kingship at Quirigua.

¶156: The Terminal Classic in the Maya lowlands: collapse, transition, and transformation.

¶157: Archaeology and ethnohistory of Iximché

¶158: Landscapes, rock-art and the dreaming: an archaeology of preunderstanding.

¶159: Power and island communities: excavations at the Wardy Hill ringwork, Coveney, Ely

¶160: More than meets the eye: studies on Upper Palaeolithic diversity in the Near East.

¶161: Stone Age Scania: significant places dug and read by contract archaeology.

¶162: Forschungen zu Mensch und Umwelt im Odergebiet in ur- und frühgeschichtlicher Zeit

¶163: Die prähistorischen Gräberfelder

¶164: Fiskerton, an Iron Age timber causeway with Iron Age and Roman votive offerings: the 1981 excavations.

¶165: Excavations at Helgö XVI: exotic and sacral finds from Helgö.

¶166: Archaeological landscapes of the Near East.

¶167: The ancient Maya of the Belize Valley: half a century of archaeological research.

¶168: Empire and domestic economy.

¶169: Archaeological research on the Islands of the Sun and Moon, Lake Titicaca, Bolivia: final results from the Proyecto Tiksi Kjarka

¶170: Environmental archaeology: approaches, techniques & applications.

¶171: Archaeologist's toolkit (7 volumes: Vol. 1, Archaeology by design; Vol. 2, Archaeological survey; Vol. 3, Excavation; Vol. 4, Artifacts; Vol. 5, Archaeobiology; Vol. 6, Curating archaeological collections: from the field to the repository; Vol. 7, Presenting the past).

¶172: The pleasures of antiquity: British collectors of Greece and Rome.

¶173: ISSUE 2

¶174: Early Holocene shell fish hooks from Lene Hara Cave, East Timor establish complex fishing technology was in use in Island South East Asia five thousand years before Austronesian settlement

¶175: Food of the Gods or mere mortals? Hallucinogenic Spondylus and its interpretive implications for early Andean society

¶176: Eating shellfish in the wrong season makes you ill. But early people of the Andes seem to have courted these effects to gain out-of-body experiences. It may have been these effects, as well as its distinctive colouring and appearance, that made Spondylus such a very special commodity.



¶177: The first modern humans in Europe? A closer look at the dating evidence from the Swabian Jura (Germany)

¶178: The origins of anatomically modern humans, modern behaviour and the Aurignacian form one of the most dynamic fields of European research. Conard & Bolus (2003) opened a new debate by proposing that the Aurignacian arose from the migration of modern humans. Reviewing the data from the Swabian Jura, 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.

¶179: Woodland clearance in the Mesolithic: the social aspects

¶180: Did Mesolithic people regard the woodland as a wilderness or park? Previous models have portrayed the hunter-gatherers of the Mesolithic as in tune with nature and making use of clearings to attract game. Using equally valid analogies, the authors propose a more hostile landscape that was conceived and managed with clearings and paths to help allay its menacing character.

¶181: Risk and marginality at high altitudes: new interpretations from fieldwork on the Faravel Plateau, Hautes-Alpes

¶182: Living at high altitude carries risks, so settlement there can be thought marginal. Its success or failure ought to be dependent on the environment and the climate. But recent fieldwork in the French Alps shows that exploitation was not coincident with climatic conditions: Mesolithic people found the hunting good; in the climatic optimum of the Roman period the high altitudes were said to be uninhabitable and apparently were; while in the Little Ice Age of the fourteenth century and later, the high Alps were at their busiest. The author hypothesises that social control and perception, rather than climate, were the determinant factors.

¶183: Buddhism, Pax Kushana and Greco-Roman motifs: pattern and purpose in Gandharan iconography

¶184: 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.

¶185: Genealogy in the ground: observations of jar burials of the Yayoi period, northern Kyushu, Japan

¶186: The author finds that cemeteries in early first millennium Japan reflect the associations of family with land. The burial parties of a core settlement could be seen to be referring to earlier burials in a dynastic or genealogical sequence, while a secondary settlement developed its burial ground in a disordered sequence. Thus Koji Mizoguchi shows that the differences between the haves and have-nots extended their having, or not having, a history.

¶187: Focus on Islam II: The rural landscape of Jordan in the seventh-nineteenth centuries AD: the Kerak Plateau

¶188: Our knowledge of rural settlement in Jordan during the Islamic periods is strongly coloured by perceptions about the relationship between the 'Desert' and the 'Sown', between 'nomad' and 'farmer'. This has affected interpretations regarding settlement pattern and economy. In addition, there have been methodological problems in collecting the data relevant to these interpretations. An alternative to this polarised model is suggested and used to interpret the settlement history of Khirbat Faris, more particularly its architecture.

¶189: The origin of 'desert castles': Qasr Bani Muqatil, near Karbala, Iraq

¶190: The 'desert castles' are key structures of the early Islamic expansion. They resemble Roman forts – which may have provided models for those in Jordan. But the authors show that a well-researched example in Iraq is likely to have been a palace site before the area was Islamicised.

¶191: From 'desert castle' to medieval town: Qasr al-Hayr al-Sharqi (Syria)

¶192: The 'desert castles' are intriguing fortresses of early Islam. Here the author shows how the fort became a town, using new research from a key site in Syria.

¶193: The Umayyad congregational mosque of Jarash in Jordan and its relationship to early mosques

¶194: The early mosque at Jarash is reconstructed by archaeological excavation and survey and attributed to a wave of urban renewal in the reign of caliph Hisham (AD 724-743).

¶195: Direct radiocarbon dating of megalithic paints from north-west Iberia

¶196: 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. These radiocarbon ages for megalithic paintings fall within the proposed time period for north-west Iberian megalithic culture. Multiple layers of paint on some stones show that more than one painting episode occurred.

¶197: Dating the geometric Nasca lines in the Peruvian desert

¶198: The Nasca lines are geoglyphs – arrays of stones forming geometric shapes constructed by ancient humans, the largest ones occupying areas of more than 1km<sup>2</sup>. The authors used optically stimulated luminescence dating of quartz buried when the stone lines were constructed to give new dates for contexts associated with geoglyphs on high mesetas near Palpa. They conclude that the stone lines at sites at San Ignacio and Sacramento were constructed between AD 400 and 650. This suggests that they were made in the later part of the Early Intermediate Period by people of the Nasca culture.

¶199: Wings over Armenia: use of a paramotor for archaeological aerial survey

¶100: Aerial survey in a country with restricted overflying can be frustrating. Armenian and British archaeologists solved the problem by acquiring a two-person paramotor and photographing with a digital camera at 300m. Here are some of the first aerial pictures of the rich tapestry of Armenia's archaeology.

¶101: Peaceful Harappans? Reviewing the evidence for the absence of warfare in the Indus Civilisation of north-west India and Pakistan (c. 2500-1900 BC)

¶102: Life beside the ancient Indus may not have been so peaceful and egalitarian as has sometimes been thought. Arguing from weapons, the author shows that Harappans only appear to be militarily under-endowed in comparison with Mesopotamians because their assemblages are derived from settlement finds rather than grand tombs.

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

¶104: The National Museum of the American Indian (NMAI), the Smithsonian Institution's new facility on the National Mall in Washington DC, challenges the very notion of what constitutes a museum. 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.

¶105: A pragmatic approach to the problem of portable antiquities: the experience of England and Wales

¶106: Thousands of artefacts are found every year by the public the world over, and many are sold or destroyed. How are we to ensure that these discoveries can take their place in archaeological research (Editorial, December 2004)? For some, legislation, state control and strong penalties are the best or only option. Here, the co-ordinator of the English Portable Antiquities Scheme makes the case for a voluntary code, led by co-operation, education and reward.

¶107: Variations on a northern European Stone Age theme

¶108: New dawn on early Cyprus

¶109: Gender and art in the Near and Middle Eastern Neolithic

¶110: A new model of Asiatic production

¶111: Late-Antique silver: discovery and interpretation

¶112: Urban monasteries in England

¶113: The Heqanakht papyri

¶114: Bettencourt-Saint-Ouen (Somme): cinq occupations paléolithiques au début de la dernière glaciation

¶115: Genèse et diffusion de l'agriculture en Europe: agriculteurs, chasseurs, pasteurs.

¶116: Néolithique ancien en Haute-Normandie: le village de Villeneuve-Saint-Germain de Poses 'Sur la Mare' et les sites de la boucle du Vaudreuil

¶117: Vom Endneolithikum zur Frühbronzezeit: Muster sozialen Wandels?

¶118: Recursos naturales, medios de producción y explotación social: un análisis de la industria lítica de Fuente Álamo (Almería), 2250-1400 antes de nuestra era

¶119: Gender in ancient Cyprus: narratives of social change on a Mediterranean island.

¶120: The land of Houlouf: genesis of a Chadic polity, 1900 BC – AD 1800

¶121: Andean archaeology, Volume I: Variations in sociopolitical organization & Volume II: Art, landscape, and society.

¶122: Pompeian households: an analysis of the material culture

¶123: Die Goldbrakteaten der Völker-wanderungszeit – Herstellungsprobleme und Chronologie.

¶124: Uffington White Horse and its landscape: investigations at White Horse Hill, Uffington, 1989-95, and Tower Hill, Ashbury, 1993-4

¶125: Trethurgy: excavations at Trethurgy Round, St. Austell: community and status in Roman and post-Roman Cornwall.

¶126: Archaeology in Northumberland National Park

¶127: Alexander Marshack, 1918–2004

¶128: ISSUE 3

¶129: Two hiatuses in human bone radiocarbon dates in Britain (17 000 to 5000 cal BP)

¶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. What could have caused these 'hiatuses'? Comparison of dated human remains and dated activities associated with humans, with the climatic record from ice cores, shows that the most likely explanation was a change in burial practice, even if this was itself one of a chain of behavioural changes initiated by the rise in sea level.

¶131: The spread of farming in the Eastern Adriatic

¶132: The authors present a new, two-stage model of the spread of farming along the eastern Adriatic coast based on the first appearance of pottery. The initial stage was a very rapid dispersal, perhaps by 'leapfrog colonisation', associated with cave sites in southern Dalmatia. The second stage was a slower agropastoral expansion associated with cave and open-air sites along the northern coast. Migration was a significant factor in the process. The mountainous hinterland formed an agricultural frontier zone, where farming was adopted piecemeal by indigenous groups.

¶133: Evidence for mummification in Bronze Age Britain

¶134: Ancient Egyptians are thought to have been the only people in the Old World who were practising mummification in the Bronze Age (c. 2200-700 BC). But now a remarkable series of finds from a remote Scottish island indicates that Ancient Britons were performing similar, if less elaborate, practices of bodily preservation. Evidence of mummification is usually limited to a narrow range of arid or frozen environments which are conducive to soft tissue preservation. Mike Parker Pearson and his team show that a combination of microstructural, contextual and AMS <sup>14</sup>C analysis of bone allows the identification of mummification in more temperate and wetter climates where soft tissues and fabrics do not normally survive. Skeletons from Cladh Hallan on South Uist, Western Isles, Scotland were buried several hundred years after death, and the skeletons provide evidence of post mortem manipulation of body parts. Perhaps these practices were widespread in mainland Britain during the Bronze Age.

¶135: Khirigsuurs, ritual and mobility in the Bronze Age of Mongolia

¶136: The khirigsuurs are large and complex ritual sites that are major features in the landscape of Bronze Age Mongolia and represent considerable investment. The authors present recently investigated examples of this important class of monument, describe their attributes and offer preliminary deductions of the kind of society they imply – and whether it was truly nomadic.

¶137: Knowing when to consult the oracle at Delphi

¶138: The cities of Greece had their own calendars, so how did they all know when the god Apollo had returned from the northern realms and it was time to consult the oracle at Delphi? The authors show that the heliacal rising of the constellation Delphinus probably provided the annual marker, and that because of the mountains it appeared to rise a month later at Delphi than elsewhere, giving would-be visitors time to travel. The landscape of Delphi was itself instrumental in creating or enhancing the cosmology of Apollo.

¶139: Pine, prestige and politics of the Late Classic Maya at Xunantunich, Belize

¶140: Comparing the source of a commodity with the social levels of the people amongst whom it is found can reveal important aspects of social structure. This case study of a Maya community, using archaeological and ethnographic data, shows that pine and pine charcoal was procured at a distance and distributed unevenly in settlements. The researchers deduce that this commodity was not freely available in the market place, but was subject to political control.

¶141: Land tenure, competition and ecology in Fijian prehistory

¶142: How do prehistoric settlement patterns relate to competition for resources? The distribution of fortified and open sites provides one indication, but using an example from Fiji, the author shows that land holding recorded in historic times may also provide a fossil of earlier competition. Comparing the land parcels and the fortified sites with the ecological zones showed that it was the richer – but less reliable – lower parts of the Sigatoka valley that were most fought over, leaving a patchwork of small defended claims, while the upper areas supported larger, co-operative land units.

¶143: Focus on Islam III: Archaeology and Islamic identities in Bahrain

¶144: Exploring the archaeological correlates of Islam in Bahrain, the author finds that 'Islamic identity' is no singular condition: communities are diverse, exhibiting a culture that is rich, multicultural and complex.

¶145: Granaries and irrigation: archaeological and ethnological investigations in the Iberian peninsula and Morocco

¶146: The social use of granaries in the medieval hinterland of Islamic Murcia is illuminated through ethnographic studies in modern Morocco.

¶147: From arrows to bullets: the fortifications of Abdullah Khan Kala (Merv, Turkmenistan)

¶148: A study of warfare in late medieval Merv, pivotal city on the silk route.

¶149: Wind-towers and pearl fishing: architectural signals in the late nineteenth and early twentieth century Arabian Gulf

¶150: New light on an ancient landscape: lidar survey in the Stonehenge World Heritage Site

¶151: Lidar (Light Detection and Ranging), which has recently come into use for airborne environmental monitoring, is now beginning to find success in archaeological survey. Liaison between the Environment Agency and English Heritage has led to a lidar survey of the Stonehenge landscape, where new sites have been discovered, known ones extended and its potential as an important new tool for the management of archaeological landscapes is discussed for the first time. Lidar has the potential to radically transform our future understanding and management of the historic environment. The article by Devereux et al. (pages 648-660 of this volume) shows the technique applied to woodland.

¶152: The potential of airborne lidar for detection of archaeological features under woodland canopies

¶153: The development of lidar opens a new era in archaeological survey. Working with Forest Research, staff of the Unit for Landscape Modelling here explain the technique, and demonstrate its

application to woodland, showing how it can be used to see through the trees. The article by Bewley et al. (pages 636-647 of this volume) shows the technique applied to the Stonehenge landscape.

¶154: AMS dating of rock art in the Laura Region, Cape York Peninsula, Australia – 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, there are mismatches which suggest that some motifs were often imitated by later artists, and/or that the mineral accretions continued to form periodically, perhaps continuously, as a regional phenomenon over a long period of time.

¶156: What language did Neolithic pots speak? Colin Renfrew's European farming-language-dispersal model challenged

¶157: The author argues that Colin Renfrew's farming language dispersal hypothesis for the spread of the Indo-European languages is unverifiable, and rests on dubious theoretical and methodological assumptions. Archaeology is better at recognising institutions than language, and present knowledge defines the Bronze Age, rather than the early Neolithic, as the formative period for the development and spread of so-called of Proto- and Early Indo-European institutions.

¶158: 'Indo-European' designates languages: not pots and not institutions

¶159: Kristian Kristiansen, cogent critic though he may be, commits a category error of a depressingly familiar kind. It is a confusion which has led distinguished scholars such as Dumézil into error, 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.

¶160: Nowhere does he define precisely what he imagines the term 'Indo-European' to mean. Following the perspective agreed by most historical linguists I take it to be a linguistic term, pertaining therefore to languages, members of the language family first recognised by Sir William Jones in 1786, and then further analysed and defined by subsequent generations of linguists. Through examination of the phonology, the morphology and the lexicon, all of which are well-defined and well-understood, it can readily be decided and demonstrated whether a specific language belongs to this family or not. So that when Hittite emerged in the early twentieth century from the archives of Hattusa, and later when documents in Tocharian were discovered and deciphered, the place of both those languages within that family could readily be agreed. Such a methodology is clearly not applicable to social institutions: it only works with words.

¶161: Problem formulation and historical context define terminology and relevance – not linguistic formalism

¶162: In his response, Colin Renfrew retreats to a formalistic argument – Indo-European can only mean a language family. It has nothing to do whatsoever with institutions or religion. This statement simply writes off a whole academic discourse of Indo-European studies. Consequently Renfrew does not accept an argument that links the spread of an institution to a concomitant spread of its language or its terminology. In opposition to this I consider Indo-European languages to have a history linked to social and economic processes of change that we still know too little about. However, it implies a relationship between them, as Colin Renfrew cogently argues in his book (Renfrew 1987: chapter 6). Institutions which appear to have their origin in the Proto-Indo-European period, and which are still preserved – like language diversified – in later Indo-European religious

mythology or sagas, are consequently termed Indo-European in this specific research context, as they share a common history. Often they also share a common terminology that can be demonstrated to have a Proto-Indo-European origin. In that they are interlinked in one way or another with language. It is therefore a worthy research task to consider if processes of language spread and the spread of institutions are interlinked, given that their terminology share a common origin.

¶163: From this follows that we must either abolish the term Indo-European completely, or accept that it embodies a number of social and religious traditions and institutions whose history cannot be totally separated from that of language, as their meaning is expressed in a specific Indo-European terminology. The danger of political misuse does not originate from research into this relationship; it originates from simplistic theoretical and methodological conflation 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.

¶164: Ex India, semper aliquid novi?

¶165: Footprints of the horse-people: new research on Upper Palaeolithic France

¶166: Near Eastern monumental reports

¶167: Long-term change in prehistoric Cyprus

¶168: The archaeology of the Sussex landscape

¶169: Paleo-demography: Age Distributions from Skeletal Samples.

¶170: Ambiguous images: gender and rock art.

¶171: Prehistoric steppe adaptation and the horse

¶172: The Proto-Neolithic cemetery in Shanidar Cave.

¶173: Submarine Prehistoric Archaeology of the North Sea: research priorities and collaboration with industry

¶174: Making place in the landscape: early and middle Neolithic societies in two west Scanian valleys.

¶175: Himera III.2: Prospezione archeologica nel territorio.

¶176: Archaeology of Formative Ecuador: a symposium at Dumbarton Oaks,

¶177: Yaxcabà and the Caste War of Yucatán: an archaeological perspective.

¶178: The tomb of three foreign wives of Tuthmosis III. x

¶179: The art of Ife: a descriptive catalogue and database.

¶180: Ancient Jomon of Japan.

¶181: The excavations at Dura-Europos conducted by Yale University and the French Academy of Inscriptions and Lettres, 1928 to 1937: final report VII, the arms and armour and other military equipment.

¶182: Hauran II: les installations de SI' 8, du sanctuaire à l'établissement viticole, vol. I texte, vol. II planches

¶183: Industry in north-west Roman Southwark: excavations 1984-8 (

¶184: Glass beads from Early Anglo-Saxon graves: a study of the provenance and chronology of glass beads from Early Anglo-Saxon graves, based on visual examination.

¶185: Borg in Lofoten: a chieftain's farm in North Norway.

¶186: Melrose Abbey.

¶187: Excavations at the priory of the Order of the Hospital of St. John of Jerusalem, Clerkenwell, London

¶188: Graham Ritchie MA, MBA, PhD, FSA, FSAScot, 1942–2005

¶189: ISSUE 4

¶190: Ceramics, seeds and culinary change in prehistoric India

¶191: Cuisine, argues the author, is like language – it can be adopted, adapted or modified through time. The evidence from actual words for food is also used, together with seed assemblages and types of pottery to chronicle changing food cultures in Neolithic and later India. While some new food ideas (like African millets) were incorporated into existing agricultural practice as substitute crops, others such as the horsegram and mungbean appear to have moved from south to north with their pots (and probably the appropriate recipes) as a social as well as a dietary innovation.

¶192: Ice-cores, sediments and civilisation collapse: a cautionary tale from Lake Titicaca

¶193: The temptation to equate environmental change with archaeologically observed events is always with us, and matching a climatic downturn with civilisation collapse is perhaps more attractive than ever. The archaeologically observed collapse of the Tiwanaku civilisation in the twelfth century AD has been specifically related to a prolonged drought which would have affected the people's ability to produce food. However, a careful scrutiny of the data from ice cores and lake sediments persuades the author that no such drought can be inferred: the evidence for climatic change is of quite a different scale and order to the archaeological changes and cannot be used as an explanation of social events.

¶194: Subpolar settlement in South Polynesia

¶195: Archaeological research in the Auckland Islands, south of New Zealand, has disclosed earth ovens, middens and flaked stone tools dating to the thirteenth–fourteenth centuries AD. This is the first site of prehistoric settlement in the outlying islands of the Subantarctic. Polynesians and their dogs survived on seals and seabirds for at least one summer. The new data complete a survey of colonisation in the outlying archipelagos of South Polynesia and show that it occurred contemporaneously, rapidly and in all directions from mainland New Zealand.

¶196: Urban centres and the emergence of empires in Eastern Inner Asia

¶197: The inner mechanics of Mongol empires are revealed through recent surveys by an American-Mongolian team. The large political confederations of high mobility which traditionally characterise the great Mongol empires of the first and second millennia AD are shown to have made use of highly sophisticated urban places which feature advanced planning and design, and impressive monumentality serving a variety of specific functions. Planning included open spaces within the walls reserved for the erection of tents.



¶198: The social context of early pottery in the Lingnan region of south China

¶199: Late Pleistocene and early post-Pleistocene communities in East Asia experimented with pottery production and the domestication of plants and animals. What was the nature of the social organisation of these early small-scale societies? Some North American writers consider pottery making to be a 'prestige technology' sponsored by aggrandising individuals. However, examples from south of the Nanling Mountains and other areas have simple tool assemblages and site plans showing very little evidence of social differences. Judging from recent debates about social agency, there are more appropriate explanations for the earliest pottery making, which focus on the collective rather than the individual.

¶200: Focus on Islam IV

¶201: Archaeological approaches to the study of Islam in Island Southeast Asia

¶202: The Indonesian archipelago (Island Southeast Asia) now has the largest Muslim population in the world. How, when and why did Islam arrive? Archaeological investigations show that the conversion process was long and patchy with many forces at work.

¶203: Islamic archaeology in the Iberian peninsula and Morocco

¶204: The author reviews the development of Islamic archaeology in Spain, Portugal and Morocco through its publications and fieldwork, identifying research themes such as ceramic studies, fortified settlement and landscape archaeology, irrigation and urban archaeology. Features excavated in Spain or Portugal can best be understood through ethno-archaeological studies of the Moroccan landscape and its living traditions.

¶205: Multi-disciplinary approaches to the Islamic period in Egypt and the Red Sea Coast

¶206: We are privileged to offer a summary of the massive campaign of excavation and survey conducted by the author and his team from Japan in northern Egypt and the neighbouring coast of Sinai. Over the last few years they have excavated a large sector of al-Fustat (the early Islamic settlement on the outskirts of modern Cairo), mapped the early Christian monastery at Wadi al-Tur (sixth–twelfth century AD), recorded early Islamic rock inscriptions on Mt Naqus eighth–twentieth century AD), mapped the port and mosque at Raya (originating in the sixth–twelfth or thirteenth century AD) and investigated on a large scale the fourteenth–twentieth-century sequence at al-Kilani (al-Tur). Among the objects unearthed at al-Kilani were 4000 fragments of manuscripts. The work is throwing new light on early Islam, its development of social and commercial networks, and its relation with Christian, Coptic and Byzantine cultures.

¶207: Politics and narratives: Islamic archaeology in Israel

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

¶209: Matrilocality during the prehistoric transition to agriculture in Thailand?

¶210: Stable isotopes in teeth are providing important correlations between ancient people and the geographical location of their childhood homes. In an exciting new application, the authors measured the varying signatures of strontium, oxygen and carbon isotopes in the teeth of a sequence of people buried in Thailand during the period of the introduction and intensification of agriculture. Preliminary results point to the arrival of immigrant men, followed by a change in the relationship between the sexes: the women grow up on local food, the men have access to more

widespread resources. This perhaps implies a matrilineal system, where forager men raised elsewhere marry into farming communities. It provides a likely antithesis to the social consequences of introducing agriculture into central Europe.

¶211: Did the first farmers of central and eastern Europe produce dairy foods?

¶212: Although the origins of domestic animals have been well-documented, it is unclear when livestock were first exploited for secondary products, such as milk. The analysis of remnant fats preserved in ceramic vessels from two agricultural sites in central and eastern Europe dating to the Early Neolithic (5900-5500 cal BC) are best explained by the presence of milk residues. On this basis, the authors suggest that dairying featured in early European farming economies. The evidence is evaluated in the light of analysis of faunal remains from this region to determine the scale of dairying. It is suggested that dairying—perhaps of sheep or goats—was initially practised on a small scale and was part of a broad mixed economy.

¶213: Processing of milk products in pottery vessels through British prehistory

¶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. Correlation with faunal assemblages showed a good match between the incidence of dairy fat in pottery which implied a strong dairy fraction in the diet and a milking herd implied by the animal bones. They also show that dairy fat was more likely to be found in the smaller pots while carcass fats occurred in the larger ones. The method has demonstrated dairying in England from the fifth millennium BC, and offers a novel way of studying economies with pottery but few animal bones.

¶215: A geochemical investigation of the origin of Rouletted and other related South Asian fine wares

¶216: Pottery of the Rouletted ware family belongs to India's Early Historic period (c. 500 BC to c. AD 200) and has been found as far east as Bali in Indonesia and as far west as Berenike in Egypt. 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. Since Grey ware at least pre-dates the arrival of Roman pottery in India, all these related wares were probably the products of indigenous communities.

¶217: Megaliths and post-modernism: the case of Wales

¶218: Andrew Fleming takes phenomenology by the horns.

¶219: The identification and protection of cultural heritage during the Iraq conflict: A peculiarly English tale

¶220: The author offers us a first hand account of his extraordinary and unexpected duties during the second Iraq war. This is history, heritage, regulation and perhaps even legislation in the making.

¶221: The ownership of time: approved 14C calibration or freedom of choice?

¶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.

- ¶1223: Caves and rocks: state of the art -
- ¶1224: Lascaux: le geste, l'espace et le temps.
- ¶1225: Cosquer redécouvert.
- ¶1226: Helleristninger: Billeder fra Bornholms Bronzealder.
- ¶1227: The Rock Art Archaeological Park: ideas, strategies and actions for the integral management of Galician petroglyphs
- ¶1228: The future of Rock Art – a world review
- ¶1229: The Valcamonica symposiums 2001 and 2002
- ¶1230: Prehistoric pictures as archaeological source/Förhistoriska bilder som arkeologisk källa
- ¶1231: Does Man Make Himself? and what have we done? -
- ¶1232: The Complete World of Human Evolution.
- ¶1233: Not by Genes Alone: How Culture Transformed Human Evolution.
- ¶1234: Olympia, Olympiads and Olympic bronze -
- ¶1235: Archaische Silhouettenbleche und Schildzeichen in Olympia
- ¶1236: Changing landscapes in the Roman heartland and beyond -
- ¶1237: Bridging the Tiber: approaches to regional archaeology in the middle Tiber valley
- ¶1238: Landscapes of change: rural evolutions in Late Antiquity and the Early Middle Ages.
- ¶1239: Celtic inscriptions from Gaul and Britain -
- ¶1240: Textes Gallo-Latins sur instrumentum
- ¶1241: The Celtic inscriptions of Britain: phonology and chronology, c. 400-1200
- ¶1242: Pioneering approaches to prehistoric Scotland - V
- ¶1243: Set in stone: new approaches to Neolithic monuments in Scotland.
- ¶1244: The moon and the bonfire: an investigation of three stone circles in north-east Scotland.
- ¶1245: Dwelling among the monuments: the Neolithic village of Barnhouse, Maeshowe passage grave and surrounding monuments at Stenness, Orkney.
- ¶1246: Kilellan Farm, Ardnave, Islay: excavations of a prehistoric to early medieval site by Colin Burgess and others 1954-1976.
- ¶1247: Soil science and archaeology: Three test cases from Minoan Crete
- ¶1248: Neanderthals and modern humans in the European landscape during the last glaciation
- ¶1249: First farmers: the origins of agricultural societies.
- ¶1250: Productions agricoles, stockage et finage en Montagne Noire médiévale: le grenier castral de Durfort (Tarn)

¶251: The archaeology of Syria: from complex hunter-gatherers to early urban societies (c. 16,000-300 BC).

¶252: Tepe Gawra: the evolution of a small prehistoric center in northern Iraq

¶253: Excavations at the prehistoric mound of Chogha Bonut, Khuzestan, Iran: seasons 1976-77, 1977-78 and 1996

¶254: The Ohio Hopewell episode: paradigm lost, paradigm gained.

¶255: Seeking the center place: archaeology and ancient communities in the Mesa Verde region.

¶256: Maya dwellings in hieroglyphs and archaeology: an integrative approach to ancient architecture and spatial cognition

¶257: Gold and gilt, pots and pins: possessions and people in Medieval Britain.

¶258: In the saddle: an exploration of the saddle through history.

¶259: Marketing heritage: archaeology and the consumption of the past.

**Name:** Antiquity 2006 abstracts

¶1: Antiquity 2006 abstracts

¶2: ISSUE 1

¶3: The geoglyphs of the north Chilean desert: an archaeological and artistic perspective

¶4: A new review of the geoglyphs of the Atacama Desert in Northern Chile has allowed the author to define a vocabulary of forms and show how these relate to particular groups of people crossing the desert from the mountains to the sea in the prehispanic period. Geometric, zoomorphic and anthropomorphic symbols mark routes, destinations and usage by particular llama caravans. The travellers were key players in society and were winning prominence in their region from AD 800.

¶5: Mending the past: Ix Chel and the invention of a modern pop goddess

¶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 and her re-invention by myth-makers – including archaeologists.

¶7: Prehistoric stone monuments in the northern region of the Kula Ring

¶8: The system of exchange known as the Kula ring practised in recent times by the Trobriand Islanders has provided a powerful model for anthropology, but its roots in prehistory have remained elusive. Focusing on the island of Woodlark, the author and his team have surveyed the stone monuments which characterise the region and here assign them a date and social context. In them, they see evidence for prehistoric chiefdoms anticipating those studied by Malinowski.

¶9: Boat remains and maritime trade in the Persian Gulf during the sixth and fifth millennia BC

¶10: Archaeological excavations in Kuwait have revealed the earliest remains anywhere of sea-going boats. The author explains these remains and the distribution of Ubaid pottery as evidence for a system of maritime exchange in the Arabian Neolithic driven by status and ceremony.

¶11: Variation in porotic hyperostosis in the Royal Cemetery complex at Abydos, Upper Egypt: a social interpretation

¶12: Variation in the frequency and severity of porotic hyperostosis [porous defects], seen in the skulls of individuals buried at two First Dynasty cemeteries at Abydos, suggested differences in health and social conditions. Those buried near the kings had suffered from childhood deficiencies, while those associated with funerary enclosures in a second cemetery further to the north seemed to have benefited from occupational or social advantages. The author speculates on the possible factors which gave rise to this difference.

¶13: Colonials, merchants and alabaster vases: the western Phoenician aristocracy

¶14: Long characterised as merchants in pursuit of metals, the Phoenician settlers on the Iberian peninsula are here given an alternative profile. The author shows that a new aristocracy, visible in the archaeology of both cemeteries and settlements, was engaged in winning a social advancement denied it at home in the east. In particular, the Egyptian alabaster vases found in Spain, far from

being the products of pillage or trade, were appreciated as prestige objects which often ended their days as receptacles for high status cremations.

¶15: New light on the warrior stelae from Tartessos (Spain)

¶16: The famous stelae from the Tartessos region of southern Iberia are compared with new discoveries from the Levant. Similarities of theme and iconography endorse the Phoenician connection, but show it to be more a cultural dialogue between east and west than an imposition by colonists.

¶17: Memory and monumentality in the Rarotongan landscape

¶18: One way to understand how a landscape captures memories is to study places where documents have also preserved them. The author does this to remarkable effect in the island of Rarotonga, showing how the great road Ara Metua and its monuments and land boundaries were structured and restructured through time to reflect what was to be remembered. Students of the pre- and proto-histories of all continents will find much inspiration in the pages that follow.

¶19: Boat-building and its social context in early Egypt: interpretations from the First Dynasty boat-grave cemetery at Abydos

¶20: The boat-grave cemetery at Abydos has provided the world's oldest sewn planked hulls, and vivid evidence for the way early Egyptian wooden boats were built. As well as sailing on the Nile, they were designed to be dismantled for carriage over land to the Red Sea. By the mid-fourth millennium BC the ship was a major technical force in the Egyptian political economy as well as an iconic force in ceremonial burial.

¶21: The first settlers of Iceland: an isotopic approach to colonisation

¶22: The colonisation of the North Atlantic from the eighth century AD was the earliest expansion of European populations to the west. Norse and Celtic voyagers are recorded as reaching and settling in Iceland, Greenland and easternmost North America between c. AD 750 and 1000, but the date of these events and the homeland of the colonists are subjects of some debate. In this project, the birthplaces of 90 early burials from Iceland were sought using strontium isotope analysis. At least nine, and probably thirteen, of these individuals can be distinguished as migrants to Iceland from other places. In addition, there are clear differences to be seen in the diets of the local Icelandic peoples, ranging from largely terrestrial to largely marine consumption.

¶23: Rillenkarrén at Vayia: geomorphology and a new class of Early Bronze Age fortified settlement in Southern Greece

¶24: With ever more inhibited programmes of excavation, new methods of site survey are always welcome. Here a soil geomorphologist joins forces with archaeologists to read the history of limestone blocks exposed on the surface at sites in southern Greece. Rillenkarrén for example are vertical grooves caused by rainfall on stones that remained for long periods in the same place. These and other observations showed that what looked like clearance cairns had in fact been piled up in the Early Bronze Age and led in turn to the definition of a new type of settlement.

¶25: The application of First World War aerial photography to archaeology: the Belgian images

¶26: The First World War left its mark on the ground surface of Europe as perhaps no other human catastrophe before or since. The author applies modern digital mapping technology to the aerial photographs taken by the intrepid early pilots, and creates a landscape of military works that would

not have been known in detail to either historians or generals at the time. The GIS inventory has great potential for historians of the war and is a vital instrument for the management of this increasingly important heritage.

¶127: Retrospect

¶128: Freud and Volkan: Psychoanalysis, group identities and archaeology

¶129: Social groupings create material cultures and material objects reflect and maintain group identities. The author explores the role of psychoanalysis in examining and explaining the origins and the need for these identities — and their material symbols — in the mind. He then shows that modern archaeology itself needs psychoanalysing: as a purveyor of culture, it is in the business of creating or reinforcing modern identities.

¶130: Academic copying, archaeology and the English language

¶131: The author detects a new undisciplined movement in academic writing. (though we still apply all the strictures here. Ed.).

¶132: Welsh Megaliths and a New Stone Age for south-east England

¶133: Places of Special Virtue: Megaliths in the Neolithic landscapes of Wales

¶134: Towards a New Stone Age: aspects of the Neolithic in South-east England

¶135: Maya Matters

¶136: Ancient Maya Commoners.

¶137: In the Maw of the Earth Monster: Mesoamerican ritual cave use.

¶138: Piedras Negras Archaeology, 1931-1939. Piedras Negras Preliminary Papers & Piedras Negras Archaeology: Architecture.

¶139: The Madrid Codex: new approaches to understanding an Ancient Maya manuscript.

¶140: Olmec Art at Dumbarton Oaks (Pre-Columbian Art at Dumbarton Oaks 2).

¶141: Statues and societies in the ancient world

¶142: The Graven Image: representation in Babylonia and Assyria.

¶143: Idols of the People: miniature images of clay in the ancient Near East.

¶144: Statues in Roman Society: representation and response.

¶145: The Poetics of Appearance in the Attic Korai.

¶146: Archaic Korai.

¶147: Greeks at home and abroad

¶148: Miletos: a history.

¶149: Megara Hyblaia and Selinous: the development of two Greek city-states in Archaic Sicily

¶150: Household and city organization at Olynthus.

¶151: Alive and well: the state of Roman pottery studies

- ¶152: Etudes sur la céramique romaine tardive d'Afrique
- ¶153: LRCW I. Late Roman Coarse Wares, Cooking Wares and Amphorae in the Mediterranean: archaeology and archaeometry
- ¶154: Between East and West in Antiquity -
- ¶155: Byzantine Butrint: excavations and surveys 1994-1999.
- ¶156: Epirus Vetus: the Archaeology of a Late Antique Province.
- ¶157: The Theatre at Butrint: Luigi Maria Ugolini's excavations at Butrint, 1928-1932 (
- ¶158: Cultic Theatres and Ritual Drama: a study in regional development and religious interchange between East and West in Antiquity.
- ¶159: Coastal collectors in the Holocene: the Chantuto people of southwest Mexico.
- ¶160: Maya political science: time, astronomy and the cosmos.
- ¶161: The Early Dilmun settlement at Saar (London-Bahrain Archaeological Expedition Saar Excavation Report 3).
- ¶162: Changing social identity with the spread of Islam: archaeological perspectives
- ¶163: Money on the Silk Road: the evidence from eastern central Asia to c. AD 800, including a catalogue of the coins collected by Sir Aurel Stein.
- ¶164: Arab-Byzantine Coinage (Study in the Khalili Collection Volume IV).
- ¶165: Moab in the Iron Age: hegemony, polity, archaeology.
- ¶166: Sacrificial landscapes: cultural biographies of persons, objects and 'natural' places in the Bronze Age of the southern Netherlands, c. 2300-600 BC
- ¶167: Décors, images et signes de l'âge du Fer européen.
- ¶168: Gravelly Guy, Stanton Harcourt, Oxfordshire: the development of a prehistoric and Romano-British community
- ¶169: Mountain and orefields: metal mining landscapes of mid and north-east Wales
- ¶170: L'arpentage romain: histoire des textes, droit, techniques.
- ¶171: After Antiquity: ceramics and society in the Aegean from the 7th to the 20th century A.C. A case study from Boeotia, Central Greece
- ¶172: Ribe excavations 1970-76, Volume 5
- ¶173: Using computers in archaeology: towards virtual pasts.
- ¶174: CAD: a guide to good practice
- ¶175: PROFESSOR J.G. EVANS 1941–2005
- ¶176: ISSUE 2
- ¶177: Tectonics and human evolution



¶178: The authors propose a new model for the origins of humans and their ecological adaptation. The evolutionary stimulus lies not in the savannah but in broken, hilly rough country where the early hominins could hunt and hide. Such 'roughness', generated by tectonic and volcanic movement characterises not only the African rift valley but probably the whole route of early hominin dispersal.

¶179: Neighbours: Negotiating space in a prehistoric village

¶180: This paper shows the remarkable level of social history that can be drawn from the high quality excavation and analysis of a well-preserved stratigraphic sequence. A Bronze Age settlement in Cyprus could be defined as a series of households, comprising dwellings, outbuildings and courtyards that were established, extended, replaced or abandoned over some 500 years. The authors' interpretation offers intimate access to the private lives of the inhabitants over a period in which their settlement grew from a village to a town and then reverted to a deserted ruin.

¶181: Kurgans and nomads: new investigations of mound burials in the southern Urals

¶182: A new study of the group of kurgans (burial mounds) which stands near Orenburg at the south end of the Ural mountains has revealed a sequence that began in the early Bronze Age and continued intermittently until the era of the Golden Horde in the Middle Ages. The application of modern techniques of cultural and environmental investigation has thrown new light on the different circumstances and contexts in which mound burial was practised, and confirmed the association between investment in burial and nomadism.

¶183: Trees in Udmurt religion

¶184: Prehistorians and early historic archaeologists often puzzle over seemingly random distributions of artefacts remote from settlements. Here is at least one possible explanation. Using ethnographic and archaeological evidence 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.

¶185: Antiquity of early Holocene small-seed consumption and processing at Danger Cave

¶186: When did people start to eat small seeds, and what drove them to it? New investigations and dating at the Danger Cave in the American Great Basin show that seeds (pickleweed seeds) did not become part of the staple diet until after 8700 b.p. It was at this time that animal and plant resources had begun to seriously diminish in a shrinking wetland.

¶187: Prehistoric human impacts on Rapa, French Polynesia

¶188: New excavations and survey on the island of Rapa have shown that a rockshelter was occupied by early settlers around AD 1200 and the first hill forts were erected about 300 years later. Refortification occurred up to the contact period and proliferated around AD 1700. Taro cultivation in terraced pond-fields kept pace with the construction of forts. The authors make a connection between fort-building and making pond-fields, demonstrating that the pressure on resources provoked both the intensification of agriculture and hostility between the communities of the small island.

¶189: New evidence for the origins of sedentism and rice domestication in the Lower Yangzi River, China

¶190: A newly discovered site at Shangshan in the Lower Yangzi River region has revealed the oldest open-air sedentary village and domesticated rice in south China.

¶191: Chronology of the earliest pottery in East Asia: progress and pitfalls

¶192: The origin of pottery is among the most important questions in Old World archaeology. 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', he proposes that food-containers made of burnt clay originated in East Asia in the Late Glacial, c. 13 700-13 300 BP, and appeared in three separate regions, in Japan, China and far eastern Russia, at about the same time.

¶193: Danish razors and Swedish rocks: Cosmology and the Bronze Age landscape

¶194: 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.

¶195: Sexual dimorphism in Upper Palaeolithic hand stencils

¶196: Sexual roles in deep prehistory are among the most intriguing puzzles still to solve. Here the author shows how men and women can be distinguished by scientific measurement in the prints and stencils of the human hand that occur widely in Upper Palaeolithic art. 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.

¶197: The Egyptian olive (*Olea europaea* subsp. *europaea*) in the later first millennium BC: origins and history using the morphometric analysis of olive stones

¶198: The authors examine a sample of olive stones from Egyptian contexts and show that from the first millennium BC, if not before, some of them relate to cultivars originating from the Levant. But equally prominent and just as early is another variety, of unknown origin and currently peculiar to Egypt. The method used is geometrical morphometric analysis – essentially classifying the olive stones by their shape.

¶199: Using Shuttle Radar Topography to map ancient water channels in Mesopotamia

¶100: The Shuttle Radar Topography Mission (SRTM) is currently producing a digital elevation model of most of the world's surface. Here the authors assess its value in mapping and sequencing the network of water channels that provided the arterial system for Mesopotamia before the petrol engine.

¶101: Reflections

¶102: Professor John Mulvaney, pioneer and champion of Australian archaeology, offers us some reflections from the vantage point of his eightieth year. On his retirement 20 years ago *Antiquity* was glad to publish his *Retrospect* (Mulvaney 1986), in which he described his awakening interest in history at Melbourne, his first visit to the Rollright Stones and his fruitful encounters with Gordon Childe, Graham Clark, Glyn Daniel, Mortimer Wheeler and many other great figures of the 50s, 60s and 70s in classrooms at Cambridge and in the field in England and Australia. This paper remains a classic of archaeological history which readers will find in our electronic archive (at <http://www.antiquity.ac.uk>). It ended with his (victorious) battle for the archaeological heritage of the Franklin River heritage of Tasmania in the early 1980s.

¶103: Now he reflects on the subsequent decades in which much has changed. Of especial interest to our readers will be Professor Mulvaney's current assessment of the Aboriginal-European discourse and the management of the Australian heritage.

¶104: Neither archaeology nor theory: a critique of Johnson

¶105: Response

¶106: Touch not the fish: the Mesolithic-Neolithic change of diet and its significance

¶107: Stable isotope analysis has startled the archaeological community by showing a rapid and widespread change from a marine to terrestrial diet (ie from fish to domesticated plants and animals) as people moved from a Mesolithic to a Neolithic culture. This could be a consequence of domestication, or as Julian Thomas (2003) proposed, of a kind of taboo ('Touch not the fish'). In a key challenge, Nicky Milner and her colleagues (2004) questioned the reality of this nutritional revolution, contrasting the message of the bones and shells found on settlement sites, with the isotope measurements in the bones of people. Here Mike Richards and Rick Schulting, champions of the diet-revolution, strongly reinforce the arguments. The change was real, it seems: so what does it mean? Milner and colleagues respond.

¶108: A response to Richards and Schulting

¶109:

¶110: Fifty years of the New Zealand Archaeological Association -

¶111: Change through Time: 50 Years of New Zealand Archaeology

¶112: Digging into History: 50 years of the New Zealand Archaeological Association.

¶113: Facts and fantasies from the Bronze Age -

¶114: Complex Societies of Central Eurasia from the 3rd to the 1st Millennium BC: Regional Specifics in Light of Global Models

¶115: The Rise of Bronze Age Society: Travels, Transmissions and Transformations.

¶116: African archaeology in broader context -

¶117: 23°S: Archaeology and Environmental History of the Southern Deserts.

¶118: African Connections: Archaeological Perspectives on Africa and the Wider World.

¶119: African Herders: Emergence of Pastoral Traditions.

¶120: North African perspectives -

¶121: Lambése, capitale militaire de l'Afrique romaine.

¶122: Synthesis: the archaeology of Fazzān

¶123: A! virgo infelix, tu nunc in montibus erras -

¶124: The Asea Valley Survey: an Arcadian mountain valley from the Palaeolithic period until modern times

¶125: Bronze Age Landscape and Society in Southern Epirus, Greece

¶126: Mediterranean pond life -

¶127: Rethinking the Mediterranean.

¶128: The Archaeology of Mediterranean Prehistory.

¶129: Prehistorians Round the Pond: Reflections on Aegean Prehistory as a Discipline.

¶130: People of the Caribbean: Cuba and Puerto Rico -

¶131: Dialogues in Cuban Archaeology.

¶132: Caribbean Paleodemography: Population, Culture History, and Sociopolitical Processes in Ancient Puerto Rico.

¶133: The Metaphysics of Apes: Negotiating the Animal-Human Boundary.

¶134: Shadows of a Northern Past: Rock Carvings of Bohuslän and Østfold.

¶135: Human Sacrifice, Militarism, and Rulership: materialization of state ideology at the Feathered Serpent Pyramid, Teotihuacan.

¶136: Gathering Hopewell: Society, Ritual, and Ritual Interaction

¶137:alls and Memory: The Abbey of San Sebastiano at Alatri (Lazio), from Late Roman Monastery to Renaissance Villa and Beyond

¶138: Alban's Buried Towns: An Assessment of St Albans' Archaeology up to AD 1600.

¶139: Grabfunde des 8. bis 11. Jahrhunderts zwischen Kongeå und Eider. Zur Bestattungssitte der Wikingerzeit im südlichen Altdänemark

¶140: The Corpus of Late Celtic Hanging-Bowls, with an account of the bowls found in Scandinavia by Sheila Raven.

¶141: The Archaeology of Cornwall: The Foundations of our Society.

¶142: Carlisle and Cumbria: Roman and medieval architecture, art and archaeology

¶143: Medieval Floor Tiles of Northern England. Pattern and Purpose: production between the 13th and 16th centuries.

¶144: From Clan to Clearance: History and Archaeology on the Isle of Barra c. 850-1850 AD

¶145: 'HE FORCED US INTO THE FRAY': VINE DELORIA, JR. (1933-2005)

¶146: ISSUE 3

¶147: Oceanic rock art: first direct dating of prehistoric stencils and paintings from New Caledonia (Southern Melanesia)

¶148: Rock art in an inland cave on the island of Lifou, New Caledonia, has been radiocarbon dated. A cluster of early paintings date to 2500 years ago, soon after the arrival of the first settlers, who must have quickly gone inland probably in pursuit of fresh water, available near the cave. 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.

¶149: Beaker age bracers in England: sources, function and use

¶150: The authors review the significance of bracers by undertaking a detailed examination of their morphology, fragmentation, manufacture and wear. The results have a number of implications regarding their use and value and 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 at <http://www.antiquity.ac.uk/projgall/woodward>.

¶151: The Pacific's earliest painted pottery: an added layer of intrigue to the Lapita debate and beyond

¶152: Lapita pottery, the herald of the settlement of the wider island Pacific, turns out to have been painted with lime and clay, to give a red and white finish over the decorated surface. The find of a pot in Vanuatu, its sherds in different states of deterioration showed why painted Lapita has previously gone unrecognised. The author suggests that it was widespread from 1000 BC and reminds us that pottery was painted in China 7000 years ago.

¶153: The 'Briquetage de la Seille' (Lorraine, France): proto-industrial salt production in the European Iron Age

¶154: The authors describe the first recognition of briquetage in Europe and the subsequent appreciation of the great prehistoric salt industry. Central to Iron Age production was the site of Briquetage de la Seille, where broken salt containers survive in mounds 12 metres high and half a kilometre long. New techniques map the source of brine, the workshops and the boilers. Salt production here knew two boom periods: the eighth to sixth and the second to first centuries BC.

¶155: Between the Mediterranean and the Sahara: geoarchaeological reconnaissance in the Jebel Gharbi, Libya

¶156: Intensive survey and three sample sections at Jebel Gharbi in north-west Libya offer a new dated sequence of the environment, and the human presence within it, from the Middle Stone Age to the early Holocene. Hunter-gatherers were continuously active, including during the hitherto elusive Later Stone Age.

¶157: King's monuments: identifying 'formlings' in southern African San rock paintings

¶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.

¶159: Vegetation and land-use at Angkor, Cambodia: a dated pollen sequence from the Bakong temple moat

¶160: Investigating the use of land during the medieval period at the celebrated ceremonial area of Angkor, the authors took a soil column over 2.5m deep from the inner moat of the Bakong temple. The dated pollen sequence showed that the temple moat was dug in the eighth century AD and that the agriculture of the immediate area subsequently flourished. In the tenth century AD agriculture declined and the moat became choked with water-plants. It was at this time, according to historical documents, that a new centre at Phnom Bakeng was founded by Yasovarman I.

¶161: Environment and culture change in Neolithic Southeast China

¶162: How did the Neolithic begin and develop in Southeast China? The author uses a highly detailed sequence of changes in sea-level, climate and vegetation to provide the back-drop – and some explanations – for the distinctive maritime community of the Taiwan Strait, whose descendants are thought to have colonised the Pacific.

¶163: The aurochs, nature worship and exploitation in eastern Gaul

¶164: The unusual assemblage of aurochs horn cores from the baths of Bourbonne-les-Bains suggests votive deposits. But were they? The authors describe the assemblage, date it to the later Roman to early medieval period, discuss its possible environmental and ritual connotations, but also raise the possibility that it relates to craft-workers making use of the hot water supply to work the horn.

¶165: The emergence of Bronze Age chariots in eastern Europe

¶166: The author presents new radiocarbon dates for chariot burials found in the region between Europe and the Urals, showing them to belong to the twentieth-eighteenth centuries BCE. These early dates, which pre-empt the appearance of the war chariot in the Near East, are transforming the ancient history of Eurasia and the early Mediterranean civilisations, pointing to the Volga-Ural area as an important centre of innovation for early Europe.

¶167: The first specialised copper industry in the Iberian peninsula: Cabezo Juré (2900-2200 BC)

¶168: A new research project has revealed a fully specialised copper industry in south-west Iberia at the beginning of the third millennium BC. The settlement is rife with hierarchy: on the slopes of the hill copper-workers smelt and cast and have their own residential zone, while an incipient aristocracy occupies a small fortification at the summit and commands all the imports and means of transport. The author sees this social system as endemic to the new industry

¶169: Quantifying the threat to archaeological sites from the erosion of cultivated soil

¶170: Ploughing is probably the greatest agent of attrition to archaeological sites world-wide. In every country, every year, a bit more is shaved off buried strata and a bit more of the past becomes unreadable. On the other hand, people must eat and crops must be planted. How can the fields be best managed to get the best of both worlds? Perhaps the most pressing need for resource managers is to know how quickly a particular field is eroding: negotiation and protection is then possible. Up to now that has been difficult to measure.

¶171: The new procedure presented here, which draws on the unexpected benefits of nuclear weapons testing, shows how variation in the concentration of the radioisotope  $^{137}\text{Cs}$  can be used to monitor soil movements over the last 40 years. The measurements allow a site's 'life expectancy' to be calculated, and there are some promising dividends for tracking site formation processes.

¶172: Bones chewed by canids as evidence for human exarnation: a British case study

¶173: Exarnation – the exposure of a corpse for stripping and possible dispersal by birds and animals – is a burial rite known from ethnographic analogy. Detecting its occurrence in the past is another matter. Here the author proposes the marking of bones by dogs and other canids as evidence of exarnation, using a British Neolithic case study.

¶174: The domestication of water: the Neolithic well at Sha'ar Hagolan, Jordan Valley, Israel

¶175: A well in the Jordan Valley shows that the Neolithic revolution included an understanding of underground water and how to access it. The excavation of the well in longitudinal cross-section is also something of a revolution in fieldwork.

- ¶176: Newgrange – a view from the platform
- ¶177: The rolling stones of Newgrange
- ¶178: 'Due diligence' and context: the Janssen Americas Collection
- ¶179: The Olmec and the origins of Mesoamerican civilisation
- ¶180: Time's arrow: the measurement and theory of archaeological time -
- ¶181: Radiocarbon and Archaeology:
- ¶182: Ancient Andean space and architecture: new syntheses and debates -
- ¶183: Palaces of the Ancient New World.
- ¶184: Pikillacta: The Wari Empire in Cuzco.
- ¶185: Cultural Landscapes in the Ancient Andes: Archaeologies of Place.
- ¶186: Bronze Age swords, graves and catalogues -
- ¶187: Die Schwerter in Ostdeutschland
- ¶188: Untersuchungen zu den urnenfelderzeitlichen Gräbern mit Waffenbeigaben vom Alpenkamm bis zur Südzone des Nordischen Kreises: eine Analyse ihrer Grabinventare und Grabformen
- ¶189: New volumes on the Vasilikos Valley in Cyprus - Ian A. Todd (ed.). Vasilikos Valley Project 7: Excavations at Kalavassos – Tenta, Volume II
- ¶190: Vasilikos Valley Project 8: Excavations at Kalavassos – Ayious
- ¶191: Vasilikos Valley Project 9: The Field Survey of the Vasilikos Valley Volume I
- ¶192: Roman nudes and athletics -
- ¶193: The Roman Nude: Heroic Portrait Statuary 200 BC-AD 300
- ¶194: Greek Athletics in the Roman World: Victory and Virtue
- ¶195: Raman Spectroscopy in Archaeology and Art History.
- ¶196: Mind and Religion: Psychological and Cognitive Foundations of Religiosity.
- ¶197: The Body as Material Culture: A Theoretical Osteoarchaeology.
- ¶198: Entering America: Northeast Asia and Beringia before the Last Glacial Maximum.
- ¶199: K'axob; ritual, work and family in an ancient Maya village
- ¶200: San Jacinto 1: A Historical Ecological Approach to an Archaic Site in Colombia.
- ¶201: Khirbet al Umbashi: Villages et campements dans le 'désert noir' (Syrie) à l'âge du Bronze
- ¶202: The Sacred Animal Necropolis at North Saqqara: The Falcon Complex and Catacomb. The Archaeological Report
- ¶203: Ägyptische Kulte und ihre Heiligtümer im Osten des Römischen Reiches
- ¶204: Les Gaules, IIè s. av. J.-C. – Vè s. ap. J.-C.

¶1205: The Archaeology of the Aru Islands, Eastern Indonesia (terra australis 22).

¶1206: Sutton Hoo: a seventh-century princely burial ground and its context

¶1207: Goodbye to the Vikings?: Re-reading Early Medieval Archaeology.

¶1208: Nonsuch Palace: The Material Culture of a Noble Restoration Household.

¶1209: Andrew Sherratt Remembered

¶1210: To say that Andrew Sherratt was an archaeologist

¶1211: A small bouncy figure in a duffle coat

¶1212: 'Have you read it?'

¶1213: ISSUE 4

¶1214: Developments in radiocarbon calibration for archaeology

¶1215: 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.

¶1216: Shell beads and social behaviour in Pleistocene Australia

¶1217: Why did Palaeolithic people wear shells, and why was the practice so widespread in the world? The authors' own researches in Western Australia show that specific marine shells were targeted, subject to special processes of manufacture into beads and that some had travelled hundreds of kilometres from their source. Whether they were brought in land by the manufacturers, or by specially ornamented people, these beads provided a symbolic language that somehow kept the early peoples of Australia in touch with the sea.

¶1218: The Teouma Lapita site and the early human settlement of the Pacific Islands

¶1219: The Teouma site, on Efate in central Vanuatu, was uncovered during quarrying in 2003 and has proved to be one of the most significant discoveries to date for the colonisation of Remote Oceania. Not only did it bring to light a fine assemblage of the famously diagnostic Lapita ceramics, but a cemetery of more than 25 individuals along with the pots. The skeletons offer an opportunity to investigate the origins of the 'Lapita people' who first appeared in the Bismarck archipelago around 3300 years ago and rapidly moved through island Melanesia and Western Polynesia over the next few centuries.

¶1220: An island decides: megalithic burial rites on Menorca

¶1221: Recent research including 781 radiocarbon dates and the excavation of Ses Arenes de Baix, has allowed a new review of the sequence of megalithic burial practice on Menorca. Rock-cut tombs, dolmens, caves with entrance-works and the famous boat-shaped houses and tombs (navetes) are placed in overlapping chronological order. The authors suggest that, while aware of contemporary



developments on the continent, the Bronze Age islanders absorbed immigrants and made their own local choices of memorial architecture.

¶1222: The emergence of the Scythians: Bronze Age to Iron Age in South Siberia

¶1223: The Minusinsk Basin is located where China, Mongolia, Siberia and Kazakhstan meet. Enclosed, but broad, and rich in copper and other minerals, the valley offers missing links between the prehistory of China and that of the greater Russian steppes. In the late Bronze Age the material from Minusinsk was important for the origins of bronze metallurgy in China, and in the Iron Age the area was a focus for the development of that equestrian mobility which was to become the elite way of life for much of the Eurasian steppe for more than a millennium.

¶1224: We are privileged to publish the following two papers deriving from research at the Institute for the History of Material Culture at Saint Petersburg, which give us the story so far on the archaeology of this remarkable place. In *The emergence of the Karasuk culture* Sophie Legrand discusses the people who occupied the Minusinsk Basin in the Bronze Age, and in *The emergence of the Tagar culture*, Nikolai Bokovenko introduces us to their successors, the horsemen and barrow-builders of the first millennium BCE.

¶1225: The emergence of the Tagar culture

¶1226: *The king and his cult: the axe-hammer from Sutton Hoo and its implications for the concept of sacral leadership in early medieval Europe*

¶1227: The iron-axe hammer from the Mound 1 ship-burial at Sutton Hoo is reinterpreted as an instrument for sacrificing animals by pole-axing. As such it is a symbol of the leader-as-priest who was a feature of both Germanic and Roman pre-Christian society. (The editor is most impressed with this interesting suggestion).

¶1228: *Inhumation and cremation in medieval Mongolia: analysis and analogy*

¶1229: The authors study burials of the medieval period in western Mongolia shortly before emergence of Genghis Khan. They find that both inhumation and cremation are practised, with a variety of accompanying rituals. Systematic micro-analysis of bone fragments on the one hand, and the accounts of early travellers on the other, allow these researchers to propose detailed explanations of mortuary practice in thirteenth century Altai that will be highly suggestive to prehistorians working elsewhere.

¶1230: *An essay on energetics: the construction of the Aztec chinampa system*

¶1231: The authors describe an ingenious Aztec form of irrigated field system and assess its costs and benefits. Swamps were reclaimed by digging channels by hand and the excavated soil used to construct embanked fields (chinampas). The banks were anchored by planted trees and the trees, the crops and the water channels created a sheltered space which itself raised the temperature and increased productivity. The construction of the whole system took 25 million person-days spread over 40 years. In their study of the energetics of construction, the authors show that this project, forced on the local community, was within their capacity and comparable to the labour expended on the production of cloth.

¶1232: *Prehistoric and early historic agriculture at Maunga Orito, Easter Island (Rapa Nui), Chile*

¶1233: A long section adjacent to a former obsidian quarry on Easter Island (Rapa Nui) reveals a sequence of agricultural strategies, beginning with the clearing of palm trees in the twelfth century

AD, and the making of an open garden growing yams and taro, that continued through the fifteenth century. The later phases between the seventeenth and nineteenth centuries include veneer and boulder gardens that reflect the broader strategy employed by the islanders to fight the increasingly arid soil.

¶1234: Evidence for cave marking by Palaeolithic children

¶1235: 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 at Rouffignac, the authors undertook experiments with a range of modern subjects who replicated the flutings with their hands. 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...

¶1236: Tracking animals using strontium isotopes in teeth: the role of fallow deer (*Dama dama*) in Roman Britain

¶1237: Using strontium isotope measurements on the teeth of fallow deer found at Fishbourne, the authors argue that these elegant creatures were first introduced into Britain as a gift to the Romanised aristocracy. Kept and bred in a special enclosure at the palace, they provided more than a status symbol and gastronomic treat: the fallow deer was an emblem of Empire.

¶1238: Engineering the past: Pitt Rivers, Nemo and The Needle

¶1239: Exploring parallels between the careers of Lt.-General Pitt Rivers and Verne's Captain Nemo, this essay is concerned with time and disciplinary flagships. It considers how their respective collection activities propelled their very personal projects of science and, in the case of the General, its interrelationship with the institutionalisation of archaeology in the later nineteenth century. In particular, the implications of his renowned excavation medallion will be discussed and compared to a celebrated time capsule of the period; it being argued that 'deep time' consciousness itself engendered notions of futuristic projection.

¶1240: Archaeology, e-publication and the Semantic Web

¶1241: In 1996 'Internet Archaeology', the first peer-reviewed e-journal for Archaeology, published its first edition (Heyworth et al. 1997). Later the same year the Archaeology Data Service, the first digital archive for archaeology, was established (Richards 1997). Ten years on, this paper examines the rapid changes which have taken place in electronic publication and looks forward to the next ten years. It examines the pressures on traditional journal publication, and discusses the potential impact on Archaeology of the next Internet revolution, the Semantic Web.

¶1242: Figures, figurines and Colin Renfrew

¶1243: Are modern artworks really comparable in any serious way to ancient monuments? Has Colin Renfrew changed sides in the conflict of reason with intuition in modern archaeology? Leo Klejn thinks so. Colin Renfrew responds, below.

¶1244: Brief reply to Leo S. Klejn

¶1245: From Digger to Director, Cornwall to Caithness

- ¶1246: Roger Mercer, prehistorian and formerly Secretary of the Royal Commission of Ancient and Historical Monuments for Scotland, looks back.
- ¶1247: A tale of two projects in North America's Southwest -
- ¶1248: Casas Grandes and its Hinterland: Prehistoric Regional Organization in Northwest Mexico.
- ¶1249: Homol'ovi III: A Pueblo Hamlet in the Middle Little Colorado River Valley, Arizona
- ¶1250: Homol'ovi: An Ancient Hopi Settlement Cluster.
- ¶1251: Reclaiming a Plundered Past: Archaeology and Nation Building in Modern Iraq.
- ¶1252: The Secret History of Emotion: From Aristotle's Rhetoric to Modern Brain Science.
- ¶1253: Envisioning the Past: Archaeology and the Image.
- ¶1254: Defensola: una miniera di selce di 7000 anni fa.
- ¶1255: Visual Culture and Archaeology: Art and Social Life in Prehistoric South-East Italy.
- ¶1256: Kommos V: The Monumental Minoan Buildings at Kommos (Kommos, An Excavation on the South Coast of Crete by the University of Toronto under the auspices of the American School of Classical Studies at Athens, Volume V).
- ¶1257: Kommos, a Minoan Harbour Town and Greek Sanctuary in Southern Crete.
- ¶1258: The Archaeology of Early Egypt: Social Transformations in North-East Africa, 10000 to 2650 BC.
- ¶1259: Science and Civilisation in China
- ¶1260: The Evolution of Complex Hunter-Gatherers: Archaeological Evidence from the North Pacific.
- ¶1261: Many Exchanges: archaeology, history, community and the work of Isabel McBryde
- ¶1262: Théorie et pratique de l'architecture romaine: études offertes à Pierre Gros.
- ¶1263: The Religious Reuse of Roman Structures in Early Medieval England
- ¶1264: The Towns of Palestine under Muslim Rule, AD 600-1600
- ¶1265: The Anglo-Saxon Cemetery at Finglesham, Kent
- ¶1266: The Gaelic Lordship of the O'Sullivan Beare: A Landscape Cultural History.
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- ¶1271: Marcel Mauss: Techniques, Technology and Civilisation.
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¶304: Making a Landscape Sacred: Outlying Churches and Icon Stands in Sphakia, Southwestern Crete.

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¶308: Haspels Addenda.

¶309: The Classical world -

¶310: Troy: From Homer's Iliad to Hollywood Epic.

¶311: Classics and the Uses of Reception.

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¶313: The Mother of the Gods, Athens, and the Tyranny of Asia.

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¶315: Alexander's Tomb: The Two Thousand Year Obsession to Find the Lost Conqueror.

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¶1370: The Moneylender's Daughter (novel set in 1637).

¶1371: The Fall of Rome and the end of civilization.

## **Name:** Antiquity 2007 abstracts

¶1: Antiquity 2007 abstracts

¶2: ISSUE 1

¶3: The Iron Age ritual building at Uppåkra, southern Sweden

¶4: Six years ago we reported the discovery of a central place at Uppåkra in southern Sweden which promised to be unusually rich and informative (Hårdh 2000). At 40ha it already stood out as the largest concentration of residual phosphate in the whole province of Scania, with surface finds of Roman and late Iron Age metalwork (second-tenth century AD). Following this thorough evaluation, the project moved into its excavation phase which has brought to light several buildings of the first millennium AD, among them one that has proved truly exceptional. 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 and it is already sign-posting new directions for the early middle ages in northern Europe.

¶5: The world recreated: redating Silbury Hill in its monumental landscape

¶6: A classic exposition of the difficulties of dating a major monument and why it matters. Silbury Hill, one of the world's largest prehistoric earth mounds, is too valuable to take apart, so we are reliant on samples taken from tunnels and chance exposures. Presenting a new edition of thirty radiocarbon dates, the authors offer models of short- or long-term construction, and their implications for the ritual landscape of Silbury and Stonehenge. The sequence in which monuments, and bits of monuments, were built gives us the kind and history of societies doing the building. So nothing matters more than the dates...

¶7: Grape-pressings from northern Greece: the earliest wine in the Aegean?

¶8: Houses burnt down at the Neolithic site of Dikili Tash in northern Greece preserved the remains of wild grapes and figs. The charred shapes showed that there was a pile of grape pips with skins – clear evidence for the extraction of juice. The authors argue that the juice was probably used to make wine – towards the end of the fifth millennium BC the earliest so far from the Aegean. The occupants of the houses also had two-handed cups, providing another clue to consumption of a special kind.

¶9: The transition to farming in eastern Africa: new faunal and dating evidence from Wadh Lang'o and Usenge, Kenya

¶10: The exploratory investigation of two sites in Kenya throws new light on the transition from a 'stone age' to an 'iron age'. The model of widespread cultural replacement by Bantu-speaking iron producers is questioned and instead the authors propose a long interaction with regional variations. In matters of lithics, ceramics, hunting, gathering, husbandry and cooking, East African people created local and eclectic packages of change between 1500BC and AD500.

¶11: The Aurignacian in the Zagros region: new research at Yafteh Cave, Lorestan, Iran

¶12: The Yafteh cave in Iran has an intact Aurignacian sequence over 2m deep. First explored by Frank Hole and Kent Flannery in the 1960s, its strata and assemblage are here re-evaluated at first hand by a new international team. The authors show that the assemblage is genuine Aurignacian



and dates back to about 35.5K uncal BP. They propose it as emerging locally and even as providing a culture of origin for modern humans in West Asia and Europe.

¶13: Late Magdalenian feminine flint plaquettes from Poland

¶14: The remains of a hunting site dated to 15000 years ago, captured in an ice wedge, included woolly rhinoceros, horse and arctic fox. Also present were 30 flint plaquettes with curvy feminine outlines. The authors show that these unworn flint profiles can be assigned to a canon of Magdalenian art that extends over much of northern Europe.

¶15: Pottery Neolithic landscape modification at Dhra'

¶16: This report of the discovery of low walls running across the slopes east of the Dead Sea presents an important landmark in the history of farming, for these were terrace walls put in place to conserve soil and control water around 6000 cal BC. The authors point to some of the implications of what they see as early landscape modification at the scale of a small community or household.

¶17: Networks and nodal points: the emergence of towns in early Viking Age Scandinavia

¶18: Did towns return to early medieval Europe through political leadership or economic expansion? This paper turns the spotlight on a particular group of actors, the long-distance traders, and finds that they stimulated proto-towns of a special kind among the Vikings. While social and economic changes, and aristocratic advantage, were widespread, it was the largely self-directed actions of these intrepid merchants which created what the author calls 'the nodal points.' One can think of many other periods and parts of the world in which this type of non-political initiative may well have proved pivotal.

¶19: A hierarchy of servitude: ceramics at Lake Innes Estate, New South Wales

¶20: A British colonial estate in eastern Australia, built by 1830 and abandoned 20 years later, survives as the ruins of the Big House surrounded by stables, a farm and servants' quarters. The authors recovered pottery assemblages from a number of different servants' dwellings and here show that they differed from each other, revealing a 'hierarchy of servitude'. It is natural to think that such a situation would provide helpful analogies for earlier empires, like the Roman, but historical archaeology has its own framework, varying even from country to country.

¶21: Formation and destruction of pastoral and irrigation landscapes on the Mughan Steppe, north-western Iran

¶22: CORONA satellite photography taken in the 1960s continues to reveal buried ancient landscapes and sequences of landscapes – some of them no longer visible. In this new survey of the Mughan Steppe in north-western Iran, the authors map a 'signature landscape' belonging to Sasanian irrigators, and discover that the traces of the nomadic peoples that succeeded them also show up on CORONA – in the form of scoops for animal shelters. The remains of these highly significant pastoralists have been virtually obliterated since the CORONA surveys by a new wave of irrigation farming. Such archaeological evaluation of a landscape has grave implications for the heritage of grassland nomads and the appreciation of their impact on history.

¶23: Evaluation of Corona and Ikonos high resolution satellite imagery for archaeological prospection in western Syria

¶24: Satellite surveys in Syria have made use of imagery recorded some 30 years apart. By comparing the earlier pictures (Corona) with the later (Ikonos), sites captured on the former can be accurately

located by the latter. The comparison also reveals the stark implications for archaeology as large parts of west Asian landscape change from a state of 'benign neglect' to active redevelopment. Based on their experience in the Homs survey, the authors have important advice to offer in the design and costing of surveys using satellite imagery.

¶125: Regional groups in the European Middle Gravettian: a reconsideration of the Rayssian technology

¶126: The Gravettian is considered one of the first pan-European cultures of the Upper Palaeolithic, spreading from Portugal to Russia between 28-20000 years BP and characterised by backed blades and points. The Noaillian is a local variant in southern Europe (Northern Spain, Southern France and Italy). In France Noaillian is supposedly evolving into the Rayssian which is replaced later by recent Gravettian. By reconsidering the formation processes of some key stratigraphic sequences, the author demonstrates that the Rayssian is an idiosyncratic culture that does not have abrupt-backed bladelets, and that runs chronologically in parallel with the others. A case study, based on new work at the site of La Picardie (Indre-et-Loire), suggests that we should expect to define different contemporary regional groups during this long period.

¶127: History and archaeology: the state of play in early medieval Europe

¶128: How useful is archaeology to historians? Do they use it in their work? If so how? Catherine Hills considers a number of mighty histories of early medieval Europe that have recently appeared and examines how far the extremely productive archaeology of the last two decades has affected them – or failed to.

¶129: Early Formative pottery trade and the evolution of Mesoamerican civilisation

¶130: The perils of pseudo-Orwellianism

¶131: Whither processualism? -

¶132: Archaeology as a Process: Processualism and its Progeny.

¶133: Processual Archaeology: Exploring Analytical Strategies, Frames of Reference, and Culture Process.

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¶135: The Bible and Radiocarbon Dating: Archaeology, Text and Science.

¶136: David and Solomon: In Search of the Bible's Sacred Kings and the Roots of the Western Tradition.

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¶138: Tiwanaku and beyond: recent research in the South Central Andes -

¶139: Advances in Titicaca Basin Archaeology 1.

¶140: Andean Diaspora: The Tiwanaku Colonies and the Origins of South American Empire.

¶141: Wankarani Settlement Systems in Evolutionary Perspective: A Study in Early Village-Based Society and Long-Term Cultural Evolution in the South-Central Andean Altiplano (Memoirs in Latin American Archaeology 15).

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- ¶143: Beneath the Seven Seas: Adventures with the Institute of Nautical Archaeology.
- ¶144: Serçe Limani, an Eleventh-Century Shipwreck Volume 1: The Ship and its Anchorage, Crew and Passengers
- ¶145: The Dover Bronze Age boat.
- ¶146: The Archaeology of Warfare: Prehistories of Raiding and Conquest.
- ¶147: Documenting Domestication: New Genetic and Archaeological Paradigms.
- ¶148: Early Village life at Beidha, Jordan: Neolithic Spatial Organization and Vernacular Architecture. The excavations of Mrs. Diana Kirkbride-Helbaek
- ¶149: Inside the Neolithic Mind: Consciousness, Cosmos and the Realm of Gods.
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- ¶151: Symbols and warriors: images of the European Bronze Age.
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- ¶155: The Tomb of Pay and Raia at Saqqara
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- ¶165: Troy: From Homer's Iliad to Hollywood Epic.
- ¶166: In Pursuit of Ancient Pasts: A History of Classical Archaeology in the Nineteenth and Twentieth Centuries.
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- ¶168: Women in the Athenian Agora.

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- ¶170: The Agricultural Revolution in Prehistory: Why did foragers become farmers?
- ¶171: Ethnobiology and the Science of Humankind
- ¶172: Archaeology and Ethnoarchaeology of Mobility.
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- ¶174: Beasts of the Field: The Revealing Natural History of Animals in the Bible.
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- ¶178: Archaeology, Cultural Heritage, and the Antiquities Trade.
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- ¶180: Parts and Wholes: Fragmentation in Prehistoric Context.
- ¶181: Between Dirt and Discussion: Methods, Methodology, and Interpretation in Historical Archaeology.
- ¶182: European prehistory -
- ¶183: The Killing Fields of Zwoleń: A Middle Paleolithic Kill-Butchery-Site in Central Poland.
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- ¶186: Prehistoric Figurines: Representation and Corporeality in the Neolithic.
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- ¶188: Die Frühen Völker Eurasiens vom Neolithikum bis zum Mittelalter.
- ¶189: Worshippers and Warriors: reconstructing gender relations in the prehistoric rock art of Naquane National Park, Valcamonica, Brescia, northern Italy
- ¶190: Funde ostkarpatenländischen Typs im Karpatenbecken
- ¶191: Die Schutzwaffen der Skythen
- ¶192: Mediterranean archaeology -
- ¶193: The Aegean from Bronze Age to Iron Age: Continuity and change between the twelfth and eighth centuries BC.
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- ¶147: The English landscape in the twentieth century.
- ¶148: Stonehenge: the biography of a landscape.

- ¶149: Inscribed across the landscape: the cursus enigma.
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- ¶151: The tomb builders in Wales 4000-3000 BC.
- ¶152: A woodland archaeology: Neolithic sites at Haddenham
- ¶153: Marshland communities and cultural landscapes from the Bronze Age to present day
- ¶154: Raunds Area Survey: an archaeological study of the landscape of Raunds, Northamptonshire 1985-94.
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- ¶175: The Quest for the Ark of the Covenant: The True History of the Tablets of Moses.
- ¶176: ISSUE 2
- ¶177: An interpretation of the Nebra disc

¶178: The Nebra disc is one of the most sensational European discoveries of the decade. It appears to carry symbols of the sun, moon and stars wrought in gold on a flat bronze disc just over a foot across (320mm). It is not only very strange, but, famously, appears to be winking, initially raising the suspicion that it may be a hoax. Scholars have, however, claimed it firmly for the Bronze Age, 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.

¶179: Designs and designers of medieval 'new towns' in Wales

¶180: Medieval 'new towns' seem to echo Roman towns in having a grid of streets associated with a fortress, and have often been credited with a standard plan applied by the hand of authority. Here the authors analyse the new towns founded by Edward I in Wales and find some highly significant variations. Rediscovering the original layouts by high precision survey and GIS mapping, they show that some towns, founded at the same time and on similar topography, had quite different layouts, while others, founded at long intervals, had plans that were almost identical. Documentation hints at the explanation: it was the architects, masons and ditch-diggers, not the king and aristocracy, who established and developed these blueprints of urban life.

¶181: The transition from the Lower to the Middle Palaeolithic in Europe and the incorporation of difference

¶182: The author argues for a significant social and cognitive transition between the Lower and Middle Palaeolithic in Europe. Between about 300 000 and 200 000 years ago, early Neanderthals developed stone working techniques which combined methods that were previously discrete, began to occupy high-relief terrain and to settle systematically the highly seasonal environments of central and eastern Europe – skill-sets here termed the 'incorporation of difference'. These findings make us rethink the competence of pre-modern hominins and to review, in the author's words, 'the boundaries we erect to police the uniqueness of humanity'.

¶183: A shark-tooth ornament from Pleistocene Sahul

¶184: The tooth of a tiger shark, perforated to make a pendant, was lost in New Ireland, New Guinea between 39500 and 28000 years ago. The author argues that this has to be the work of anatomically modern humans, and implies the use of symbolic language not only across the former continent of Sahul, but also Eurasia.

¶185: Presumed domestication? Evidence for wild rice cultivation and domestication in the fifth millennium BC of the Lower Yangtze region

¶186: Prompted by a recent article by Jiang and Liu in *Antiquity* (80, 2006), Dorian Fuller and his co-authors return to the question of rice cultivation and consider some of the difficulties involved in identifying the transition from wild to domesticated rice. Using data from Eastern China, they propose that, at least for the Lower Yangtze region, the advent of rice domestication around 4000 BC was preceded by a phase of pre-domestication cultivation that began around 5000 BC. This rice, together with other subsistence foods like nuts, acorns and waterchestnuts, was gathered by sedentary hunter-gatherer-foragers. The implications for sedentism and the spread of agriculture as a long term process are discussed.

¶187: Beating ploughshares back into swords: warfare in the Linearbandkeramik

¶188: Armed with a number of powerful arguments, the authors invite us to face up to the evidence for violence in early Neolithic Europe. Linearbandkeramik (LBK) people first attacked the hunter-



gatherers they encountered and then entered a period of increasingly violent warfare against each other, culminating in an intense struggle in the area of central and western Germany. The building of fortifications, physical mutilation and cannibalism, while no doubt enacted with ritual airs, nevertheless had their context and purpose in the slaughter of enemies.

¶189: What linked the Bell Beakers in third millennium BC Europe?

¶190: In this important new review the author shows that neither trade nor migration can account for the distribution of Bell Beakers and the associated artefacts and burial practices in Europe. The materials were generally local and rooted in local know-how. However recent stable isotope results show small-scale population changes associated with the arrival of Beaker practice. The distribution of Bell Beakers could thus reflect the movement of marriage partners.

¶191: Towards a refined chronology for the Bronze Age of the southern Urals, Russia

¶192: Cultural interactions in central Russia are famously complex, but of very wide significance. Within the social changes they imply are contained key matters for Europe and Asia: the introduction of Indo-Europeans and other languages, the horse and the chariot, and the transition towards nomadism. 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: Creating urban communities at Kilwa Kisiwani, Tanzania, AD 800-1300

¶194: Urban communities on the medieval East African coast have been previously discussed in terms of ethnicity and migration. Here assemblages from coastal towns and from surface survey in the interior are used to paint a different picture of urban (Swahili) origins. The author shows that coast and interior shared a common culture, but that coastal sites grew into 'stonetowns' thanks to the social impact of imports: the material culture structured the society.

¶195: Materiality and memory: an archaeological perspective on the popular adoption of linear time in Britain

¶196: Stones in the snow: a Norse fur traders' road into Sami country

¶197: High in the mountains between Norway and Sweden, archaeological survey has brought to light a trail marked by standing stones at regular intervals and tall enough to show above the winter snows. 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. The authors argue that this was not an indigenous trail but one constructed by a Norse chieftain probably around the ninth century AD to gain safe access to the fur-trading Sami.

¶198: Determining style in Palaeolithic cave art: a new method derived from horse images

¶199: How can we explain the variations and similarities of Palaeolithic art? Are we to suppose that European artists conformed to one great evolutionary sequence over 20 millennia? Or is the variation geographical, ideological or social? 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. Here is a method of great potential for revealing conservative and innovative trends.

¶1200: A weapon of choice – experiments with a replica Irish Early Bronze Age halberd

¶1201: The halberd – a famous weapon of prehistoric Europe – is thought by some to have had a symbolic rather than a functional purpose. To find out if, and how, it might have worked as a weapon, the author tested a replica on a number of sheep's heads, finding it highly effective in administering killer blows. Studies taking off from these experiments show that the halberd probably performed both in fighting and ritual, and in ritualised fighting, during its predominance in the Early Bronze Age.

¶1202: Dazzled at Afghanistan's cross-roads

¶1203: Imag(in)ing the Celts

¶1204: In the latest of his periodic reviews of Celtic exhibitions in the pages of *Antiquity* (Megaw 1981; 1992; 1994) Vincent resumes the Grand Tour and evaluates a series of such events over the past decade.

¶1205: Archaeology at St Petersburg University (from 1724 until today)

¶1206: We owe Professor Tikhonov warmest thanks for this brief history of academic archaeology at St Petersburg. As well as applauding the department's many achievements, readers of our Debate section will no doubt take note of a bleak period in its eventful history, one marked by a tendency to 'substitute socio-political subjects for specialist courses' and 'the growing disparagement of highly skilled researchers and teachers'. If suitably candid authors can be found, we look forward to receiving similarly instructive intellectual biographies of archaeology departments and institutes from around the world.

¶1207: Early fig domestication, or gathering of wild parthenocarpic figs?

¶1208: Forest monumentality and marshland domesticity? The changing landscape of Haddenham -

¶1209: A woodland archaeology: Neolithic sites at Haddenham

¶1210: Marshland communities and cultural landscapes from the Bronze Age to present day

¶1211: Luxury Goods in the Ancient Near East -

¶1212: Cult Image and Divine Representation in the Ancient Near East.

¶1213: Luxury and Legitimation: Royal Collecting in Ancient Mesopotamia.

¶1214: Diplomacy by Design: Luxury Arts and an 'International Style' in the Ancient Near East, 1400-1200 BCE.

¶1215: Town and country in medieval Scandinavia -

¶1216: Boringholm: en østjysk træborg fra 1300-årene/Boringholm: a fourteenth-century timber castle in eastern Jutland

¶1217: Tårnby: Gård og landsby gennem 1000 år/Tårnby: Farm and village throughout a thousand years

¶1218: Viborg Sønderlø 1018-1030: Arkæologi og naturvidenskab i et værkstedsområde fra vikingetid/Viborg Sønderlø 1018-1030 :archaeology and science in a Viking workshop area

¶1219: Bergen c. 800-c. 1170: The Emergence of a Town

¶1220: Archaeological Fantasies: How pseudoarchaeology misrepresents the past and misleads the public.

¶1221: The Ethics of Archaeology: Philosophical Perspectives on Archaeological Practice.

¶1222: Stone knapping: the necessary conditions for a uniquely hominin behaviour.

¶1223: Myths in Stone: World of Rock Art in Russia

¶1224: (Un)settling the Neolithic.

¶1225: How Did Farming Reach Europe? Anatolian-European relations from the second half of the 7th through the first half of the 6th millennium cal BC

¶1226: Early Urbanism on the Syrian Euphrates.

¶1227: Das anatolische Chalkolithikum: eine chronologische Untersuchung zur vorbronzezeitlichen Kultursequenz im nördlichen Zentralanatolien und den angrenzenden Gebieten

¶1228: The Early Iron Age Cemetery at Torone

¶1229: Mediterranean Urbanization 800-600 BC

¶1230: Espadas de hierro, grebes de bronce: Símbolos de poder e instrumentos de guerra a comienzos de la Edad del Hierro en la Península Ibérica

¶1231: British Iron Age Swords and Scabbards.

¶1232: Chorologische Untersuchungen in dem spätkeltischen Oppidum bei Manching am Beispiel der Grabungsflächen der Jahre 1965-1967 und 1971 and Hermann Gersden. Fundstellenübersicht der Grabungsjahre 1961-1974

¶1233: Roman pottery production in the Walbrook valley: Excavations at 20-28 Moorgate, City of London, 1998-2000

¶1234: Archaeology of Early Buddhism.

¶1235: Papuan pasts: cultural, linguistic and biological histories of Papuan-speaking peoples

¶1236: The Memory of Bones: Body, Being, and experience among the Classic Maya.

¶1237: Ribe Studier. Det Aeldste Ribe: Udgravninger på nordsiden af Ribe Å 1984-2000.

¶1238: Making sense of archaeology -

¶1239: Archaeology is a brand!: the meaning of archaeology in contemporary popular culture.

¶1240: The Archaeology of the East Midlands: An Archaeological Resource Assessment and Research Agenda

¶1241: Archaeological Resource Management in the UK: An Introduction.

¶1242: Tracking Ancient Footsteps: William D. Lipe's Contribution to Southwestern Prehistory and Public Archaeology.

¶1243: Managing Archaeological Data: Essays in Honor of Sylvia W. Gaines

¶1244: Final report: An Archaeologist Excavates His Past.

- ¶1245: People of the Eurasian steppes -
- ¶1246: Krasnoznamenskii Burialground: Early Scythian Elite Burial-mounds in the Northern Caucasus
- ¶1247: Proceedings of the Royal Irish Academy,
- ¶1248: Rivista di Scienze Preistoriche
- ¶1249: Zeitschrift für Archäologie Ausereuropäischer Kulturen,
- ¶1250: Monumental Ambivalence: The Politics of Heritage.
- ¶1251: «In Comes I»: Performance, Memory and Landscape.
- ¶1252: The Archaeology of Identities: A Reader.
- ¶1253: The Archaeology of Food and Identity
- ¶1254: Constructing Power – Architecture, Ideology and Social Practice
- ¶1255: Spaces speak, are you listening? Experiencing aural architecture.
- ¶1256: Archaeological Semiotics.
- ¶1257: The World System and the Earth System: Global Socioenvironmental Change and Sustainability since the Neolithic.
- ¶1258: The Recurring Dark Ages: Ecological Stress, Climate Changes, and System Transformation.
- ¶1259: European prehistory -
- ¶1260: When Neanderthals and Modern Humans Met
- ¶1261: The Palaeolithic Occupation of Vogelherd Cave: Implications for the Subsistence Behavior of Late Neanderthals and early Modern Humans
- ¶1262: In the Wake of a Woman: Stone Age Pioneering of North-eastern Scania, Sweden, 10 000-5000 BC, The Årup Settlements
- ¶1263: Le plateau de Mondeville (Calvados) du néolithique a l'âge du bronze
- ¶1264: Die Kelten in der Schweiz.
- ¶1265: Entre Iberos y Celtas: Las Espadas de Tipo La Tène del Morreste de la Península Ibérica
- ¶1266: Aegean and eastern Mediterranean archaeology -
- ¶1267: Cooking up the past: Food and Culinary Practices in the Neolithic and Bronze Age Aegean.
- ¶1268: Markiani, Amorgos: An Early Bronze Age Fortified Settlement, Overview of the 1985-1991 Excavations.
- ¶1269: Pictorial pursuits: Figurative painting on Mycenaean and Geometric pottery. Papers from two seminars at the Swedish Institute at Athens 1999 and 2001
- ¶1270: Pottery and Society: The Impact of Recent Studies in Minoan pottery. Gold Medal Colloquium in honour of Philip P. Betancourt

- ¶1271: Επιστημονική Επετηρίς του Τμήματος Αρχαιοτήτων Κύπρου/Report of the Department of Antiquities, Cyprus.
- ¶1272: Annual Report of the Department of Antiquities for the year 2004.
- ¶1273: Annual Report of the Department of Antiquities for the year 1999.
- ¶1274: Classical and Hellenistic periods -
- ¶1275: Swedish Institute at Athens. Opuscula Atheniensi
- ¶1276: Portrait of a Priestess: Women and Ritual in Ancient Greece.
- ¶1277: Hellenistic Pottery: The Plain Wares (The Athenian Agora, Results of Excavations conducted by the American School of Classical Studies at Athens Volume 33).
- ¶1278: The Greek Tile Works at Corinth: The Site and the Finds
- ¶1279: The Chrysokamino Metallurgy Workshop and Its Territory
- ¶1280: Corpus Vasorum Antiquorum,
- ¶1281: Classical Sculpture: Catalogue of the Cypriot, Greek, and Roman Stone Sculpture in the University of Pennsylvania Museum of Archaeology and Anthropology.
- ¶1282: Origins of Democracy in Ancient Greece.
- ¶1283: The Panathenaic Games
- ¶1284: The Theatricality of Greek Tragedy: Playing Space and Chorus.
- ¶1285: Etruscan and Roman periods -
- ¶1286: Etruscan Myth, Sacred History and Legend.
- ¶1287: The Insula of the Menander at Pompeii, Volume 3: The Finds, a Contextual Analysis.
- ¶1288: Floods of the Tiber in Ancient Rome.
- ¶1289: Ancient Rome on Five Denarii a Day.
- ¶1290: Between Text and Territory: Survey and Excavations in the Terra of San Vincenzo Al Volturno
- ¶1291: City of the Sharp-nosed Fish: Greek Lives in Roman Egypt.
- ¶1292: L'architecture de la Gaule romaine: les fortifications militaires
- ¶1293: Cosmetics & Perfumes in the Roman World.
- ¶1294: The Birthday Book.
- ¶1295: Romula, Revista del Seminario de Arqueología de la Universidad Pablo de Olavide de Sevilla
- ¶1296: Western Asia -
- ¶1297: Settlement and Society: Essays Dedicated to Robert McCormick Adams.
- ¶1298: The City of Ugarit at Tell Ras Shamra.

¶1299: The Evolution of Long Distance Trading Relationships across the LBA/Iron Age Transition on the Northern Levantine Coast: Crisis, continuity and change

¶1300: Food for the Gods: New Light on the Ancient Incense Trade.

¶1301: The Heritage of Eastern Turkey from Earliest Settlements to Islam.

¶1302: Islamic Art and Archaeology of Palestine

¶1303: Paléorient. Revue pluridisciplinaire de préhistoire et protohistoire de l'Asie du Sud-Ouest et de l'Asie centrale

¶1304: Eastern Asia -

¶1305: Excavating Asian History: Interdisciplinary Studies in Archaeology and History.

¶1306: Auf den Spuren der Ostbarbaren: Zur Archäologie protohistorischer Kulturen in Südkorea und Westjapan

¶1307: Egypt and Africa -

¶1308: The Royal Tombs of Egypt: The Art of Thebes Revealed.

¶1309: The Complete Tutankhamun: The King. The Tomb. The Royal Treasure.

¶1310: The Great Pyramid: Ancient Egypt Revisited.

¶1311: An A to Z of Ancient Egypt.

¶1312: Aghram Nadharif: The Barkat Oasis (Sha Abiya of Ghat, Libyan Sahara) in Garamantian Times

¶1313: Americas -

¶1314: The Stone Age of Qeqertarsuup Tunua (Disko Bugt): a regional analysis of the Saqqaq and Dorset cultures of Central West Greenland

¶1315: Paleoindian Archaeology: A Hemispheric Perspective.

¶1316: Tatham Mound and the Bioarchaeology of European Contact.

¶1317: Mimbres Society.

¶1318: The Last Pescadores of Chimalhuacán, Mexico: An Archaeological Ethnography

¶1319: Chocolate in Mesoamerica: A Cultural History of Cacao.

¶1320: Britain -

¶1321: Beavers in Britain's Past

¶1322: Building Memories: The Neolithic Cotswold Long barrow at Ascott-Under-Wychwood Oxfordshire.

¶1323: The Ringlemere Cup: Precious Cups and the beginning of the Channel Bronze Age.

¶1324: Landscape Evolution in the Middle Thames Valley: Heathrow Terminal 5 Excavations Volume 1, Perry Oaks

¶1325: Anatomy of an Iron Age Roundhouse: The Cnip Wheelhouse Excavations, Lewis.

- ¶1326: Searching for the Silures: An Iron Age tribe in South-East Wales.
- ¶1327: Shiptonthorpe, East Yorkshire: archaeological studies of a Romano-British roadside settlement
- ¶1328: Life and labour in late Roman Silchester: excavations in Insula IX since 1997
- ¶1329: Eating and Drinking in Roman Britain.
- ¶1330: Early medieval, medieval and historic periods -
- ¶1331: Die Keramikfunde der Grabung Feddersen Wierde, 1. Jh.v. bis 5.Jh.n. Chr.
- ¶1332: Habitats, nécropoles et paysages dans la moyenne et la basse vallée du Rhône (VIIè-XVè s.): contribution des travaux du TGV-Méditerranée à l'étude des sociétés rurales médiévales
- ¶1333: Les Monts d'Aubrac au Moyen Age: Genèse d'un monde agropastoral
- ¶1334: Old Norse religion in long-term perspectives: origins, changes, and interactions
- ¶1335: Wearmouth and Jarrow Monastic Sites Volume 2.
- ¶1336: Medieval Selby: a new study of the Abbey and town 1069-1408
- ¶1337: Thresholds of the Sacred: Architectural, Art Historical, Liturgical, and Theological Perspectives on Religious Screens, East and West.
- ¶1338: The Roman Catholic Church: An Illustrated History.
- ¶1339: The Hoen Hoard: A Viking Gold Treasure of the Ninth Century
- ¶1340: The Ecology of Expansion and Abandonment: Medieval and Post-Medieval Land-use and Settlement Dynamics in a Landscape Perspective.
- ¶1341: The Cambridge Companion to Historical Archaeology.
- ¶1342: Basketry: A World Guide to Traditional Techniques.
- ¶1343: Profiles in Audacity: Great Decisions and How They Were Made.
- ¶1344: A Short Introduction to the Ancient Greek Theater.
- ¶1345: Between Republic and Empire: Interpretations of Augustus and his Principate.
- ¶1346: The End of Antiquity: Archaeology, Society and Religion AD 235-700.
- ¶1347: ISSUE 3
- ¶1348: New evidence from East Timor contributes to our understanding of earliest modern human colonisation east of the Sunda Shelf
- ¶1349: New dates by which modern humans reached East Timor prompts this very useful update of the colonisation of Island Southeast Asia. The author addresses all the difficult questions: why are the dates for modern humans in Australia earlier than they are in Island Southeast Asia? Which route did they use to get there? If they used the southern route, why or how did they manage to bypass Flores, where *Homo floresiensis*, the famous non-sapiens hominin known to the world as the 'hobbit' was already in residence? New work at the rock shelter of Jerimalai suggests some answers and new research directions.

¶1350: Tools, space and behaviour in the Lower Palaeolithic: discoveries at Soucy in the Paris basin

¶1351: We are privileged to publish this interim report on the discovery of open settlement sites of the early Palaeolithic in the Paris basin. The early occupation areas were defined beside the river Yonne at Soucy during gravel-quarrying, which were to produce flint bifaces and débitage and the bones of elephant, rhinoceros, horse and a wealth of other mammals. The sites differed from each other, both in their assemblages and in their location with respect to the old river channels. In the author's analysis this demonstrates signs of subsistence strategy and spatial organisation in the buried valley between 365 and 345 000 years ago.

¶1352: Resisting the cold in ice age Tasmania: thermal environment and settlement strategies

¶1353: Humans had reached Tasmania by 35 000 years bp and were in residence at the peak of the last ice age. Curiously, the settlements in the coldest period are concentrated in the highest and most southerly places, and the colder the weather became, the more sites were occupied. The author deduces that early people specially sought out the rock shelters of the highlands to combat wind chill.

¶1354: Late Mesolithic fish traps from the Liffey estuary, Dublin, Ireland

¶1355: An opportunity to investigate in advance of new construction led to the discovery of five Mesolithic hazel fish traps some 6.3m below mean sea level in the River Liffey. Closely paralleled on the continent of Europe they imply a well organised community that knew how to catch fish using the tide, to make wattle-work and baskets and who undertook coppicing on an eight year cycle in about 6100-5700 cal BC. The likelihood of more Mesolithic remains under European towns that have remained attractive to fishers and settlers has considerable implications for Cultural Resource Management. Do we always know how to find and access such delicate and important traces?

¶1356: Early Mesopotamian urbanism: a new view from the north

¶1357: For many years, the southern Mesopotamia of Ur and Uruk, ancient Sumer, has been seen as the origin centre of civilisation and cities: 'The urban implosion of late-fourth- and early-third-millennium Mesopotamia resulted in a massive population shift into large sites' said Nissen in 1988. 'These new city-states set the pattern for Mesopotamia as the heartland of cities' (Adams 1981; Yoffee 1998). And for Stone & Zimansky (2005) 'Remains of the world's first cities are the most noteworthy feature of the landscape in southern Iraq'. But at Tell Brak Joan Oates and her team are turning this model upside down. A long campaign of study, culminating in the new discoveries from 2006 reported here, show that northern Mesopotamia was far along the road to urbanism, as seen in monumentality, industrialisation and prestige goods, by the late fifth millennium BC. The 'world's earliest cities' are as likely to have been in north-eastern Syria as southern Iraq, and the model of a core from the south developing a periphery in the north is now ripe for revision.

¶1358: Urbanism on the margins: third millennium BC Al-Rawda in the arid zone of Syria

¶1359: The Fertile Crescent of the Ancient Near East is well known for its early cities in irrigated farming regions. Here the authors describe the recent discovery and investigation of a planned, circular, mid/late-third millennium BC city beyond the limit of rain-fed cultivation in the arid zone of inner Syria. Founded on the initiative of an unknown power and served by pastoralists and cultivators, the research at Al-Rawda demonstrates how environmental constraints were overcome in order to establish and sustain new centres in demanding regions at a time of maximum urbanisation.



#### ¶1360: The age of Stonehenge

¶1361: Stonehenge is the icon of British prehistory, and continues to inspire ingenious investigations and interpretations. A current campaign of research, being waged by probably the strongest archaeological team ever assembled, is focused not just on the monument, but on its landscape, its hinterland and the monuments within it. The campaign is still in progress, but the story so far is well worth reporting. Revisiting records of 100 years ago the authors demonstrate that the ambiguous dating of the trilithons, the grand centrepiece of Stonehenge, was based on samples taken from the wrong context, and can now be settled at 2600-2400 cal BC. This means that the trilithons are contemporary with Durrington Walls, near neighbour and Britain's largest henge monument. These two monuments, different but complementary, now predate the earliest Beaker burials in Britain – including the famous Amesbury Archer and Boscombe Bowmen, but may already have been receiving Beaker pottery. All this contributes to a new vision of massive monumental development in a period of high European intellectual mobility....

#### ¶1362: New perspectives on the Varna cemetery (Bulgaria) – AMS dates and social implications

¶1363: The research team of this new project has begun the precision radiocarbon dating of the super-important Copper Age cemetery at Varna. These first dates show the cemetery in use from 4560-4450 BC, with the possibility that the richer burials are earlier and the poor burials later in the sequence. The limited number of lavish graves at Varna, representing no more than a handful of paramount chiefs, buried over 50-60 years, suggests a stabilisation of the new social structure by the early part of the Late Copper Age.

#### ¶1364: Rock art and artisans in the Lemro Valley, Arakan, Myanmar

¶1365: This is a story that will appeal to all scholars involved with the interpretation of rock art. Figures depicted on rock surfaces in jungle terrain patrolled by soldier ants were thought in the nineteenth century to record an otherwise unknown early episode of invasion and resistance – and were widely published as such. A recent survey by a Myanmar-Australian team has made more correct records of the earlier forms and now offers fresh interpretations: the carvings are due to fifteenth-nineteenth century artisans working at quarries producing objects for the town of Mrauk-U, and they evoke local creatures and architectural echoes of the town and temples on which they worked.

#### ¶1366: Ottoman bows – an assessment of draw weight, performance and tactical use ¶1367:

The Ottoman fighting bow emerged in Europe from a long eastern tradition of using high velocity projectiles to hunt and fight on horseback. The author compares its performance (favourably) with the longbow and explains how the tactics employed with this singular artefact accounted for Ottoman success in battle. ¶1368:

#### Early domesticated cowpea (*Vigna unguiculata*) from Central Ghana ¶1369:

From examining the remains of charred cowpeas from rock shelters in Central Ghana, the authors throw light on the subsistence strategies of the Kintampo people of the second millennium BCE. Perhaps driven southwards from the Sahel by aridification, the Kintampo operated as both foragers and farmers, cultivating selected plants of the West African tropics, notably cowpea, pearl millet and oil palm ¶1370:.

#### The state of theocracy: defining an early medieval hinterland in Sri Lanka ¶1371: a

The ancient Sri Lankan city of Anuradhapura is currently the subject of one of the world's largest and most intensive archaeological research projects. Having traced its growth from an Iron Age village to

a medieval city, the research team now moves to the task of modelling the surrounding landscape. Three seasons of fieldwork have located numerous sites of which the most prominent in the urban period are monasteries. Here is a clue about how the early urban hinterland was managed which has implications well beyond Sri Lanka ¶1372: .

Defining a culture: the meaning of Hanseatic in medieval Turku ¶1373: u

This paper explores the influence of merchants operating out of Germany in medieval Turku by comparing the evidence of documentary reports and the quantity and distribution of imported pottery. The documents make it clear that German merchants were present in the town and generally keep themselves aloof from the local citizens. But the pottery tells a different and more subtle story of interaction and involvement in which all parties are potential drivers. The author calls into question the ethnic and exploitative models for a Hansa culture, preferring a post-colonial interpretation that allows us to see the formation of cultures that are hybrid and local in context ¶1374: .

Digital infra-red photography for recording painted rock art ¶1375: t

Here is a new application of infra-red photography with a digital camera to record rock art. The need to make full and accurate records of the images, without touching (and thus degrading) the rock, requires a method of remote mapping. Trials with digital IR reported here are very promising and especially useful for painted rock art ¶1376: .

Compound-specific stable carbon isotopic detection of pig product processing in British Late Neolithic pottery ¶1377: y

By extracting lipids from potsherds and determining the  $\delta^{13}C$  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 exploitation and find that the pig 'signature' was more frequently found among residues from Grooved Ware than other prehistoric pottery types ¶1378: .

Dating the Neolithic of South India: new radiometric evidence for key economic, social and ritual transformation ¶1379: s

The Neolithic period in South India is known for its ashmounds, superseded (in its Iron Age) by megalith builders with craft specialisation. Thanks to a major radiocarbon dating programme and Bayesian analysis of the dates, the authors have placed this sequence in a new chronological framework: the ashmounds, formed by burning cattle dung, are created by a few generations of people. In many cases the mounds are then succeeded by villages, for which they may have acted as founding rituals. The new tightly dated sequence also chronicles the cultivation of particular crops, some indigenous and some introduced from Africa ¶1380: .

The amazing Dr Kouznetsov ¶1381: v

Here is a story to strike a chill of anxiety into the hearts of editors and their peer-reviewers. Do we, should we, need we check our submissions with greater rigour ¶1382: ?

The place that caused the Neolithi ¶1383: c

Heritage and science - ¶1384:

Uses of Heritage. ¶1385: x

Monumental Ambivalence: The Politics of Heritage ¶1386: .

Images, Representations and Heritage: Moving beyond Modern Approaches to Archaeology. ¶1387:

The plundered past: deplorable present, dismal future? -¶1388:

Archaeology, Cultural Heritage, and the Antiquities Trade. ¶1389: x

Art and Archaeology of Afghanistan: Its Fall and Survival ¶1390: ¶1391:

Set the wild echoes flying -¶1392:

Spaces speak, are you listening? Experiencing aural architecture ¶1393: .¶1394:

Archaeoacoustics. ¶1395:

Many-faceted Africa -¶1396:

Ancient Middle Niger: Urbanism and the Self-Organizing Landscape. ¶1397:

A History of Archaeological Thought. ¶1398:

The Archaeology of Plural and Changing Identities: Beyond Identification. ¶1399:

Prehistoric Figurines: Representation and Corporeality in the Neolithic. ¶1400: ¶1401:

The Amuq Valley Regional Projects, Volume 1: Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995-2002 ¶1402:

L'habitat mycénien: formes et fonctions de l'espace bâti en Grèce continentale à la fin du II<sup>e</sup> millénaire avant J.-C. ¶1403:

Tamar Hodos. Local Responses to Colonisation in the Iron Age Mediterranean. ¶1404:

Roman Foodprints at Berenike: Archaeobotanical Evidence of Subsistence and Trade in the Eastern Desert of Egypt ¶1405:

Beavers in Britain's Past ¶1406: t

Landscape Evolution in the Middle Thames Valley: Heathrow Terminal 5 Excavations Volume 1, Perry Oaks ¶1407:

Building Memories: The Neolithic Cotswold Long Barrow at Ascott-Under-Wychwood, Oxfordshire. ¶1408:

Anatomy of an Iron Age Roundhouse: The Cnip Wheelhouse Excavations, Lewis. ¶1409:

Auf den Spuren der Ostbarbaren: Zur Archäologie protohistorischer Kulturen in Südkorea und Westjapan ¶1410:

Habitats, nécropoles et paysages dans la moyenne et la basse vallée du Rhône (VII<sup>e</sup>-XV<sup>e</sup> s.): contribution des travaux du TGV-Méditerranée à l'étude des sociétés rurales médiévales ¶1411:

Medieval Selby: a new study of the Abbey and town 1069-1408 ¶412:

Children - ¶413:

The Bioarchaeology of Children: Perspectives from Biological and Forensic Anthropology. ¶414:

Food - ¶415:

The Archaeology of Food and Identity ¶416:

Cooking up the Past: Food and Culinary Practices in the Neolithic and Bronze Age Aegean. ¶417:

Meals and recipes from Ancient Greece. ¶418:

Food for the Gods: New Light on the Ancient Incense Trade. ¶419:

Companions - ¶420:

A Companion to the Roman Republic. ¶421:

A Companion to the Roman Empire. ¶422:

A Companion to Greek Rhetoric ¶423: .

A Companion to Roman Rhetoric ¶424: .

Cyprus - ¶425:

Report of the Department of Antiquities, Cyprus. ¶426:

Annual Report of the Department of Antiquities for the year 2004 ¶427: . ¶428:

Science, Politics and Business in the Work of Sir John Lubbock: A Man of Universal Mind. ¶429:

A future for Archaeology. ¶430:

The Erosion of Civilizations. ¶431:

Case studies in archaeological predictive modelling ¶432:

Scholarly Journals between the Past and the Future: The Fornvännan Centenary Round-Table Seminar, ¶433:

Archaeologia Polona 44, Special theme: Archaeology — anthropology — history, parallel tracks and divergences. ¶434:

The Archaeologist's Fieldwork Companion. ¶435:

Analytical Chemistry in Archaeology. ¶436:

European pre- and protohistory - ¶437:

Palaeolithic Cave Art at Creswell Crags in European Context. ¶438:

Chasseurs-cueilleurs: Comment vivaient nos ancêtres du Paléolithique supérieur. ¶439:

Ecology and Economy in Stone Age and Bronze Age Scania. ¶440:

Los pueblos de la Galicia céltica. ¶441:

The Earlier Iron Age in Britain and the near Continent. 1442:

The Later Iron Age in Britain and beyond. 1443:

Die Buntmetallfunde der Grabung Feddersen Wierde: Chronologie — Chorologie — Technologie 1444:

Mediterranean - 1445:

Bronze Age Rhtya 1446:

The Tomb of Agamemnon. 1447:

Inside Ancient Lucania: Dialogues in History & Archaeology 1448:

Carte Archeologique de la Gaule 13/4: Aix-en-Provence, Pays d'Aix, Val de Durance. 1449:

Classical and Roman world - 1450:

Antiquity: Origins, Classicism and the New Rome 1451:

Onward to the Olympics: Historical Perspectives on the Olympic Games 1452:

TRAC 2006 (Proceedings of the Sixteenth Annual Theoretical Roman Archaeology Conference, Cambridge 2006) 1453: .

Julia Domna: Syrian Empress (Women of the Ancient World 1454: )

Roman Religion. 1455: x

Roman Woodworking. 1456:

Ancient Rome on Five Denarii a Day. 1457: 1

Spartacus: Film and History. 1458:

Martial: The World of the Epigram. 1459:

The Lost Gold of Rome: The Hunt for Alaric's Treasure. 1460:

Anatolia, Levant, Middle East - 1461:

Civilizing Climate: Social responses to Climate Change in the Ancient Near East, 1462:

Settlement and Society: Essays dedicated to Robert McCormick Adams, 1463:

The Neolithic Revolution in the Near East: Transforming the Human Landscape. 1464:

Excavating Çatalhöyük: South, North and KOPAL Area reports from the 1995–99 seasons 1465:

The Early Prehistory of Wadi Faynan, Southern Jordan: Archaeological survey of Wadis Faynan, Ghuwayr and al-Bustan and evaluation of the Pre-Pottery Neolithic A site of WF16 1466:

The Origins of State Organizations in Prehistoric Highland Fars, Southern Iran: Excavations at Tall-e Bakun 1467:

The Mamasani Archaeological Project: Stage One. A report on the first two seasons of the ICAR — University of Sydney expedition to the Mamasani District, Fars Province, Iran 1468: (

Archaeology of the Bronze Age, Hellenistic, and Roman Remains at an Ancient Town on the Euphrates River — Excavations at Tell Es-Sweyhat, Syria Volume 2. Part 1: Text, Part 2: Figures & Plates [¶469:](#)

Gerasa and the Decapolis: A 'Virtual Island' in Northwest Jordan. [¶470:](#)

Solomons Temple: Myth and History. [¶471:](#)

Regime Change in the Ancient Near East and Egypt. From Sargon of Agade to Saddam Hussein. [¶472:](#)

Egypt and Africa - [¶473:](#)

Temples and Tombs: Treasures of Egyptian Art from the British Museum. [¶474:](#)

Amarna Palace Paintings [¶475:](#)

Land Transport in Roman Egypt: A Study of Economics and Administration in a Roman Province [¶476:](#)

Mortuary Landscapes of North Africa [¶477:](#)

The Evolution of Modern Humans in Africa: A Comprehensive Guide. [¶478:](#)

Living with Pottery. Ethnoarchaeology among the Gamo of Southwest Ethiopia. [¶479:](#)

Eastern and southern Asia - [¶480:](#)

Cultural Heritage Management in China: Preserving the cities of the Pearl River Delta [¶481:](#)

Chinese Society in the Age of Confucius (1000-250 BC): The Archaeological Evidence. [¶482:](#)

The Evolution and History of Human Populations in South Asia: Inter-disciplinary Studies in Archaeology, Biological Anthropology, Linguistics and Genetics. [¶483:](#)

Australia - [¶484:](#)

Australia's Mammal Extinctions: A 50 000 year history. [¶485:](#)

Coastal Themes: An Archaeology of the Southern Curtis Coast, Queensland (terra australis 24). [¶486:](#)

Americas - [¶487:](#)

Religion in the Prehispanic Southwest. [¶488:](#)

Hinterlands and Regional Dynamics in the Ancient Southwest. [¶489:](#)

Settlement Archaeology at Quirigua, Guatemala. [¶490:](#)

Political Identity and Archaeology in Northeast Honduras. [¶491:](#)

Commoner Ritual and Ideology in Ancient Mesoamerica. [¶492:](#)

Ritual & Power in Stone: The Performance of Rulership in Mesoamerican Izapan Style Art. [¶493:](#)

Taino Indian Myth and Practice: The Arrival of the Stranger King. [¶494:](#)

Gone is the Ancient Glory: Spanish Town, Jamaica, 1534–2000. [¶495:](#)

Archaeology of the Lower Muskogee Creek Indians 1715–1836. [¶496:](#)

Britain - [¶497:](#)

Shadow Sites: Photography, Archaeology, & the British Landscape 1927–1955. ¶1498:

Be Your Own Landscape Detective: Investigating Where You Are. ¶1499:

Water Meadows: History, Ecology and Conservation. ¶1500:

Monuments and Mountains: Stone Circles, Henges and Standing Stones in the Landscape. ¶1501:

The Dating of Food Vessels & Urns in Ireland ¶1502:

Shared Visions: The North-East Regional Research Framework for the Historic Environment. ¶1503:

Archaeology in Bath. Excavations at the New Royal Baths (the Spa), and Bellott's Hospital 1998–1999. ¶1504:

Farewell Britannia: A Family Saga of Roman Britain. ¶1505:

William Morris's Kelmscott: Landscape and History. ¶1506: x

Scandinavia - ¶1507:

Kaupang in Skiringssal ¶1508:

Early medieval and medieval - ¶1509:

People and Space in the Middle Ages ¶1510:

Conversion and Colonization in Anglo-Saxon England ¶1511: .

Cloth and Clothing in Early Anglo-Saxon England, AD 450–700 ¶1512: .

Making and Meaning in Insular Art. ¶1513:

Excavations at Launceston Castle, Cornwall ¶1514:

Edward III's Round Table at Windsor: The House of the Round Table and the Windsor Festival of 1344 ¶1515: .

The Archimedes Codex. ¶1516:

Renaissance - ¶1517:

The Egyptian Renaissance: The Afterlife of Ancient Egypt in Early Modern Italy. ¶1518:

Archaeologies of English Renaissance Literature. ¶1519:

A brief history of Stonehenge: a complete history and archaeology of the world's most enigmatic stone circle. ¶1520:

Return to Babylon: Travelers, Archaeologists, and Monuments in Mesopotamia. ¶1521:

Castles of the Morea ¶1522:

The Chocolate Tree: A Natural History of Cacao. ¶1523:

The Incas. ¶1524:

ISSUE ¶1525: 4

Grinding flour in Upper Palaeolithic Europe (25000 years bp ¶1526: )

The authors have identified starch grains belonging to wild plants on the surface of a stone from the Gravettian hunter-gatherer campsite of Bilancino (Florence, Italy), dated to around 25000bp. The stone can be seen as a grindstone and the starch has been extracted from locally growing edible plants. This evidence can be claimed as implying the making of flour – and presumably some kind of bread – some 15 millennia before the local ‘agricultural revolution’ ¶1527: .¶1528:

New finds of Upper Palaeolithic decorative objects from Předmostí, Czech Republic ¶1529: c

Two new examples of decorative art have turned up at the Gravettian site of Předmostí, dating to the twenty-sixth to twenty-fifth millennium BP: rectilinear grid patterns are executed on one side of flat bones, probably of reindeer. The authors speculate that the two pieces may have come from a single larger decorated object. The grids themselves join a growing repertoire of patterns known from Upper Palaeolithic society, but their role remains enigmatic: counting, calendars or ornament? Art or science ¶1530: ?

A 14000 year-old hunter-gatherer's toolkit ¶1531: t

A sickle, 21 flint lunates for tipping spears and evidence of the hunted quarry – gazelle bones – lay together by the wall of a Natufian building. The author deduces that these objects were contained in a bag and constituted the versatile working equipment of a hunter-gatherer ¶1532: .¶1533:

The first archaeological evidence for death by spearing in Australia ¶1534: a ¶1535:

An Aboriginal man done to death on the dunes 4000 years ago was recently discovered during excavations beneath a bus shelter in Narrabeen on Sydney's northern beaches. The presence of backed microliths and the evidence for trauma in the bones showed that he had been killed with stone-tipped spears. Now we know how these backed points were used. A punishment ritual is implied by analogies with contact-period observations made in the eighteenth century AD ¶1536: .¶1537:

Rethinking Erlitou: legend, history and Chinese archaeology ¶1538: y

Erlitou is one of the most important settlements in early China, a prime site for the investigation of early cities and states. Traditionally, it has been described, dated and explained in terms of dynastic succession – the dynasties of the Xia and the Shang being the ethnically-distinct actors and prime movers that made history here. In a brilliant analysis, the authors decouple the semi-legendary textual histories from the up-to-date archaeological sequence at Erlitou itself. This article strikes a blow for archaeological reasoning that will be felt far beyond the Yellow River ¶1539: .¶1540:

Funerals and feasts during the Pre-Pottery Neolithic B of the Near East ¶1541: t

Evidence for a Neolithic funeral feast has been excavated in northern Israel. A herd of eight wild cattle (aurochs) were slaughtered and joints of their meat placed in a pit which was covered over and the human burial laid on top. This was covered in turn with plaster, but the human skull was later removed through an accurately sited hole. It was the feast that began this funerary sequence,



and the authors conservatively calculate that it provided a minimum of 500kg of meat. Given a 200g steak apiece this could theoretically feed some 2500 people, endorsing the authors' claim that the site was a central cult site serving surrounding villages. 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<sup>¶542</sup>.

Monument 3 from La Blanca, Guatemala: a Middle Preclassic earthen sculpture and its ritual association<sup>¶543</sup>:s

Beside one of the earliest Preclassic pyramids in Guatemala the authors discovered a large basin fashioned in clay and shaped like a quatrefoil. The use of the quatrefoil theme on other carvings reveals its association with water and its symbolic role as the mouth of an underworld. Excavations in an adjacent mound exposed an affluent community, rich in figurines. This juxtaposition of monuments and residence at La Blanca shows a society of 900-600 BC in which ritual and the secular power were well integrated<sup>¶544</sup>.

Plant offerings from the classical necropolis of Limenas, Thasos, northern Greece<sup>¶545</sup>:e

Funeral pyres identified at a fourth-century BC cemetery on Thasos have produced a range of plants. The authors show that strongly represented among them are pomegranate, garlic and grape, as well as bread – foodstuffs for funeral feasts and with significance for religious practice<sup>¶546</sup>.

Ammonite fossil portrayed on an ancient Greek countermarked coin<sup>¶547</sup>:n

The image on a Greek coin of the second-first century BC is identified as an ammonite fossil and linked to the eponymous Ammon, the Egyptian ram-headed god<sup>¶548</sup>.

Cultivated wetlands and emerging complexity in south-central Chile and long distance effects of climate change<sup>¶549</sup>:e

Lands in south-central Chile, long thought to have been marginal until the Spanish conquest, are here shown to have been developing complex societies between at least AD 1000 and 1500. Part of the motor was provided by coastland cultivation on raised platforms, here identified and surveyed for the first time. The authors date the field systems and suggest that they were introduced by farmers from the north seeking wetlands in the face of increasing aridity in the central Andes and southern Amazon<sup>¶550</sup>.<sup>¶551</sup>:

Waist-to-hip ratios of Jomon figurines<sup>¶552</sup>:s

The 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. Admirers of the female form will be interested to learn that preference for the fuller, curvaceous 'hourglass' shape 'has probably been the norm over much of human evolution'<sup>¶553</sup>.<sup>¶554</sup>:

Rome and Mesopotamia – importers into India in the first millennium A<sup>¶555</sup>: D<sup>¶556</sup>:

Ever since Wheeler's triumphant discovery of Roman pottery at Arikamedu in the 1940s, it has been appreciated that the east coast of India was in reach of the Roman Empire. Tracking down the finds of Roman pottery on the Indian sub-continent reported since then, the author discovered that many of the supposed Roman amphorae were actually 'torpedo jars' from Mesopotamia. Here the areas of influence of these two great imports, probably of wine, are mapped for the first time<sup>¶557</sup>.

A mass grave from the catacomb of Saints Peter and Marcellinus in Rome, second-third century AD<sup>¶558</sup>: D

Investigations in a catacomb revealed an early mass grave, in which the bodies were bound tightly with plaster and textile in a type of mummification. Over 100 individuals, mostly young adults, including women, were stacked in rows apparently following a communal fatal incident, perhaps an epidemic. The presence of traces of gold, silver and probably amber with many of the bodies, and their burial in an imperial property suggests a group of some status being interred in the early years of the catacomb, at the end of the second century AD or beginning of the third<sup>¶559</sup>: .<sup>¶560</sup>:

Economic and ideological roles of copper ingots in prehistoric Zimbabwe<sup>¶561</sup>: e

As well as being modes of supplying metal, cross-shaped copper ingots in Zimbabwe are shown to be emblems of currency and status. The author dates them to the first half of the second millennium AD and connects the appearance of ingots to increased social stratification<sup>¶562</sup>:

From the perspective of time: hunter-gatherer burials in south-eastern Australia<sup>¶563</sup>: a

In this study of the Murray River basin in south-eastern Australia, the author shows that Aboriginal burials are persistently attracted to specific kinds of landscape feature intermittently over long periods of time. Some attributes of burial, like body position, vary from site to site and over much shorter periods; others, like orientation, are even more local, relating only to a specific group of graves. Burial rites are thus sets of variables which may be independent of each other and change at different rates. Far from reflecting cultural arrivals and departures, in south-eastern Australia burial grounds were never formally founded and continually abandoned<sup>¶564</sup>:

Moving on: the contribution of isotope studies to the early Neolithic of Central Europe<sup>¶565</sup>: e

Stable isotope analysis is a new, not-so-secret weapon which promises much in mapping population movement on a regional and local scale. Lining up these movements with certain economic strategies, such as farming or foraging, with social strategies such as exogamy or with ethnicity and ranking constitutes forgivable temptation. Here our astute authors urge caution. Taking the Mesolithic-Neolithic transition in south-west Germany as their example, they show that caution does not inhibit interpretation, but opens the door to more subtle, more human possibilities<sup>¶566</sup>: .<sup>¶567</sup>:

Dating the onset of cereal cultivation in Britain and Ireland: the evidence from charred cereal grain<sup>¶568</sup>: s<sup>¶569</sup>:

When does Neolithic life begin in Britain? 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. The charred grains begin to appear around 4000 cal BC and become prominent in settlements between 3800 and 3000 cal BC. This correlates

well with the appearance of megalithic tombs (3800-3500 cal BC) and argues for a relatively rapid adoption of the Neolithic package during an experimental phase of two centuries, 4000-3800 cal BC. The early cereals reported in the pollen record (from 5000 BC) are attributed to wild species ¶1570: ¶1571:

Detecting seasonal movement from animal dung: an investigation in Neolithic northern Greece ¶1572: e

Neolithic northern Greece has both tell sites and extended 'flat' sites, with an implication that people lived differently and may have managed their animals differently on each type of site. The author investigates these differences using characteristic plant assemblages deriving from animal dung. She finds that samples from tells are rich in processed crops and wild seeds, indicating grazing on and off the fields near home. But those from the flat sites were rich in chaff and contain no wild seeds, indicating the absence of animals out grazing on the hills when the wild plants are in seed. These were seemingly two alternative categories of Neolithic farmer, the one organising grazing differently from the other ¶1573: .

300 years of context for British archaeology ¶1574: y

Bridging the gap at La Tène ¶1575: e

Some thirty years ago, I took part in the Seminar für Ur- und Frühgeschichte der Universität Basel's traditional field trip to La Tène. We discussed the various interpretations put forward for a site that had given its name to the later Iron Age in Europe: bridges, toll, battle, fort, refugium, accident, votive deposit, sanctuary. We berated the methods of investigation of the later nineteenth and early twentieth centuries: they could not bridge the gap between what was found and what La Tène had come to mean in the ensuing century. Thirty years on, things have changed ¶1576: .

Fashion versus reason – then and now ¶1577: w

Analogies between modern practice and prehistoric material culture are becoming increasingly useful for archaeologists, including those interested in branding studies, for example (e.g. Wengrow, in press) and at formal research centres such as the AHRC Centre for the Evolution of Cultural Diversity and the Santa Fe Institute. Studies of modern cultural change – at a level of detail that most archaeologists can only dream about – can lead to related insights about prehistoric culture change through time. Modern fashion analysis can be methodologically similar to testing, for example, the degree to which certain prehistoric transitions reflect demographic change (e.g. Shennan 2000; Henrich 2004). How much of the Upper Palaeolithic 'revolution' in cave art is due to increases in population in western Europe? Although the data are trickier to obtain, the goal is basically the same – subtract what is considered background (e.g. population size) from what is of interest to the researcher (e.g. instances of particular art motifs). In Neolithic Germany, for example, pottery designs can be treated as the 'fashions' and numbers of longhouses are used to estimate population size ¶1578: (

Polish archaeology in my lifetime ¶1579: e ¶1580:

Professor Stanisław Tabaczyński, a Member of the Polish Academy of Sciences (PAN) since 1989 and a prominent exponent of theory, field method and interdisciplinary studies, offers us a summary of his personal vision of Polish archaeology since the Second World War ¶1581: ¶1582:

The ghosts of the Palaeolithic: individual agency and behavioural change in perspective - 1583:

The hominid individual in context: archaeological investigations of Lower and Middle Palaeolithic landscapes, locales and artefacts. 1584:

Beyond the site: the Saalian archaeological record at Maastricht-Belvédère (The Netherlands) 1585:

Transitions before the Transition: Evolution and Stability in the Middle Paleolithic and Middle Stone Age. 1586:

Distorting the Past: Gender and the Division of Labor in the European Upper Paleolithic 1587:

Hunting for clues in the Palaeolithic - 1588:

La chasse: pratiques sociales et symboliques 1589:

Chasseurs-cueilleurs: Comment vivaient nos ancêtres du Paléolithique supérieur. 1590:

Stone Age and Bronze Age landscapes in Scania, Sweden - 1591:

Ecology and Economy in Stone Age and Bronze Age Scania. 1592:

In the Wake of a Woman: Stone Age Pioneering of North-eastern Scania, Sweden, 10000-5000 BC, the Årup Settlements 1593: 1594:

Tombs for the living - 1595:

The Early Minoan Tombs of Lebena, Southern Crete 1596:

Tholos Tomb Gamma: A Prepalatial Tholos Tomb at Phourni, Archanes 1597: (

Nasca and Moche iconography - 1598:

A Sourcebook of Nasca Ceramic Iconography: Reading a Culture through its Art. 1599:

Sex, Death, and Sacrifice in Moche Religion and Visual Culture. 1600: x

Colombian archaeology consolidated - 1601:

Prehispanic Chiefdoms in the Valle de la Plata, Volume 5: Regional Settlement Patterns 1602: /

Calima and Malagana: Art and Archaeology in Southwestern Colombia. 1603:

Demography in Archaeology. 1604:

The Agricultural Revolution in Prehistory: why did Foragers become Farmers? 1605:

Behavioral Ecology and the Transition to Agriculture. 1606:

Archaeology of the Middle Green River Region, Kentucky 1607:

The Early Dynastic to Akkadian Transition: the Area WF Sounding at Nippur 1608:

The Mamasani Archaeological Project: Stage One. A report on the first two seasons of the ICAR – University of Sydney expedition to the Mamasani District, Fars Province, Iran 1609:

Archaeology of the Russian Far East: Essays in Stone Age Prehistory ¶610: y

The Evolution and History of Human Populations in South Asia: Inter-disciplinary Studies in Archaeology, Biological Anthropology, Linguistics and Genetics. ¶611:

The excavation of Khok Phanom Di, a prehistoric site in central Thailand. Volume VI: The pottery, other ceramic materials and their cultural role. The material culture (Part II) ¶612:

Land, Power and Prestige: Bronze Age Field Systems in Southern England ¶613: .

Shadow Sites: Photography, Archaeology, & the British Landscape 1927-1955 ¶614: . ¶615:

The Archaeology of Celtic Art. ¶616:

Roman Theatres: An Architectural Study ¶617: .

Aghram Nadharif: The Barkat Oasis (Sha 'Abiya of Ghat, Libyan Sahara) in Garamantian Times ¶618:

Death and Memory in Early Medieval Britain. ¶619:

Medieval Pottery from Wood Quay, Dublin: the 1974-6 Waterfront Excavations

**Name:** Antiquity 2008 abstracts

¶1: Antiquity 2008 abstracts

¶2: ISSUE 1

¶3: Footprints in the sand: appraising the archaeology of the Willandra Lakes, western New South Wales, Australia

¶4: Here is a paper of pivotal importance to all prehistorians attempting to reconstruct societies from assemblages of shells or stone artefacts in dispersed sites deposited over tens of thousands of years. The authors demonstrate the perilous connections between the distribution and content of sites, their geomorphic formation process and the models used to analyse them. In particular they warn against extrapolating the enticing evidence from Pleistocene Willandra into behavioural patterns by drawing on the models presented by nineteenth-century anthropologists. They propose new strategies at once more revealing and more ethical.

¶5: Refitting megaliths in western France

¶6: Refitting flakes to cores is a well-developed way to investigate how stone tools were made. Here the author takes on the formidable task of refitting the stone blocks of menhirs, orthostats and megalithic tombs to their quarries. The results are impressive: the order of erection in a row of menhirs, the method of construction in a passage grave and the monumental chronology of a region are just three of the rewards of this promising new method.

¶7: Water supply and history: Harappa and the Beas regional survey

¶8: Introducing the methods of archaeoclimatology, the authors measure the relative locus of the monsoons, the intensity of winter rains and the volume of water in the rivers in the Upper Indus, in the region of Harappa. They also note the adoption of a multi-cropping agricultural system as a possible strategy designed to adjust to changing conditions over time. They find that around 3500 BC the volume of water in the rivers increases, and the rivers flood, implying annual soil refreshment and the consequent development of agriculture. By contrast, from around 2100 BC the river flow begins to fall while the winter rains increase. This time-bracket correlates nicely with the brief flourishing of Harappa. The locally derived evidence from Harappa combined with the Beas survey data provide a model for understanding the abandonment of settlements in the Upper Indus and possibly the wider civilisation.

¶9: The Qatna lion: scientific confirmation of Baltic amber in late Bronze Age Syria

¶10: Using pyrolysis-gas chromatography/mass spectrometry and Fourier transform infrared spectroscopy, the authors show that amber was imported into Late Bronze Age Syria and used for making the prestige artefacts found in a Royal tomb of c. 1340 BC. The objects included beads and a unique vessel in the form of a lion, likely fashioned in Syria from raw amber imported from the Baltic via the Aegean.

¶11: From Sicily to Salcombe: a Mediterranean Bronze Age object from British coastal waters

¶12: Bronze Age objects found in the English Channel off Salcombe, southern Britain, include an implement which has its normal home in Sicilian agriculture – perhaps as a plough shoe. The authors assemble and classify the objects and consider the web of exchange networks that brought the artefact from Sicily to Devon via France around the thirteenth century BC.

¶13: Post-mortem mutilations of human bodies in Early Iron Age Kazakhstan and their possible meaning for rites of burial

¶14: The authors find numerous cut-marks on human bones from an Early Iron Age cemetery in Kazakhstan and review a wide range of possible explanations. They discount cannibalism and find that the cuts and fractures fit best with a range of ritual mutilations known to ethno-archaeologists of the Altai region

¶15: Medieval élite burials in eastern Mecklenburg and Pomerania

¶16: High status burial remains one of archaeology's most evocative types of site – but it is not always easy to know why they were built, where and when they were. The author describes a group of élite burials that appeared in north Europe in the late eleventh-twelfth century in a historical context that is unusually clear, and proposes the rise of a pagan élite in the face of aggressive Christianisation from the neighbours.

¶17: A context for the Luzira Head

¶18: The Luzira head, a pottery figure discovered in a Ugandan prison compound in 1929, has remained curiously anonymous ever since. New archaeological work on the northern shores of (Lake) Victoria Nyanza has defined a formative period of political centralisation at the end of the first millennium AD. The authors show that this period of early to late Iron Age transition is where this remarkable object and related figurative material belongs. This has implications both for the formation of kingdoms in Uganda and for the story of African art more generally.

¶19: A traitor's death? The identity of a drawn, hanged and quartered man from Hulton Abbey, Staffordshire

¶20: Analysis of a set of bones redeposited in a medieval abbey graveyard showed that the individual had been beheaded and chopped up, and this in turn suggested one of England's more gruesome execution practices. Since quartering was generally reserved for the infamous, the author attempts to track down the victim and proposes him to be Hugh Despenser, the lover of King Edward II.

¶21: Patterns of looting in southern Iraq

¶22: The archaeological sites of Iraq, precious for their bearing on human history, became especially vulnerable to looters during two wars. Much of the looting evidence has been anecdotal up to now, but here satellite imagery has been employed to show which sites were looted and when. Sites of all sizes from late Uruk to early Islamic were targeted for their high value artefacts, particularly just before and after the 2003 invasion. The author comments that the 'total area looted ... was many times greater than all the archaeological investigations ever conducted in southern Iraq and must have yielded tablets, coins, cylinder seals, statues, terracottas, bronzes and other objects in the hundreds of thousands'.

¶23: Finding the early Neolithic in Aegean Thrace: the use of cores

¶24: Using a new approach that combines high-quality coring with AMS dating, the authors are mapping the start of the Neolithic in Aegean Thrace – a missing link in the arrival of agriculture in Europe. The method also revealed the edge of the marine transgression dating to some 2900 years ago, implying that sites located near the coast in early Neolithic times have in all likelihood been lost to the sea.

¶25: The first direct evidence for the production of Maya Blue: rediscovery of a technology

¶126: Maya Blue is a colour that is more than a pigment; it had roles in status, ritual and performance, being daubed onto pots and people before sacrifice. Here researchers use experimental and historical evidence to discover how it was made, including direct scientific analysis of Maya Blue on a pot thrown into the sacred well at Chichén Itzá. The results indicate that the formation of the colour was actually part of the ritual.

¶127: Exploring the lower Gulf, 1947-2007

¶128: Beatrice de Cardi has been a figure in British archaeological life for much longer than most of us can remember. Less well-known outside Asia are her achievements as an explorer of the archaeology of the countries of the lower Persian Gulf. Here she offers a brief *mémoire* for us, penned at the age of 93. It is a story of pottery, peoples and vast tracts of ancient lands, then little known.

¶129: Excavating the eternal: an indigenous archaeological tradition in India

¶130: 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. Describing the systematic search for lost sacred images and sites in places associated with Krishna's earthly pastimes, the author makes a spirited case for regarding this activity as real archaeology, comparing it with today's heritage projects.

¶131: Contact between the Norse Vikings and the Dorset culture in Arctic Canada

¶132: Instances of cultural interaction between Norse and native American have long been accepted. But current archaeological research recognises that the indigenous peoples of the north were themselves diverse and had diverse histories. Here the author shows that the culture of one of them, the Dorset people, owed nothing to the Norse and probably had no contact with them.

¶133: Tutankhamun and the terracotta army

¶134: Neanderthals behaving -

¶135: When Neanderthals and Modern Humans Met (

¶136: The Palaeolithic Occupation of Vogelherd Cave: Implications for the Subsistence Behavior of Late Neanderthals and early Modern Humans

¶137: Pots and time in Bronze Age Ireland

¶138: The Dating of Food Vessels & Urns in Ireland

¶139: Climate change, culture history and the rebirth of circumpolar archaeology -

¶140: Taymyr: the Archaeology of Northernmost Eurasia

¶141: The Stone Age of Qeqertarsuup Tunua (Disko Bugt): a regional analysis of the Saqqaq and Dorset cultures of Central West Greenland

¶142: Dynamics of Northern Societies: Proceedings of the SILA/NABO Conference on Arctic and North Atlantic Archaeology, Copenhagen, May 10th-14th, 2004

¶143: Prehistoric Cyprus: longer durée and transformation -

¶144: Études Chypriotes: Histoire des Campagnes d'Amathonte I. L'occupation du sol au Néolithique.



- ¶145: Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean
- ¶146: Marki Alonia: an Early and Middle Bronze Age settlement in Cyprus, excavations 1995-2000
- ¶147: Roman harbours under scrutiny -
- ¶148: Myos Hormos-Quseir al-Qadim, Roman and Islamic Ports on the Red Sea: Survey and Excavations 1999-2003.
- ¶149: Portus: An Archaeological Survey of the Port of Imperial Rome
- ¶150: Archaeology in West Bengal -
- ¶151: An Annotated Archaeological Atlas of West Bengal. Volume 1: Prehistory and Protohistory.
- ¶152: Past and Present: Ethnoarchaeology in India.
- ¶153: Archaeology, monasticism and Romanitas in northern Britain -
- ¶154: Wearmouth and Jarrow Monastic Sites Volume 1.
- ¶155: Wearmouth and Jarrow Monastic Sites Volume 2.
- ¶156: Excavations at Hoddum, Dumfriesshire: an Early Ecclesiastic Site in South-west Scotland.
- ¶157: The Early Prehistory of Wadi Faynan, Southern Jordan: Archaeological survey of Wadis Faynan, Ghuwayr and al-Bustan and evaluation of the Pre-Pottery Neolithic A site of WF16
- ¶158: The Prehistory of Britain and Ireland.
- ¶159: Worshippers and Warriors: reconstructing gender relations in the prehistoric rock art of Naquane National Park, Valcamonica, Brescia, northern Italy
- ¶160: Grauballe Man: An Iron Age Bog Body Revisited
- ¶161: Ancient Celtic Place-Names in Europe and Asia Minor
- ¶162: Le commerce du vin oriental à l'époque Byzantine (Vè-VIIè siècles): le témoignage des amphores en Gaule (
- ¶163: Cultural Exchange between India and Southeast Asia: production and distribution of hard stone ornaments (VI c. BC – VI c. AD)/
- ¶164: The Carnegie Maya: the Carnegie Institution of Washington Maya Research Program, 1913-1957.
- ¶165: Genèse et évolution du deuxième royaume burgonde (443-534). Les témoins archéologiques
- ¶166: Alain-Fournier et ses compagnons d'arme: une archéologie de la Grande Guerre.
- ¶167: L'archéologie nazie en Europe de l'Ouest.
- ¶168: Indigenous Archaeologies: Decolonizing Theory and Practice
- ¶169: Handbook of Geophysics and Archaeology.
- ¶170: ISSUE 2
- ¶171: Parietal art discovered at Arene Candide Cave (Liguria, Italy)

¶172: The authors have discovered small oval panels of parallel lines in the famous Ligurian cave of Arene Candide, and show that it must be art of the Epigravettian period, c. 11-10000bp (uncalibrated).

¶173: Prehistoric string theory. How twisted fibres helped to shape the world

¶174: The author reviews the role of string in early human communities, using prehistoric and ethnographic evidence. Fibres, rolled into string, offer a technical means of holding things together; but the process of manufacturing string itself inspired special roles and structures - which in turn held together the members of communities.

¶175: Correlation of annual precipitation with human Y-chromosome diversity and the emergence of Neolithic agricultural and pastoral economies in the Fertile Crescent

¶176: Examining the beginnings of agriculture in the 'Fertile Crescent', 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. Acknowledging the fuzzy edges of such mapping, the authors nevertheless escort us into new realms of the possible for the early history of peoples.

¶177: Isotopic signatures and hereditary traits: snapshot of a Neolithic community in Germany

¶178: A group of Linearbandkeramik people at Talheim, Germany were previously found to have died at the same time, probably in a massacre, and the authors were able to ask some searching questions of their skeletons. 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). In the local group, there were many local children but no adult women, suggesting they had been selectively taken alive at the time of the massacre. Another group, with isotope signatures derived from upland areas, includes two men who may have been closely related. A third group has a composition suggestive of a nuclear family. The variations of one type of isotope signature with another suggested subtle interpretations, such as transhumance, and a probable labour division in the community between stockholders and cultivators. Here we see the ever-growing potential of these new methods for writing the 'biographies' of prehistoric skeletons.

¶179: The use of caves for funerary and ritual practices in Neolithic Ireland

¶180: Caves in Ireland, as elsewhere, have been used for shelter and burial over much of recorded time. The author here focuses on their use during the Neolithic, carefully isolating the available material and arguing from it that 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.

¶181: Terminal Pleistocene to mid-Holocene occupation and an early cremation burial at Ille Cave, Palawan, Philippines

¶182: Excavations at a cave site on the island of Palawan in the Philippines show occupation from c. 11000 BP. A fine assemblage of tools and faunal remains shows the reliance of hunter-foragers

switching from deer to pig. In 9500-9000 BP, a human cremation burial in a container was emplaced, the earliest yet known in the region.

¶183: Symbolic language in Torres Strait, NE Australia: images from rock art, portable objects and human scars

¶184: The Torres Strait is often in the research literature – unsurprisingly since it is not only a key area for early settlement but one where ancient and modern practice resonate. 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.

¶185: Meat-acquisition patterns in the Neolithic Yangzi river valley, China

¶186: The authors provide an overview of animal exploitation in the Chinese Neolithic, emphasising regional differences in meat procurement strategies. While the Yellow river peoples turned from hunting wild animals to the rearing of pigs, dogs, sheep and cattle during the Neolithic, the peoples of the Yangzi valley continued to rely on an abundant supply of wild creatures into their Bronze Age. Their staples were deer, fish and birds and there was a special relationship with fish that extended even to the grave.

¶187: Basalt bifacial tool production in the southern Levant: a glance at the quarry and workshop site of Giv'at Kipod, Israel

¶188: The authors describe the discovery of a Late Neolithic/Chalcolithic basalt axe factory in the Manasseh Hills in Israel and suggest it had a primary role in the region for the production of these functional and symbolic tools. The form of discarded roughouts and flakes is used to deduce the principal eventual product and its sequence of manufacture.

¶189: Multivallate sites and socio-economic change: Thailand and Britain in their Iron Ages

¶190: The Iron Age in north-eastern Thailand is marked by the appearance of multivallate 'moated sites' some of them up to 50ha in extent. Current evidence for their date and function shows them to be contemporary with other developments – expansion into new agricultural land, increases of ranking in burial and the arrival of regional pottery industries. In interpreting the reasons for these changes, the author draws on analogies from the Bronze/Iron transition in Britain, where forts are also seen as instruments of socio-economic change.

¶191: Equids and an acrobat: closure rituals at Tell Brak

¶192: Deposits of human and animal bodies in a monumental Akkadian building at Tell Brak (ancient Nagar) superficially suggest random killing and disposal. But here the authors produce evidence that these represent the deliberate sacrifice of valued creatures. Among the human remains were those argued to represent a specialist acrobat, while the donkey remains reflect the association of the building with the breeding of the much-debated onager-donkey hybrid that preceded the horse.

¶193: Geometric templates used in the Akrotiri (Thera) wall-paintings

¶194: A research team at Akrotiri, Thera, here examine the Bronze Age frescoes and show that the artists were making use of templates of well known geometric curves. 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.

¶195: Gesture politics and the art of ambiguity: the Iron Age statue from Hirschlanden

¶196: The discovery of the extraordinary Hirschlanden figure was reported in this journal in 1964. Since then the statue has featured in numerous discussions of Iron Age art and society, to the extent that it has become one of the iconic images of the European Iron Age. It has become almost taken for granted that the Hirschlanden figure is an 'intensely masculine' warrior statue representing the heroised dead. 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.

¶197: Early sculptural traditions in West Africa: new evidence from the Chad Basin of north-eastern Nigeria

¶198: Thanks to a number of well-stratified sequences, the authors can offer a new history of clay image-making in West Africa. From the first known human occupation in the second millennium BC, the shaped clay figurines remain remarkably conservative, suggesting their use as offerings, toys or in games or some role rooted in domestic everyday life. Only in the late first millennium BC and in one area (Walasa) does a more formal art emerge in north-eastern Nigeria, a development contemporary with the famous Nok culture further south.

¶199: Deported nation: the fate of the Bohai people of Mongolia

¶100: The mass deportation of a conquered people from tenth-century Mongolia known from documents is here tracked archaeologically by survey and excavation. The authors found evidence for the maintenance of Bohai tradition in the fortress of Chintolgoi, many thousands of kilometres south of their homeland.

¶101: Diet and status in Birka: stable isotopes and grave goods compared

¶102: In this paper the authors investigate isotopic signatures of burials from the famous Viking period cemetery at Birka in Sweden, comparing their results on diet with the status and identities of individuals as interpreted from grave goods. These first observations offer a number of promising correlations, for example the shared diet of a group of women associated with trade, and a marine emphasis among men buried with weapons.

¶103: Artefacts, skulls and written sources: the social ranking of a Celtic family buried at Münsingen-Rain

¶104: An examination of the skeletons from the well-known La Tène cemetery of Münsingen-Rain shows that they represent members of a high ranking group, and that they were closely related. These new findings prompt the authors to examine the written documents that refer to nobility in the Roman and Celtic world.

¶105: Visualisation of LiDAR terrain models for archaeological feature detection

¶106: LiDAR is developing into a formidable instrument of aerial survey. 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.

¶107: The warriors' new headgear

¶108: The important paper by S. Celestino Pérez and C. López-Ruiz that we published in 2006 (Antiquity 80: 89-101) suggested that the warrior slabs (stelae) with their horned-helmet motifs found in Iberia 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. It was not to the taste of Dirk Brandherm who claims that the Iberian motifs are both different and earlier than any pre-echoes from the east. In a brief response the authors hold firmly to their thesis.

¶1109: Should archaeology be in the service of 'popular culture'? A theoretical and political critique of Cornelius Holtorf's vision of archaeology

¶1110: Kristian Kristiansen takes issue with Cornelius Holtorf's vision of a people-driven archaeology; and the popular context replies in kind.

¶1111: Academic critique and the need for an open mind (a response to Kristiansen)

¶1112: 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. While I am in general sympathy with the attempt to analyse the role of archaeology in modern popular culture – and his 2007 book especially provides some good examples of that – I am deeply sceptical of Holtorf's theoretical and political programme for archaeology. It represents a dangerous attempt to deconstruct archaeology as a historical discipline in order to allow modern market forces to take over the archaeological heritage and the consumption of the past as popular culture.

¶1113: (Rome + Barbarians) = Europe?

¶1114: The exhibition, *Rome and the Barbarians: the Birth of a New World*, in Venice, meditates on Europe's cultural genealogy. Europe, it argues, is a concoction of disparate traditions conceived and developed by the will of admiring immigrants to the Roman world from the east and north. 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?

¶1115: Publishing Çatalhöyük: multivocality in action? -

¶1116: Excavating Çatalhöyük: South, North and KOPAL Area reports from the 1995-99 seasons (

¶1117: Inhabiting Çatalhöyük: reports from the 1995-99 seasons by members of the Çatalhöyük teams (

¶1118: Changing Materialities at Çatalhöyük: reports from the 1995-99 seasons by members of the Çatalhöyük teams

¶1119: Çatalhöyük Perspectives: reports from the 1995-99 seasons by members of the Çatalhöyük teams

¶1120: Castles, crown and countryside -

¶1121: Excavations at Launceston Castle, Cornwall.

¶1122: A Study of Barnard Castle in Teesdale, Volumes 1 & 2

¶1123: Prehistory: the Making of the Human Mind.

¶1124: People, Plants & Genes: the Story of Crops and Humanity.

¶125: Millennial Landscape Change in Jordan: Geoarchaeology and Cultural Ecology.

¶126: Early Landscapes of Myanmar.

¶127: The Origins of the Indo-Iranians.

¶128: Metallurgy in the Early Bronze Age Aegean

¶129: Iron Age houses in flames: testing house reconstructions at Lejre

¶130: Place and Memory: Excavations at the Pict's Knowe, Holywood and Holme Farm, Dumfries and Galloway, 1994-8.

¶131: An Imperial Possession: Britain in the Roman Empire, 54 BC - AD 409

¶132: Roman Pottery in the Archaeological Record.

¶133: Life and labour in late Roman Silchester: excavations in Insula IX since 1997 (

¶134: Les Fouilles du Yaudet en Ploulec'h, Côtes-d'Armor, Volume 3: du quatrième siècle apr. J.-C. à aujourd'hui

¶135: Eternal Butrint. A UNESCO World Heritage Site in Albania.

¶136: Himyar: Spätantike in Jemen/Late Antique in Yemen.

¶137: Early Islamic Syria: an archaeological assessment.

¶138: Kaupang in Skiringssal

¶139: ISSUE 3

¶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 shows these Middle Palaeolithic people to have been hunters predominately on a meat diet. Comparison with other specimens further south suggests this diet – deer, but no fish or plants – to be something of a behavioural norm, whatever the latitude and plant cover.

¶142: Late Holocene human occupation of the Patagonian forests: a case study in the Cisnes river basin

¶143: How early did steppe dwellers penetrate the forests? The authors compare and contrast settlement on the steppe, in the forest and on the steep sea coast of western Patagonia, finding that the steppe is occupied first, from 11400 calendar years BP. But around 2800 calendar years BP settlements enter the forest almost simultaneously for a brief period along the length of the Cisnes river valley. Within a few centuries the experiment appears to be abandoned, and the focus of prehistoric peoples returns to the steppe.

¶144: Growth and decline in complex hunter-gatherer societies: a case study from the Jomon period Sannai Maruyama site, Japan

¶145: The Sannai Maruyama site (3900-2300 BC) is one of the largest known from Japan's Jomon period (14000-300 BC). This study shows that over 1500 years the number of dwellings, their size, the type of stone tools and the fondness for figurines varied greatly. Nor was it a story of gradual increase in complexity: the settlement grew in intensity up to a peak associated with numerous grinding stones, and then declined to a smaller settlement containing larger buildings, many

arrowheads and virtually no figurines. Using a bundle of ingenious analyses, the author explains what happened.

¶146: Legal and archaeological territories of the second millennium BC in northern Mesopotamia

¶147: Defining territories and settlement hierarchies is a primary goal of archaeological survey, involving the mapping of different-sized settlements on the ground. However it may not always work, owing to the particular land use or political strategies anciently employed. With the aid of cuneiform documents from Tell Leilan, Syria, the author shows how the settlements found by archaeological survey in northern Mesopotamia actually relate to a number of intersecting authorities, with a hold on major tracts of pasture as well as on arable land and cities. These insights from the Near East have important implications for the interpretation of surveyed settlement patterns everywhere.

¶148: Social networks and the spread of Lapita

¶149: Lapita pottery seems to arrive in the Pacific out of the blue, and signal a new social, economic or ideological network. The authors show that widespread interaction, articulated by obsidian tools and stone mortars and pestles decorated with various motifs, was already in existence in New Guinea and New Britain. These earlier networks provide a preview of the social interaction that was to light up with the advent of Lapita.

¶150: Pottery, cultures, people? The European Baden material re-examined

¶151: The Baden culture, like others in central Europe, has long been assumed to be the material indication of a people. In a searing analytical deconstruction, the author shows that 'Baden' pottery has no equivalence with other cultural practices, and is itself an amalgam of a number of different pottery fabrics and styles, many of them regionally diverse. Singled out among them is the early Boreláz fine ware which is actively spread in central Europe, perhaps accompanied by a knowledge of the first wheeled vehicles.

¶152: Iron Age beehives at Tel Rehov in the Jordan valley

¶153: Beehives were discovered in a densely built area in the Iron Age city of Rehov (tenth-ninth century BC). They consisted of hollow clay cylinders, each with a little hole at one end (for the bee) and a removable lid at the other (for the bee keeper). These beehives, the earliest found in the Near East, were identified by analogy with examples pictured on Egyptian tombs and in use by traditional peoples. The suggested identification was confirmed by chemical analysis.

¶154: Rocks, views, soils and plants at the temples of ancient Greece

¶155: This study explores bedrock geology, topographic setting, compass orientation, soil profile and plant cover at 84 temples of Classical (480-338 BC) mainland Greece, several Aegean islands and Cyprus. A striking pattern emerges: the soil and vegetation matches the dedications to particular deities, suggesting an economic basis for particular cults.

¶156: The water management network of Angkor, Cambodia

¶157:

¶158: Meticulous survey of the banks, channels and reservoirs at Angkor shows them to have been part of a large scale water management network instigated in the ninth century AD. Water collected from the hills was stored and could have been distributed for a wide variety of purposes including flood control, agriculture and ritual while a system of overflows and bypasses carried surplus water

away to the lake, the Tonle Sap, to the south. The network had a history of numerous additions and modifications. Earlier channels both distributed and disposed of water. From the twelfth century onwards the large new channels primarily disposed of water to the lake. The authors here present and document the latest definitive map of the water network of Angkor.

¶159: What caused the Viking Age?

¶160: This paper addresses the cause of the Viking episode in the approved Viking manner – head-on, reviewing and dismissing technical, environmental, demographic, economic, political and ideological prime movers. The author develops the theory that a bulge of young males in Scandinavia set out to get treasure to underpin their chances of marriage and a separate domicile.

¶161: Reconstructing the prehistoric burial tumulus of Lofkënd in Albania

¶162: When a monument is excavated it removes a piece of cultural property from the landscape. So modern thinking in field archaeology rightly includes the maintenance of monumentality in its initial design. Better still if that value is enhanced. Reconstructing their excavated tumulus in Albania, the authors found they could leave the monument in place and give it added value from the new knowledge of its relevance to local people, not to mention the revival of a dying craft: the making of mud-brick.

¶163: Direct dating of pottery from its organic residues: new precision using compound-specific carbon isotopes

¶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 were isolated from early Neolithic carinated bowls found at the Sweet Track, Somerset Levels, England, 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: The application of declassified KH-7 GAMBIT satellite photographs to studies of Cold War material culture: a case study from the former Soviet Union

¶166: Forty years after they were originally acquired for intelligence purposes, declassified US photographs from the KH-7 GAMBIT photo reconnaissance satellite programme, together with contemporary declassified intelligence reports, are being used to shed light on Cold War sites in the former Soviet Union. The method should have a great future for understanding the changes to the landscape in Europe over the last 60 years. The material impact of the Cold War was no less fundamental than other wars hotter in nature.

¶167: Stereo analysis, DEM extraction and orthorectification of CORONA satellite imagery: archaeological applications from the Near East

¶168: CORONA satellite imagery, preserving an account of the earth's surface from 40 years ago, is a most important archaeological survey tool and we have often sung its praises. 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.

¶169: Locating places for repatriated burial: a case study from Ngarrindjeri ruwe, South Australia

¶170: In this ingenious co-operative case study, archaeologists and Indigenous peoples use geophysical survey to scan suitable places for the reburial of repatriated human remains. The process is also building a procedure for the low impact and respectful research of early Indigenous burial locations.

¶171: Why handaxes just aren't that sexy: a response to Kohn & Mithen (1999)

¶172: The Acheulean handaxe is one of the most iconic, analysed and fiercely debated artefacts from the prehistoric period. Persisting for over one million years and recovered from sites across the Old World its distinctive, often symmetrical, tear drop or ovate shape appears to be over-engineered for a subsistence function alone. Debate has centred upon trying to unravel the reasons for this form; raw material, knapping technique, subsistence function, cognition, social context of manufacture and sexual selection have all been proposed as key factors (Jones 1994; White 1998; Gamble 1999; Kohn & Mithen 1999; McPherron 2000; Gowlett 2006).

¶173: 'Whatever turns you on': a response to Anna Machin, 'Why handaxes just aren't that sexy'

¶174: Evaluating theories and testing hypotheses that relate to the no-longer observable behaviour of hominin species which have no close analogue in the modern world is an obvious challenge. Machin argues that Kohn & Mithen (1999) did not do so in a sufficiently rigorous manner concerning their so-called 'Sexy Handaxe Theory' (SHT). She is right, of course. Indeed how could it be otherwise when there is always room for improvement by subjecting previously published ideas to newly available data-sets and new types of critical thinking. Machin provides some valuable arguments, bringing together a probably unparalleled breadth of knowledge about the archaeological record, evolutionary theory and sexual selection. Ultimately, however, I am not persuaded that she makes handaxes any less sexy than they had previously appeared.

¶175: Repatriation, display and interpretation

¶176: The British Museum and the National Museum of Wales have lent the finds from Kendrick's Cave, in Llandudno, north Wales, for display and storage at Llandudno Museum; and the British Museum has sent the famous body from Lindow Moss, near Manchester, to be shown at the Manchester Museum, 100km away in England. How should metropolitan or national museums relate to provincial museums? Should there be more such loans? The exhibition in Manchester deliberately raises another question too: how – if at all – should human remains be displayed?

¶177: Seeing under the sediments: acculturation in the fifth and fourth millennia cal BC in the Netherlands

¶178: Hoge Vaart-A27 in context: towards a model of Mesolithic-Neolithic land use dynamics as a framework for archaeological heritage management

¶179: Schipluiden: a Neolithic settlement on the Dutch North Sea coast c. 3500 cal BC

¶180: Prehistoric metal from Italy -

¶181: Prehistoric metal artefacts from Italy (3500-720 BC) in the British Museum

¶182: Bright blades and red metal: essays on north Italian prehistoric metalwork

- ¶183: Archaeological exploration of Oceanic worlds -
- ¶184: The archaeology of islands.
- ¶185: From Southeast Asia to the Pacific: archaeological perspectives on the Austronesian expansion and the Lapita cultural complex
- ¶186: Oceanic explorations: Lapita and western Pacific settlement
- ¶187: The good, the great and the ugly? Identity, palaces and more in the Americas -
- ¶188: Us and them: archaeology and ethnicity in the Andes
- ¶189: Palaces and power in the Americas: from Peru to the Northwest Coast.
- ¶190: Andean archaeology III: North and South.
- ¶191: Directions in historical archaeology -
- ¶192: The archaeology of class in urban America.
- ¶193: Between dirt and discussion: methods, methodology, and interpretation in historical archaeology.
- ¶194: The Cambridge companion to historical archaeology.
- ¶195: Arqueología prehistórica e historia de la ciencia: hacia una historia crítica de la arqueología.
- ¶196: Visions of Antiquity. The Society of Antiquaries of London 1707-2007.
- ¶197: Ancient health: skeletal indicators of agricultural and economic intensification.
- ¶198: Pigs and Humans: 10,000 years of interaction.
- ¶199: Archaeology of Ancient Australia.
- ¶200: Going over: the Mesolithic-Neolithic transition in North-West Europe
- ¶201: The Early Neolithic on the Great Hungarian Plain: investigations of the Körös culture site of Ecsefalva 23, County Békés
- ¶202: Fowling in Lowlands: Neolithic and Chalcolithic bird exploitation in South-East Romania and the Great Hungarian Plain
- ¶203: Archaeology and history of Sardinia from the Stone Age to the Middle Ages: shepherds, sailors, & conquerors.
- ¶204: The undiscovered country: the earlier prehistory of the West Midlands.
- ¶205: Llyn Cerrig Bach: a study of the copper alloy artefacts from the insular La Tène assemblage.
- ¶206: The Atlantic Iron Age: settlement and identity in the first millennium BC.
- ¶207: Investigations in Sanday, Orkney. Volume 1: excavations at Pool, Sanday, a multi-period settlement from Neolithic to Late Norse times.
- ¶208: Investigations in Sanday, Orkney. Volume 2: Tofts Ness, Sanday, an island landscape through 3000 years of prehistory.

¶209: Kasapata and the Archaic period of the Cuzco valley

¶210: Quels scénarios pour l'histoire du paysage? Orientations de recherche pour l'archéogéographie: essai.

¶211: ISSUE 4

¶212: A Middle Palaeolithic bone tool from Crimea (Ukraine)

¶213: A fragment of equid tibia found with a Mousterian assemblage in a rockshelter in the Crimean peninsula is carefully examined. The authors show that it has been knapped like flint to produce a tool probably at a time when stone resources were becoming exhausted. This tool is thus the product of a Neanderthal response to a local need as well as proof that the technological properties of bone were known.

¶214: Middle Palaeolithic bitumen use at Umm el Tlel around 70 000 BP

¶215: The authors identify natural bitumen on stone implements dating to 70 000 BP. It is proposed that this represents residue from hafting, taking the practice back a further 30 000 years from the date previously noted and published in Nature. The bitumen was tracked to a source 40km away, using gas chromatography-mass spectrometry and carbon isotopes.

¶216: New finds of art objects from the Upper Palaeolithic site of Zaraysk, Russia

¶217: The new art objects from Zaraysk 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.

¶218: Tanged points, microblades and Late Palaeolithic hunting in Korea

¶219: The present study examines the stone weapons available in Late Palaeolithic Korea, showing how the change in lithics signals a change in hunting strategy. In advance of the Late Glacial Maximum, a tanged spear tip flourished, reflecting the hunting of large mammals associated with the colder climate. In the more variable climate that followed, the prevalence of microliths suggests lightweight composite hunting weapons mostly used in pursuit of small game and diverse food resources. These weapons eventually included bow and arrows in the final Pleistocene.

¶220: Eastern arrivals in post-glacial Lapland: the Sujala site 10 000 cal BP

¶221: The Sujala site in northern Finnish Lapland is a reindeer hunters' camp from the early post-glacial period, discovered by the authors in 2002. The site was originally linked with the Preboreal occupation of the north Norwegian coast, but further excavations and analyses indicate that it actually represents a totally new phenomenon: evidence for an eastern influx into Lapland around the Preboreal–Boreal transition. This discovery has far-reaching implications for the colonisation of north Scandinavia, but also for the subsequent development of Early Mesolithic settlement in northern Finland and Norway.

¶222: Eastern Anatolian obsidians at Çatalhöyük and the reconfiguration of regional interaction in the Early Ceramic Neolithic

¶223: A small group of exotic obsidian blades supplied from over 600km distant reached a particular area of the East Mound at Çatalhöyük in the Early Ceramic Neolithic (7000-6300 cal BC). The authors

explore a variety of explanations and contexts, including changes in technology, agricultural expansion, gift exchange, bride-wealth and incomers from the east.

¶1224: The orientation of rondels of the Neolithic Lengyel culture in Central Europe

¶1225: The rondels – circular earthworks of late Neolithic Europe – have a repeated form highly suggestive of deliberate design and symbolism. The concentric ditches are cut by two, three or most often four causeways at right angles. Here the authors investigate the orientation of the causeways in 51 rondels belonging to the Lengyel culture and conclude that they correlate well with the sunrise. The idea of a solar cult receives some corroboration from patterns on contemporary pottery.

¶1226: The golden leaves of Ur

¶1227: The famous headdress of Pu-abum at Ur is an object of great beauty. But the authors show that the gold leaves of the headdresses and diadems of her court circle can tell an even richer story. 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. These were properties appreciated not only in Mesopotamia but in eastern Iran and the Indus Valley, home to the sissoo tree as well as to neighbouring civilisations.

¶1228: Sweeter than wine? The use of the grape in early western Asia

¶1229: Emotional news for lovers of a dry white wine. The blissful Hippocrene was composed from wild grapes from the sixth millennium BC in the lands of its natural habitat. But, as the author shows, the cultivation, domestication and selective breeding of the grape following in the Late Neolithic to Early Bronze Age was aimed primarily at the enjoyment of its sweetness.

¶1230: Monumental burials and memorial feasting: an example from the southern Brazilian highlands

¶1231: What happened at the sites of prehistoric burial mounds after they were erected? In the southern highlands of Brazil and Argentina the pre-Hispanic mounds of the twelfth-thirteenth centuries AD are surrounded by large circular enclosures with avenues leading to their centre. The authors discovered that the banks of the surrounding enclosure were built up over several generations of time, accompanied by a succession of ovens. Ethnohistoric observations of more recent peoples in the same region suggested an explanation: the cremation of a chief was followed by periodic feasts at his mound, where meat was steamed and maize beer prepared at the edge of the gathering.

¶1232: An update on Teotihuacan

¶1233: At Antiquity's invitation the author offers this account of recent research and current objectives at the famous ancient Mesoamerican city of Teotihuacan. After a century of investigation, archaeologists are beginning to see something of the composition and preoccupations of one of America's first urban societies, and how it began, flourished and ended.

¶1234: Inside and outside the dry stone walls: revisiting the material culture of Great Zimbabwe

¶1235: 'Any study of Great Zimbabwe has to rely a great deal on re-examining and re-assessing the work of early investigators, the men who removed all the most important finds from the ruins and stripped them of so much of their deposits' (Garlake 1973: 14). The authors have here done us a great service in reviewing the surviving archaeological evidence from this world famous site. They challenge the structuralist interpretation – in which different parts of the site were allocated to kings, priests, wives or to circumcision rituals – and use the architectural, stratigraphic and

artefactual evidence accumulated over the years to present a new sequence. The early enclosures on the hill, the Great Enclosure and the valley enclosures now appear as the work of successive rulers, each founding a new residence and power centre in accord with Shona practice.

¶1236: Monumentality and the development of the Tongan maritime chiefdom

¶1237: On Tongatapu the central place of the rising kingdom of Tonga developed in the fourteenth and fifteenth centuries AD. Marked out as a monumental area with a rock-cut water-carrying ditch, it soon developed as the site of a sequence of megalithic tombs, in parallel with the documented expansion of the maritime chiefdom. The results of investigations into these structures were achieved with minimum intervention and disturbance on the ground, since the place remains sacred and in use.

¶1238: Modelling maritime interaction in the Aegean Bronze Age

¶1239: 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.

¶1240: Where the wild things are: aurochs and cattle in England

¶1241: The aurochs was a type of wild cattle not extinct in Europe until the mid-second millennium BC – so they must have co-existed for centuries with the domestic cattle which were to supplant it. Here the authors use stable isotope analysis to show what form that co-existence took: the domestic cattle grazing on the pasture, and the aurochs lurking in the forests and wet places.

¶1242: Archaeological resource modelling in temperate river valleys: a case study from the Trent Valley, UK

¶1243: Methods for mapping and determining the condition of archaeological resources while they are still underground have been in development for nearly half a century. 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.

¶1244: Airborne lidar and historic environment records

¶1245: The authors assess the potential contribution of lidar surveys to national inventories of archaeological resources (‘Historic Environment Records’), and compare the relative costs and sensitivity of lidar and aerial photography.

¶1246: The cart ruts of Malta: an applied geomorphology approach

¶1247: The mysterious rock-cut cart ruts of Malta are here examined by geomorphologists. They find that the ruts could be caused by two-wheeled carts with a gauge of 1.40m carrying moderate loads. In wet weather the carts would gradually cut into the limestone and reach their ground clearance of 0.675m, causing the carriers to try another route – so there are plenty of them.

¶1248: The archaeology of Islam in Britain: recognition and potential

¶1249: What did the British know about Islam before the modern period? The author reviews evidence which shows that there was contact with, and appreciation of, Muslim culture from almost the time of the Hegira in the seventh century. This appreciation varied and was reflected in different choices of material culture: coinage, ceramics and architecture, in successive periods from the eighth century to the nineteenth.

¶1250: Practising archaeology at a time of climatic catastrophe

¶1251: The term 'catastrophe' in my title is not chosen idly, but reflects the now well-established fact that Earth is experiencing (anthropogenic) climate change at a rate and scale unparalleled in human history (IPCC 2007a). Dramatic events such as the terrorist attacks of 11 September 2001 are so unexpected that one retains a clear memory of precisely when and where one learned of them. Regrettably, climate change is subtler, its effects slower, its consequences less immediately obvious. Yet something of the same is true. In my own case, I vividly recall the moment when I first grasped what it might mean. At the 1993 Kimberley meeting of the Southern African Society for Quaternary Research (SASQUA), a presenter commented that her palaeoenvironmental research, which reached back through the Holocene, might, perhaps, be relevant to modelling future climatic change. Back came the comment from another participant that the Holocene climatic 'optimum' was far from relevant; a bestcase analogue might instead be the conditions prevailing during the Pliocene, 5.3-1.8 million years ago.

¶1252: Can a museum explain imperialism?

¶1253: Empires produced some of the ancient world's grandest monuments. No doubt that helps to account for successive major exhibitions recently mounted at the British Museum. The First Emperor: China's Terracotta Army closed in April 2008, having drawn more visitors than any other since Treasures of Tutankhamun in 1972 (British Museum 2008: 66). There followed, from July to October, impressive and intriguing pieces on Hadrian, the Roman Emperor of the second century AD. The attention to large political systems is timely (James 2008: 201). 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'. Is this feasible in practice; and, if so, is a state museum with business sponsorship a likely place to find such enlightenment? Studying the archaeology in Hadrian, with The First Emperor as a foil, enabled us to assess these questions.

¶1254: Diverse histories and meta-narratives -

¶1255: From Genesis to prehistory: the archaeological Three Age System and its contested reception in Denmark, Britain, and Ireland.

¶1256: A world history of nineteenth-century archaeology: nationalism, colonialism, and the past

¶1257: Eurasia in the Bronze and early Iron Ages -

¶1258: ie frühen Völker Eurasiens vom Neolithikum bis zum Mittelalter.

¶1259: The making of Bronze Age Eurasia.

¶1260: The Urals and Western Siberia in the Bronze and Iron Ages.

¶1261: The horse, the wheel and language: how Bronze-Age riders from the Eurasian Steppes shaped the modern world.

¶1262: De l'âge du bronze à l'âge du fer au Kazakhstan, gestes funéraires et paramètres biologiques: identités culturelles des populations Andronovo et Saka

¶1263: Art and industry at Amarna -

¶1264: Brilliant things for Akhenaten: the production of glass, vitreous materials and pottery at Amarna Site O45.1

¶1265: The Eighteenth Dynasty pottery corpus from Amarna

¶1266: Amarna Palace paintings

¶1267: The Main Chapel at the Amarna Workmen's Village and its wall paintings

¶1268: Post-Roman imports in the British Isles: material and place -

¶1269: Continental and Mediterranean imports to Atlantic Britain and Ireland, AD 400-800 (

¶1270: Excavations at Tintagel Castle, Cornwall, 1990-1999

¶1271: Secular and ecclesiastic dynamics at Anglo-Saxon Flixborough -

¶1272: The early medieval settlement remains from Flixborough, Lincolnshire: the occupation sequence, c. AD 600-1000

¶1273: Farmers, monks and aristocrats: the environmental archaeology of Anglo-Saxon Flixborough

¶1274: Rural settlement, lifestyles and social change in the later first millennium AD: Anglo-Saxon Flixborough in its wider context

¶1275: Assembled archaeological wisdom -

¶1276: A Future for Archaeology: the past in the present.

¶1277: The Heritage Reader.

¶1278: Science, politics and business in the work of Sir John Lubbock: a man of universal mind.

¶1279: Finding time for the Old Stone Age: a history of Palaeolithic archaeology and Quaternary geology in Britain, 1860-1960.

¶1280: Kebara Cave, Mt. Carmel, Israel: the Middle and Upper Palaeolithic archaeology. Part I

¶1281: Les chemins de l'art aurignacien en Europe/Das Aurignacien und die Anfänge der Kunst in Europa: Colloque international/Internationale Fachtagung, Aurignac 16-18 septembre 2005.

¶1282: The archaeology of a collection: the Keiller-Knowles collection at the National Museum of Ireland

¶1283: Scandinavian flint – an archaeological perspective.

¶1284: Fire, Water, Heaven and Earth. Ritual practice and cosmology in ancient Scandinavia: an Indo-European perspective.

¶1285: New Survey of Clare Island. Volume 5: archaeology.

¶1286: An atlas for Celtic studies: archaeology and names in ancient Europe and Early Medieval Ireland, Britain, and Brittany.

- ¶1287: Olive cultivation in ancient Greece: seeking the ancient economy.
- ¶1288: The Roman Imperial quarries: survey and excavation at Mons Porphyrites 1994-1998.
- ¶1289: The archaeology of Fazzān. Volume 2: site gazetteer, pottery and other survey finds.
- ¶1290: Nasal motifs in Maya iconography: a methodological approach to the study of ancient Maya art.
- ¶1291: Aspects of Anglo-Saxon inhumation burial: Morning Thorpe, Spong Hill, Bergh Apton and Westgarth Gardens
- ¶1292: Medieval food traditions in Northern Europe
- ¶1293: Megaliths and other stones -
- ¶1294: Origine et développement du mégalithisme de l'ouest de l'Europe/Origin and development of the megalithic monuments of western Europe.
- ¶1295: The megaliths of Northern Europe.
- ¶1296: Landscape of the megaliths: excavation and fieldwork on the Avebury monuments 1997-2003.
- ¶1297: Prehistory in the Netherlands -
- ¶1298: Excavations at Geleen-Janskamperveld 1990/1991
- ¶1299: Between foraging and farming: an extended broad spectrum of papers presented to Leendert Louwe Kooijmans
- ¶1300: Bronze Age settlements in the Low Countries.
- ¶1301: Fleming and after -
- ¶1302: The Dartmoor Reaves: investigating prehistoric land divisions.
- ¶1303: Monuments in the landscape. 2
- ¶1304: Scottish odysseys: the archaeology of islands.
- ¶1305: Beyond the grave: new perspectives on barrows.
- ¶1306: Prehistoric journeys.
- ¶1307: Stone worlds: narrative and reflexivity in landscape archaeology.



## **Name:** Antiquity 2009 abstracts

¶1: Antiquity 2009 abstracts

¶2: ISSUE 1

¶3: The Lower Pleistocene lithic assemblage from Dursunlu (Konya), central Anatolia, Turkey

¶4: Homo erectus leaving Africa a million years ago ought to have passed through the area that is now Turkey, and the authors report a first certain sighting of human activity of this date in a lignite quarry near Konya. The remains of rhino, hippo and horse were found with 135 modified quartz implements in layers dated by palaeomagnetic reversal to between 0.78 and 0.99 million years ago.

¶5: Who was buried at Stonehenge?

¶6: Stonehenge continues to surprise us. In this new study of the twentieth-century excavations, together with the precise radiocarbon dating that is now possible, the authors propose that the site started life in the early third millennium cal BC as a cremation cemetery within a circle of upright bluestones. Britain's most famous monument may therefore have been founded as the burial place of a leading family, possibly from Wales.

¶7: The date of the Greater Stonehenge Cursus

¶8: The Greater Cursus – 3km long and just north of Stonehenge – had been dated by a red deer antler found in its ditch in the 1940s to 2890-2460 BC. New excavations by the authors found another antler in a much tighter context, and dating a millennium earlier. It appears that the colossal cursus had already marked out the landscape before Stonehenge was erected. At that time or soon after, its lines were re-emphasised, perhaps with a row of posts in pits. So grows the subtlety of the discourse of monuments in this world heritage site.

¶9: Exploiting a damaged and diminishing resource: survey, sampling and society at a Bronze Age cemetery complex in Cyprus

¶10: Is a cemetery that has been robbed and pillaged for generations worthy of systematic research? It certainly is, given the application of a well conceived and executed project design. The authors show that the precise investigation of tomb architecture and identification of residual pottery can allow the detailed mapping of funerary practice over large areas of space and periods of time. Here they develop a narrative of increasing population and funerary investment through the Bronze Age in central north Cyprus. And having recorded 1286 pillaged tombs they call attention to the value of what still remains and the dangers that such monuments still face. The fact that a cemetery has been damaged is no reason to sacrifice it to the bulldozer.

¶11: Aerial archaeology in Jordan

¶12: The authors have provided some of Antiquity's most stunning frontispieces since we introduced them in 2006. We asked them to show how aerial archaeology has developed in Jordan over some 90 years, tell us about the techniques and approaches used and its potential here and in other desert and mountainous lands.

¶13: River valleys and foothills: changing archaeological perceptions of North China's earliest farms

¶14: Early farming in northern China featured the cultivation of two species of millet, broomcorn and foxtail. Although previously seen as focused on the Yellow River, the authors show that the earliest agriculture is actually found in the foothills of the neighbouring mountain chains, where drier and better drained locations suited millet cultivation, particularly broomcorn. In this they echo new thoughts on the locale of early agriculture in south-west Asia, on the hilly flanks of the Fertile Crescent rather than in the valleys of the Nile or the Euphrates.

¶15: Recent archaeometric research on 'the origins of Chinese civilisation'

¶16: We are very pleased to present a summary account of the People's Republic of China's project on the Origins of Chinese Civilization. It has focused on Late Neolithic and early Bronze Age sites of the Central Plains – the cultural heartland of the first three dynasties of Xia, Shang and Zhou. Particularly notable is the emphasis of methodology which was driven almost entirely by the archaeological sciences.

¶17: A new approach to the archaeology of livestock herding in the Kalahari, Southern Africa

¶18: The author notes that livestock herding in the Kalahari Desert would require water during the dry season. By mapping and dating artificially dug or enlarged waterholes, he shows when and where such herding would have been possible. Dating is by radiocarbon, artefact scatters and cartography. Comparison with climatic, documentary and oral evidence shows that the use of the artificial wells correlates with what is known so far about the movement of peoples over the last two millennia. This inspires confidence in the connection between the wells and herding and in the survey methods.

¶19: A new chronological framework for prehistoric Southeast Asia, based on a Bayesian model from Ban Non Wat

¶20: The authors offer a new chronological framework for prehistoric Southeast Asia, based mainly on the Bayesian modelling of 75 radiocarbon dates from well-stratified excavations at Ban Non Wat. The results are revolutionary. Neolithic practice now begins in the second millennium and hierarchical state-forming activity is dated to a 'starburst' around 1000 BC. The authors reflect on the social implications of the new model – and on the criteria for an ever stronger chronology.

¶21: Eung Tae's tomb: a Joseon ancestor and the letters of those that loved him

¶22: In medieval Korea certain burials were sealed in concrete resulting in the exceptional preservation of organic materials, including, in this case, written documents. As well as studying changes in rank and ideology, archaeologists who investigate tombs are often moved to wonder about the character of the deceased, the thoughts of the mourners and their hopes and fears on the passing of a person dear to them. In this extraordinary burial from Korea, we hear these voices directly.

¶23: Nineteenth-century Apache wickiups: historically documented models for archaeological signatures of the dwellings of mobile people

¶24: Highly mobile people must have sheltered in structures of some kind; but these are notoriously difficult to find. The author uses nineteenth-century photographs of an occupied Apache settlement to show how such shelters may have been made, comparing them with their archaeological remains in the present day. This suggests a 'signature' for the temporary shelters used by mobile groups in any period.

¶25: A re-assessment of the larger fetus found in Tutankhamen's tomb

¶126: As noted by Geoffrey Chamberlain, the two baby girls found in Tutankhamen's tomb were probably his stillborn heirs. More controversially he suggested that they were twins, although one appeared to be larger than the other. Here new research on estimating the age of a fetus is shown to support the twin hypothesis, while recent work on Twin-Twin Transfusion Syndrome explains why they could be such different sizes.

¶127: The invention of 'Tarentine' red-figure

¶128: This deconstruction of how Apulian red-figure pottery came to be termed Tarentine has implications for archaeological methodology far beyond the Mediterranean. 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. It is a fine example of the process that has left us with so many unsuitable and immovable names for material from Samian to Gothic.

¶129: A year at Stonehenge

¶130: You didn't need to be an archaeologist in 2008 to know that things were happening at Stonehenge. For years controversial plans to improve the Stonehenge environs (costed at £600m) had dominated media and much academic debate, but in November 2007 the British government announced that it couldn't afford them (Pitts 2008a). The plans were dropped (much cheaper changes are now being implemented to make Stonehenge look nice for the 2012 Olympics: English Heritage 2008). There are new broadcasts and press stories featuring the stones every year, but 2008 was different. As road protests diminished, real archaeologists took the stage.

¶131: Symmetry and humans: reply to Mithen's 'Sexy Handaxe Theory'

¶132: In reply to Machin's criticism of Kohn and Mithen's (1999) 'Sexy Handaxe Theory' in a recent Antiquity debate (Machin 2008: 761-6), Mithen (2008: 766-9) states that sexual selection is still relevant to the symmetry of Acheulean handaxes because this provides the only theory that can account for the various features typical of such artefacts. This conclusion may be misconceived, however, due to the conflation of the various factors relating to symmetry, attractiveness, and health. Crucially, recent studies have not found a genetic link based on sexual selection for physical traits based on symmetry. For example, Koehler et al. (2002) established that there was no difference in preference for the symmetry of male faces by females nearing conception compared to those females taking contraceptives. Similarly, Rhodes et al. (2001) found that, although there might be a link between facial symmetry and perceived health, there was no correlation between facial symmetry and actual health.

¶133: Is there a crisis facing British burial archaeology?

¶134: 2007 was an eventful year for the ethics of burial in Britain: the Science Museum returned the remains of Tasmanian Aborigines to their cultural home (Henderson 2007), the legal system governing the excavation of human remains was reinterpreted (Small 2008), The Guardian reported on the desire of neo-pagans to take ownership of human remains (Randerson 2007) and there was a debate in the museum literature on just this topic (see Restall Orr & Bienkowski 2006 and Smith & Mays 2007). In light of these changes and debates it may be unsurprising to learn that many British archaeologists feel that it is 'getting more difficult to work with human remains'.

¶135: How to make sense of treasure

¶136: Treasures in themselves are fetishes. Only the admirer can make 'treasure' of a find in isolation; but to wonder about it as treasure opens apt questions about why the thing was valued, by whom and under what conditions. It was worrying, then, when the Fitzwilliam Museum, Cambridge University's art collection, took in an exhibition of striking ancient finds returning to the Georgian National Museum from the USA (Smithsonian Institution and New York University). For the usual focus on the intrinsic qualities of fine art sits awkwardly with archaeological concern for context. The Fitzwilliam did tend to isolate the exhibits; but, here, that yielded an advantage as well as a difficulty.

¶137: Humans: a not so modest affair -

¶138: Human origins: what bones and genomes tell us about ourselves.

¶139: Rethinking the human revolution: new behavioural and biological perspectives on the origin and dispersal of modern humans

¶140: Human ecology: biocultural adaptations in human communities

¶141: Yet more out of Africa and from people 'without history' -

¶142: The evolution of modern humans in Africa: a comprehensive guide.

¶143: Living with pottery: ethnoarchaeology among the Gamo of Southwest Ethiopia.

¶144: Mortuary landscapes of North Africa

¶145: Historical archaeology in Africa: representation, social memory, and oral traditions.

¶146: Romanisation in eastern and central Europe -

¶147: Rome and the Nomads: the Pontic-Danubian realm in Antiquity.

¶148: Dacia: landscape, colonisation, Romanisation.

¶149: La romanisation de la Germanie.

¶150: Recent publications in roads archaeology -

¶151: The lands of ancient Lothian: interpreting the archaeology of the A1.

¶152: Monumental beginnings: the archaeology of the N4 Sligo Inner Relief Road

¶153: The archaeology of the A1(M) Darrington to Dishforth DBFO road scheme

¶154: The British Lower Palaeolithic: stones in contention.

¶155: Quartär. Internationales Jahrbuch für Eiszeitalter- und Steinzeitforschung/International Yearbook for Ice Age and Stone Age Research, Band 55 (2008).

¶156: The first Africans: African archaeology from the earliest toolmakers to most recent foragers.

¶157: Excavations at Tell Es-Sweyhat, Syria, volume 2. Archaeology of the Bronze Age, Hellenistic, and Roman remains at an ancient town on the Euphrates River.

¶158: Chalkland: an archaeology of Stonehenge and its region.

¶159: Charles Darwin 'On the Origin of Species' (illustrated edition).

¶160: Histories of archaeology: a reader in the history of archaeology.

- ¶161: People and things: a behavioural approach to material culture.
- ¶162: Case studies in archaeological predictive modelling
- ¶163: Uplands of ancient Sicily and Calabria: the archaeology of landscape revisited
- ¶164: Ancient Tiwanaku.
- ¶165: Tours antique et médiéval. Lieux de vie, temps de la ville: 40 ans d'archéologie urbaine
- ¶166: Wood use in medieval Novgorod (The archaeology of Medieval Novgorod series).
- ¶167: Aristocratic landscape: the spatial ideology of the medieval aristocracy
- ¶168: Pompeii and Pompeiana -
- ¶169: Pompeii: the life of a Roman town.
- ¶170: The Insula of the Menander at Pompeii, Volume 3: the finds, a contextual analysis. x
- ¶171: People & plants in ancient Pompeii: a new approach to urbanism from the microscope room
- ¶172: Pompeii and the Roman villa: art and culture around the Bay of Naples.
- ¶173: Antiquity recovered: the legacy of Pompeii and Herculaneum.
- ¶174: British round-up -
- ¶175: Prehistoric Britain.
- ¶176: Early peoples of Britain and Ireland: an encyclopedia.
- ¶177: Prehistoric Lancashire.
- ¶178: Archaeology and early history of Angus.
- ¶179: Cadbury Castle: the hillfort and landscapes.
- ¶180: British forts in the age of Arthur.
- ¶181: The Isle of Thanet from prehistory to the Norman Conquest.
- ¶182: The Vikings in the Isle of Man.
- ¶183: ISSUE 2
- ¶184: Extraordinary Early Magdalenian finds from El Mirón Cave, Cantabria (Spain)
- ¶185: The authors describe three splendid and newly discovered objects from the Upper Palaeolithic in northern Spain: an engraved scapula, a possible spearthrower and a decorated stone pendant. As well as adding to the corpus of iconic artefacts from the period, these new finds have the special virtue of being meticulously excavated and recorded in context.
- ¶186: Pavlov VI: an Upper Palaeolithic living unit
- ¶187: This newly discovered and excavated site defines an Upper Palaeolithic activity unit consisting of a roasting pit at the centre of an area 5m across. Although the main task was the processing of two mammoths, there were numerous other wild animals in the assemblage. The occupants used flint knives, made bone tools and modelled in baked clay – on which they left their fingerprints, along

with imprints of reindeer hair and textiles. Pavlov VI offers an exemplary picture of the basic living unit that made up the settlement clusters of the Gravettian people in Central Europe.

¶188: Multiple uses for Australian backed artefacts

¶189: Backed artefacts, otherwise microliths or backed bladelets, are key indicators of cultural practice in early Australia – but what were they used for? The authors review a number of favourite ideas – hunting, scarification, wood working – and then apply use-wear analysis and residue studies to three prehistoric assemblages. These showed contact with a wide range of materials: wood, plants, bone, blood, skin and feathers. These results are unequivocal – the backed artefacts were hafted and employed as versatile tools with many functions.

¶190: Large-scale storage of grain surplus in the sixth millennium BC: the silos of Tel Tsaf

¶191: The authors report and describe the remarkable grain silos discovered at Tel Tsaf in the southern Levant. These tall, white, barrel-shaped towers seem to mark the first appearance of monuments of demonstrative surplus.

¶192: The oldest and longest enduring microlithic sequence in India: 35 000 years of modern human occupation and change at the Jwalapuram Locality 9 rockshelter

¶193: The Jwalapuram Locality 9 rockshelter in southern India dates back to 35 000 years ago and it is emerging as one of the key sites for documenting human activity and behaviour in South Asia. The excavated assemblage includes a proliferation of lithic artefacts, beads, worked bone and fragments of a human cranium. The industry is microlithic in character, establishing Jwalapuram 9 as one of the oldest and most important sites of its kind in South Asia.

¶194: Flint and metal daggers in Scandinavia and other parts of Europe. A re-interpretation of their function in the Late Neolithic and Early Copper and Bronze Age

¶195: We are honoured to present this pivotal paper by a senior Danish scholar (born in 1922) that promises to revise many views of Late Neolithic and Bronze Age Europe. Prehistoric daggers found in graves in Scandinavia and beyond have long been interpreted as weapons wielded by warriors, giving the whole period a rather belligerent flavour. In a radical re-interpretation, the author demonstrates that their use was most probably for the despatch of cattle or other livestock, and the dagger is thus the implement of sacrifice and the symbol of its office.

¶196: Bredarör on Kivik: a monumental cairn and the history of its interpretation

¶197: The famous monumental Bronze Age cairn Bredarör on Kivik with its decorated stone coffin or cist has been described as a 'pyramid of the north'. Situating his work as the latest stage in a long history of interpretation that began in the eighteenth century, the author analyses the human bone that survived from the 1930s excavation and shows that the cist and chamber must have remained open to receive burials over a period of 600 years.

¶198: The Xiongnu settlements of Egiin Gol, Mongolia

¶199: The Xiongnu people have long been considered an archetypical nomadic group, characterised archaeologically mainly from their tombs – which have reinforced the stereotype. Thanks to a sophisticated survey project, the authors are able to reveal the Xiongnu's economic complexity. Although primarily pastoralists they practiced cultivation and their ceramics reveal a settlement hierarchy which chimes with the broader social and settlement system of the region.

¶100: Pottery production and Islam in south-east Spain: a social model

¶101: Studying the pottery produced in the Granada region between the eighth and eleventh centuries AD, the author describes a changing discourse of Roman and Islamic forms. This in turn can be held to reflect the changing social relations between conquerors and conquered.

¶102: Dante's heritage: questioning the multi-layered model of the Mesoamerican universe

¶103: Ancient Mesoamericans are generally thought to have imagined the universe stacked in vertical layers, not unlike the cosmic layers of Dante's Comedy. Dismantling this model, our authors show it to be based upon a post-conquest European-Aztec hybrid. This penetrating critique tracks the history of the hybrid cosmos from its first appearance through its resilient repetition until today.

¶104: The roots of provenance: glass, plants and isotopes in the Islamic Middle East

¶105: Glass – one of the most prestigious materials of the early Islamic empire – was traded not only as vessels and bangles but as raw glass blocks. One of its raw materials, plant-ash, was also traded. This means that tracking the production of this precious commodity is especially challenging. 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. The materials used by the glassmakers were local sand and plant ashes. Reported here is the first application of the method to the glass made at the primary glass making centre of al-Raqqqa, Syria in an environmental context.

¶106: 'The Farm Beneath the Sand' – an archaeological case study on ancient 'dirt' DNA

¶107: It is probable that 'The Farm Beneath the Sand' will come to stand for a revolution in archaeological investigation. The authors show that a core of soil from an open field can provide a narrative of grazing animals, human occupation and their departure, just using DNA and AMS dating. In this case the conventional archaeological remains were nearby, and the sequence obtained by the old methods of digging and faunal analysis correlated well with the story from the core of ancient 'dirt' DNA. The potential for mapping the human, animal and plant experience of the planet is stupendous.

¶108: 230Th dates for dedicatory corals from a remote alpine desert adze quarry on Mauna Kea, Hawai'i

¶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. Freshly broken coral had been transported to these sites, remote from the sea – no doubt for ritual purposes. Giving a date in the fifteenth century with an error range of only five years, the method promises to be valuable for the early history of the Pacific.

¶110: Celebrating the annus mirabilis

¶111: We are grateful to Chris Evans for convening and introducing this imaginative archaeological tribute to the work of Charles Darwin, 150 years after the publication of his *On the origin of species* – the inspiration for an evolutionary concept of history in so many fields. June 2009 is also the 150th anniversary of a yet more momentous event in the history of archaeology, the endorsement of the antiquity of human tool-making by observations in the Somme gravels. Clive Gamble and Robert Kruszynski reconstruct the occasion and publish the famous axe for the first time. Chris Evans returns to present us with the bitter-sweet spectacle of the Darwin family as excavators and Tim Murray rediscovers a suite of pictures made for John Lubbock which show how prehistoric life was

envisaged in polite society at the time. Lastly we are grateful to Colin Renfrew for his own reflections on the anniversary.

¶112: John Evans, Joseph Prestwich and the stone that shattered the time barrier

¶113: It all began in a railway carriage. Two businessmen, travelling to the Kingston Assizes in Surrey, nodded to each other as strangers do, but did not strike up a conversation. They were expert witnesses appearing for different sides in the Croydon Water Question; a legal test case that boiled down to who owned the underground waters of London (Mather 2008: 83–4). Joseph Prestwich (Figure 1a), the older by 11 years, represented the water suppliers. As the train rattled along under full steam he would have seen landmarks from his pioneering geology of the London Basin. But water was not his business. His family ran a profitable wine importers. Geology, however, was his passion.

¶114: Small agencies and great consequences: Darwin's archaeology

¶115: Recent years have seen renewed interest in Darwinian concepts as an inspiration for evolutionary theory in archaeology (for example Barton & Clark 1997; Hart & Terrell 2002). This is not, however, the thrust of this paper, whose aims are more historiographic than programmatic. It will not focus upon Darwin's 'big book', *The Origin ... of 1859* (or even *The Descent ... of 12 years later*), but rather his last volume, the wonderfully curious *The formation of vegetable mould through the action of worms of 1881* (hereafter *Worms*).

¶116: Illustrating 'savagery': Sir John Lubbock and Ernest Griset

¶117: Much has been written about the extraordinary impact of Darwinism during the mid- to late nineteenth century, expressed in the scholarship of 'reception studies' (see for example Ellegård 1958; Glick 1988; Numbers & Stenhouse 1999). A significant focus has been on developing an understanding of the impact of Darwinian thinking on just about every aspect of Victorian society, particularly on literature, science, politics and social relations (see for example Beer 1983; Frayter 1997; Lorimer 1997; Moore 1997; Paradis 1997; Browne 2001). A great deal of attention has also been paid (by historians and philosophers of science) into the specifics of how the Darwinian message was disseminated so quickly and so broadly. Here the interest lies in the links between the rhetoric of scientific naturalism and the politics of the day, be it Whig-Liberal or Tory (see for example Clark 1997; Barton 1998, 2004; Clifford et al. 2006). A consequent interest lies in the ways in which science was popularised in Victorian Britain (see especially Lightman 1997, 2007).

¶118: 1859 + 150: Time depth and process

¶119: In a single year two of the fundamental principles for the study of antiquity were established: chronology and process. Both have been elaborated and re-visited since: chronology most significantly 90 years later in 1949 with the development of radiocarbon dating by Willard Libby. That these two foundations should be established in the ambit of a single year – 1859 – is remarkable, and worthy of celebration.

¶120: Moonshine over Star Carr: post-processualism, Mesolithic myths and archaeological realities

¶121: The interpretation of Star Carr is central to the interpretation of the European Mesolithic, and has attracted functional, ecological, economic and ideological readings. Is each of these always possible? In a disquisition of wide relevance, the author argues that any evocation of ancient activity at Star Carr – and its motives – must begin with a detailed reading of the excavated data. Pictures desired by theory may not be supported by facts



¶122: Public relations for industrial archaeology

¶123: Completion of the motorway M74's west end, through part of Glasgow and its fringe, was taken vigorously as an opportunity both to explain archaeology and local history to residents and to invite them to contribute to the study of the route. The route runs five miles across the old industrial south of the city and through the Gorbals, once the British byword for an urban 'sink'. The Discover M74 Public Archaeology Programme ran from August 2007 to February 2009, while archaeological tests and excavations were carried out and the bulldozers and pile-drivers then moved in. It engaged well over a thousand schoolchildren, various study groups and community groups, and many other local visitors. Imaginatively and effectively organised under the aegis of Transport Scotland (for the Scottish Government) and three local authorities, it has set a new standard in planning and managing public outreach.

¶124:

¶125: New narratives for lost landscapes in middle England -

¶126: Mapping ancient landscapes in Northamptonshire.

¶127: The Raunds Area Project: a Neolithic and Bronze Age landscape in Northamptonshire.

¶128: Fifth-century rulers of the Kawachi Plain, Osaka, and early state formation in Japan: some recent publications

¶129:

¶130: Maya miscitata -

¶131: Settlement archaeology at Quiriguá, Guatemala.

¶132: The nature of an ancient Maya city: resources, interaction, and power at Blue Creek, Belize.

¶133: Ruins of the past: the use and perception of abandoned structures in the Maya Lowlands.

¶134: Reconstructing the past: studies in Mesoamerican and Central American prehistory

¶135: Image and imagination: a global prehistory of figurative representation.

¶136: Lost languages: the enigma of the world's undeciphered scripts.

¶137: Who owns Antiquity? Museums and the battle over our ancient heritage.

¶138: Magnetometry for archaeologists.

¶139: Snails: archaeology and landscape change.

¶140: Human impacts on ancient marine ecosystems: a global perspective.

¶141: Formation processes of the Lower Palaeolithic record in the Hunsgi and Baichbal basins, Gulbarga district, Karnataka.

¶142: Cave art.

¶143: Living well together? Settlement and materiality in the Neolithic of south-east and central Europe.

¶144: The bluestone enigma: Stonehenge, Preseli and the Ice Age.

¶145: Urban and natural landscapes of an ancient Syrian capital: settlement and environment at Tell Mishrifeh/Qatna and in central-western Syria

¶146: Prehistoric and Protohistoric Cyprus: identity, insularity, and connectivity.

¶147: Nicopolis B. Proceedings of the Second International Nicopolis Symposium (11-15 September 2002) Νικοπολις Β'. Πρακτικά του Δευτέρου Διεθνούς Συμποσίου για τη Νικοπολη.

¶148: Life and death in a Roman city: excavation of a Roman cemetery with a mass grave at 120-22 London Road, Gloucester

¶149: Moche tombs at Dos Cabezas

¶150: Early state formation in central Madagascar: an archaeological survey of Western Avaradrano

¶151: Inishmurray: monks and pilgrims in an Atlantic landscape (Volume 1: archaeological survey and excavations 1997-2000).

¶152: ... in western and central Asia -

¶153: Journey to the Copper Age: archaeology in the Holy Land.

¶154: Megalithic Jordan: an introduction and field guide

¶155: Kashgar: oasis city on China's old Silk Road.

¶156: Earth architecture from ancient to modern.

¶157: ... in south-eastern Asia -

¶158: The archaeology of Hong Kong.

¶159: Arts of ancient Viet Nam: from river plain to open sea.

¶160: ... in Africa -

¶161: L'archéologie préventive en Afrique: enjeux et perspectives (Actes du colloque de Nouakchott 1er-3 février 2007).

¶162: Desert days: my life as a field archaeologist.

¶163: ... in the Americas -#

¶164: Remembering Awatovi: the story of an archaeological expedition in northern Arizona 1935-1939.

¶165: 'Where we found a whale': a history of Lake Clark National Park and Preserve. #

¶166: ... and in fiction -

¶167: The Gathering Night.

¶168: ISSUE 3

¶169: Engraved art and acoustic resonance: exploring ritual and sound in north-western South Africa

¶170: At a hill-top site in the Korrannaberg, where there is a water source and a sandy arena embraced by a rocky ridge, the author persuasively evokes a lively prehistoric ritual centre, with rock gongs, reverberating echoes, dancing and trance.

¶171: Prehistoric small scale monument types in Hadramawt (southern Arabia): convergences in ethnography, linguistics and archaeology

¶172: The authors report new understanding of the prehistoric monuments of Hadramawt (Yemen) using archaeological fieldwork, linguistic terminology and ethnography. The stone tombs, platforms and alignments are shown to have experienced particularly interesting life histories. Passing travellers add stones and bury camels, shrines are reconditioned and dismantled to construct goat pens. It is clear that only this kind of multi-disciplinary expertise can hope to define the prehistoric sequence in an arid and rocky mountain landscape in which non-literate pastoral peoples have left few other traces. An online photo essay accompanies the article at <http://antiquity.ac.uk/ProjGall/mccorriston/index.html>

¶173: Social interaction and rock art styles in the Atacama Desert (northern Chile)

¶174: In this ground-breaking study 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.

¶175: Horticultural experimentation in northern Australia reconsidered

¶176: Did the banana, yam and taro arrive in Australia at the hands of Europeans or come across the Torres Strait 2000 years before? Reviewing the evidence from herbaria histories and anthropology, the authors propose a 'hierarchy of hypotheses' and consider a still earlier option, that these food plants were potentially grown in Australia at least 8000 years ago, while it was still joined to New Guinea. This hypothesis, first proposed by Jones and Meehan in 1989, locates early horticultural experiments among peoples too often seen as inveterate hunter-gatherers.

¶177: Private pantries and celebrated surplus: storing and sharing food at Neolithic Çatalhöyük, Central Anatolia

¶178: In the Neolithic megasite at Çatalhöyük families lived side by side in conjoined dwellings, like a pueblo. It can be assumed that people were always in and out of each others' houses – in this case via the roof. Social mechanisms were needed to make all this run smoothly, and in a tour-de-force of botanical, faunal and spatial analysis the authors show how it worked. Families stored their own produce of grain, fruit, nuts and condiments in special bins deep inside the house, but displayed the heads and horns of aurochs near the entrance. While the latter had a religious overtone they also remembered feasts, episodes of sharing that mitigated the provocations of a full larder.

¶179: The early management of cattle (*Bos taurus*) in Neolithic central Anatolia

¶180: The authors use metrical, demographic and body part analyses of animal bone assemblages in Anatolia to demonstrate how cattle were incorporated into early Neolithic subsistence economies. Sheep and goats were domesticated in the eighth millennium BC, while aurochs, wild cattle, were long hunted. The earliest domesticated cattle are not noted until the mid-seventh millennium BC, and derive from imported stock domesticated elsewhere. In Anatolia, meanwhile, the aurochs remains large and wild and retains its charisma as a hunted quarry and a stud animal.

¶181: A 4000 year-old introduction of domestic pigs into the Philippine Archipelago: implications for understanding routes of human migration through Island Southeast Asia and Wallacea

¶182: New research into the Neolithic of Island Southeast Asia is broadening the old models and making them more diverse, more human – more like history: people and animals can move through the islands in a multitude of ways. The domestic pig is an important tracker of Neolithic people and practice into the Pacific, and the authors address the controversial matter of whether domestic pigs first reached the islands of Southeast Asia from China via Taiwan or from the neighbouring Vietnamese peninsula. The DNA trajectory read from modern pigs favours Vietnam, but the authors have found well stratified domestic pig in the Philippines dated to c. 4000 BP and associated with cultural material of Taiwan. Thus the perils of relying only on DNA – but are these alternative or additional stories?

¶183: A dugong bone mound: the Neolithic ritual site on Akab in Umm al-Quwain, United Arab Emirates

¶184: The authors present a remarkable site with a remarkable interpretation: a structured platform of dugong bones, containing skulls laid in parallel and ribs in sets, together with artefacts of the Neolithic period. They propose that the bones have been symbolically arranged and the mound as a whole had a ritual purpose – an interpretation endorsed by analogy with dugong platforms noted in the Torres Strait in recent times.

¶185: Dying to serve: the mass burials at Kerma

¶186: High ranking burial mounds in Bronze Age Sudan featured burials in a corridor leading to the central burial – supposedly of a king. Were the ‘corridor people’ prisoners captured during periodic raids on Egypt, or local retainers who followed their king in death? The authors use the skeletal material to argue the second hypothesis – coincidentally that advanced by George Reisner, the original excavator.

¶187: Sculptors' signatures on Iberian stone statues from Ipolca-Obulco (Porcuna, Jaén, Spain)

¶188: With the help of a modern mason, the authors have discovered a series of scarcely visible markings on well-known limestone statues from southern Spain dating back to the fifth century BC. Unrelated to letters or religious symbols, their best point of comparison seems to lie with the kind of signature used by masons to denote a craftsman or workshop. One can certainly forgive any sculptor an expression of pride in the elegant and complex carvings of the Iberian culture.

¶189: Pre-Inca mining in the Southern Nasca Region, Peru

¶190: Guided by modern miners of the region the authors track down pre-Inca mining sites in the Southern Nasca Region of Peru. In the hinterlands away from both modern and ancient roads they find a surprising number of small sites serving the pre-Inca industry, principally in the Nasca period. Drawing analogies from modern practice they are able to distinguish the ancient sites dedicated to exploration, extraction or production.

¶191: The Domitian II coin from Chalgrove: a Gallic emperor returns to history

¶192: A single coin discovered in a field at Chalgrove, Oxfordshire, UK, has proved to have an exceptional significance in the world of Roman numismatics. It features a third-century emperor, Domitianus, unknown apart from a find of 1900 from a vineyard in Cléons previously described as ‘doubtful’. The dies used to strike the two coins match, leaving little doubt that Domitianus was a real person, although of somewhat fleeting dominion over the Gallic Empire – for a brief period in AD 271.

¶193: The demonstration of human antiquity: three rediscovered illustrations from the 1825 and 1846 excavations in Kent's Cavern (Torquay, England)

¶194: The authors disentangle the fascinating tale of the investigations in Kent's Cavern, iconic site for the acceptance of early man. The drawings they have discovered in the archives of the Geological Society are the only ones known from the earliest excavations and they are published here for the first time. As this paper shows, it takes intellectual courage to be an archaeologist. Whatever the enormity of his challenge to contemporary religion, I like to think that MacEnery would have been fairly supported by Antiquity's reviewing system. But perhaps our doctrinal challenges are lesser ones....

¶195: Stone tool experiments and reduction methods at the Acheulean site of Isampur Quarry, India

¶196: What better way to understand how to make a handaxe or cleaver than getting into an Acheulean quarry and doing it yourself. The authors experimented at Isampur Quarry in India, finding that handaxes were best produced by reducing a slab to shape, while cleavers were best made by striking large flakes. There was a good correspondence with the ancient implements, and the authors deduced that Acheulean hominins were learning and transmitting standardised manufacturing methods to each other.

¶197: Making a point: wood- versus stone-tipped projectiles

¶198: What are the advantages of equipping a wooden arrow with stone, rather than just using the sharpened wooden tip? Very few it seems. In a series of well-controlled experiments the authors show that stone arrow-heads achieve barely 10 per cent extra penetration over wood. They then raise some pertinent ideas about the other advantages, social and symbolic that may have driven hunters the world over to adopt the stone tip.

¶199: A Bayesian approach to dating agricultural terraces: a case from the Philippines

¶200: Field terraces are notoriously difficult to date – but historically of high significance. Here the author uses a Bayesian model applied to radiocarbon dates to date the tiered rice fields of the northern Philippines. They turn out to have been built in the sixteenth century probably by peoples retreating inland and upland from the Spanish.

¶201: The reburial issue in Britain

¶202: The dead are back. 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. Only this time there is an unusual twist: the remains in question are British. The Council of British Druid Orders (CoBDO) has requested the reburial of a specific group of prehistoric human remains from the collection of the Alexander Keiller Museum. In response English Heritage have carried out a consultation, amidst considerable publicity and public debate (Hole 2008).

¶203: Counting microliths: a reliable method to assess Mesolithic land use?

¶204: In this debate the authors tackle a problem fundamental to researchers and resource managers in the Mesolithic period: what sort of prehistory do flint scatters represent?

¶205: Taking microliths into account

¶206: I thank Crombé et al. for their comment on an earlier paper (Vanmontfort 2008) and the editor of this journal for providing me with the opportunity to reply to their critique. They use two

intensively surveyed and studied areas in the lower Scheldt region to compare the microlith-based method with a site-based approach. Actually this comparison nicely illustrates the potential of the method. My Figure 3 compares the calculated frequencies of sites and microliths – which is not quite the same as the 'Mesolithic use' of these regions – over the Mesolithic period for the two regions. The results correspond remarkably well. This agreement is perhaps not surprising, since the presence of microliths is also one of the most determining factors in the attribution of sites to each of the Mesolithic phases. However, the results from the two methods might easily have diverged from each other. Contrary to Crombé et al.'s expectation of correspondence, the distribution of a particular artefact type may offer different and complementary information to site-based data (Vanmontfort 2008: 250).

¶207: Academic freedom, political correctness, and early civilisation in Chinese archaeology: the debate on Xia-Erlitou relations

¶208: The interpretation of archaeology is inevitably affected by the social, cultural and intellectual background of researchers. This is certainly the situation in the study of early Chinese civilisations and their material remains, particularly in regard to the Erlitou culture in the middle Yellow River region in China (c. 1900-1500 BC). The spatial and temporal definitions of the Erlitou culture are partially coincident with those of the Xia dynasty as recorded in ancient texts. The type-site of Erlitou, in Yanshi, Henan province, has revealed much evidence indicating the development of a large and complex political centre there. But the historical or dynastic affiliation of the Erlitou site/culture has generated much debate among archaeologists and historians in recent years. 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).

¶209: Are Catalans ignoring archaeology?

¶210: So declares the new introduction to the Museum of Archaeology of Catalonia (MAC), in Barcelona. It is too modest. The collection is big. It concentrates on Catalonia and its culture area but there are finds from further afield, notably Bronze Age Argaric material. Extensive space is devoted to the late prehistory of the Balearic Islands, a magnificent collection from the Greek and Roman site of Empúries (Ampurias, ancient Emporium, Emporiae), and to the late prehistoric 'Iberian' culture, including the Tivissa treasure. There is also a good collection of Visigothic material. To the visitor from northern Europe, the museum is a reminder of how much there is to find in a country for so long heavily populated.

¶211: Beyond teleology: ancient mathematics and social history -

¶212: Architecture and mathematics in ancient Egypt.

¶213: Mathematics in ancient Iraq: a social history.

¶214: Challenging text in early Italy -

¶215: Between text and territory: survey and excavations in the Terra of San Vincenzo al Volturno

¶216: Inside ancient Lucania: dialogues in history & archaeology

¶217: The archaeology of Etruscan society: identity, surface and material culture in Archaic Etruria.

¶218: Offspring of the marriage of archaeology and ethnography in the Andes -

- ¶1219: Heads of state: icons, power, and politics in the ancient and modern Andes. 2
- ¶1220: Chavín: art, architecture and culture
- ¶1221: British rock art: from discovery to interpretation -
- ¶1222: Prehistoric rock art in the Northern Dales.
- ¶1223: Rock art and ritual: interpreting the prehistoric landscapes of the North York Moors.
- ¶1224: Art as metaphor: the prehistoric rock-art of Britain.
- ¶1225: Presenting archaeology: views from and on the platform -
- ¶1226: An introduction to museum archaeology.
- ¶1227: Telling children about the past: an interdisciplinary perspective.
- ¶1228: Archaeology and the media.
- ¶1229: Prehistoric Europe: theory and practice
- ¶1230: Jalons pour une paléohistoire des derniers chasseurs (XIV e – VIe millénaire avant J.-C.)
- ¶1231: Målsnes 1: an early post-glacial coastal site in northern Norway.
- ¶1232: Hambledon Hill, Dorset, England: excavation and survey of a Neolithic monument complex and its surrounding landscape.
- ¶1233: Le Chalcolithique et la construction des inégalités. Tome I: le continent européen.
- ¶1234: Qurénima: el Bronce Final del sureste de la Península Ibérica
- ¶1235: Textile production in pre-Roman Italy
- ¶1236: Indo-Roman trade: from pots to pepper.
- ¶1237: Excavations at Helgö XVII – Workshop Part III.
- ¶1238: The archaeology of medieval Europe, volume 1: eighth to twelfth centuries AD
- ¶1239: Holyrood Archaeology Project Team. Scotland's Parliament site and the Canongate: archaeology and history. x
- ¶1240: Britain's oldest art: the Ice Age cave art of Creswell Crags.
- ¶1241: Cave paintings and the human spirit: the origin of creativity and belief.
- ¶1242: Image and audience: rethinking prehistoric art.
- ¶1243: Histories of archaeology -
- ¶1244: The making of European archaeology/Początki archeologii Europejskiej.
- ¶1245: Archaeology and national identity in Italy and Europe 1800–1950
- ¶1246: The British Consular Service in the Aegean and the collection of antiquities for the British Museum.
- ¶1247: Knossos & the prophets of modernism.

¶1248: From Paris to Pompeii: French Romanticism and the cultural politics of archaeology.

¶1249: Examples from practice -

¶1250: Near the bend in the river: the archaeology of the N25 Kilmacthomas realignment

¶1251: The environment and aggregate-related archaeology.

¶1252: Metal detecting and archaeology.

¶1253: Heritage, communities and archaeology. 1

¶1254: Contemporary archaeologies: excavating now.

¶1255: ISSUE 4

¶1256: The emergence of pottery in Africa during the tenth millennium cal BC: new evidence from Ounjougou (Mali)

¶1257: New excavations in ravines at Ounjougou in Mali have brought to light a lithic and ceramic assemblage that dates from before 9400 cal BC. The authors show that this first use of pottery coincides with a warm wet period in the Sahara. As in East Asia, where very early ceramics are also known, the pottery and small bifacial arrowheads were the components of a new subsistence strategy exploiting an ecology associated with abundant wild grasses. In Africa, however, the seeds were probably boiled (then as now) rather than made into bread.

¶1258: The archaeology of Western Sahara: results of environmental and archaeological reconnaissance

¶1259: Western Sahara has one of the last remaining unexplored prehistories on the planet. The new research reported here reveals a sequence of Holocene occupation beginning in a humid period around 9000 bp, superseded around 5000 bp by an arid phase in which the land was mainly given over to pastoralism and monumental burial. The authors summarise the flint and pottery assemblage and classify the monuments, looking to neighbouring cultures in Niger, Libya and Sudan.

¶1260: Ochre and hide-working at a Natufian burial place

¶1261: Particular stones found on Epi-Palaeolithic sites in the Levant are thought to be for grinding vegetable matter and to be essential instruments in the development of food processing. Finding an assemblage of these tools in a burial cave, the authors ask a harder question: could they have been used for processing hides with ochre? Use-wear analysis allows a positive verdict, and so the tools take their place in the ritual apparatus associated with burial.

¶1262: Floor sequences in Neolithic Makri, Greece: micromorphology reveals cycles of renovation

¶1263: 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. While numerous informal floor surfaces using recycled rubbish were put in place, as and when, by the occupants, formal floors rich in plaster seem to have been re-laid at regular intervals in reflection of a communal decision – even if the actual floors followed a recipe determined by each household. The authors rightly champion the potential of the technique as a possible indicator of social change at the household and settlement level.

¶1264: Mass cannibalism in the Linear Pottery Culture at Herxheim (Palatinate, Germany)



¶1265: The Early Neolithic central place at Herxheim is defined by a perimeter of elongated pits containing fragments of human bone, together with pottery imported from areas several hundred kilometres distant. This article offers a context for the centre, advancing strong evidence that the site was dedicated to ritual activities in which cannibalism played an important part.

¶1266: Sourcing African ivory in Chalcolithic Portugal

¶1267: A recent review of all ivory from excavations in Chalcolithic and Beaker period Iberia shows a marked coastal distribution – which strongly suggests that the material is being brought in by sea. 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. This all speaks of a lively ocean trade in the first half of the third millennium BC, between the Iberian Peninsula and the north-west of Africa and perhaps deeper still into the continent.

¶1268: Rooting for pigfruit: pig feeding in Neolithic and Iron Age Britain compared

¶1269: ‘They dream of the acorned swill of the world, the rooting for pigfruit...’ Dylan Thomas, Under Milk Wood.

¶1270: Carbon and nitrogen isotopes show a marked change in the diet of British pigs between the Neolithic and the Iron Age. The authors neatly deduce that this was due to the loss of the Neolithic wildwood where pigs were wont to root for fungus amongst the rotting trees.

¶1271: Development of metallurgy in Eurasia

¶1272: The authors reconsider the origins of metallurgy in the Old World and offer us a new model in which metallurgy began in c. eleventh/ninth millennium BC in Southwest Asia due to a desire to adorn the human body in life and death using colourful ores and naturally-occurring metals. In the early sixth millennium BC the techniques of smelting were developed to produce lead, copper, copper alloys and eventually silver. The authors come down firmly on the side of single invention, seeing the subsequent cultural transmission of the technology as led by groups of metalworkers following in the wake of exotic objects in metal.

¶1273: From sheep to (some) horses: 4500 years of herd structure at the pastoralist settlement of Begash (south-eastern Kazakhstan)

¶1274: Does the riding of horses necessarily go with the emergence of Eurasian pastoralism? Drawing on their fine sequence of animal bones from Begash, the authors think not. While pastoral herding of sheep and goats is evident from the Early Bronze Age, the horse appears only in small numbers before the end of the first millennium BC. Its adoption coincides with an increase in hunting and the advent of larger politically organised groups.

¶1275: Conflicting evidence? Weapons and skeletons in the Bronze Age of south-east Iberia

¶1276: With its forts, swords, halberds and daggers the Argaric people of south-east Spain has long been seen as a warrior society. The authors dismantle this model, showing that defences around settlements and weapons and knives in tombs have quite different social roles. An analysis of skeletons showed that while these Bronze Age people might have been periodically clubbing each other on the head, they were not doing a lot of lethal stabbing.

¶1277: For Gods or men? A reappraisal of the function of European Bronze Age shields

¶1278: Are the imposing, decorated copper-alloy shields of Bronze Age Europe symbolic objects or functioning weapons? The author undertakes new analysis and experiments to conclude that

whether bronze, leather or wood, all shields had a range of purpose in which the ceremonial and homicidal could rarely be completely isolated.

¶1279: The ornamental trousers from Sampula (Xinjiang, China): their origins and biography

¶1280: A decorated pair of trousers excavated from a well-preserved tomb in the Tarim Basin proved to have a highly informative life history, teased out by the authors – with archaeological, historical and art historical dexterity. Probably created under Greek influence in a Bactrian palace, the textile started life in the third/second century BC as an ornamental wall hanging, showing a centaur blowing a war-trumpet and a nearly life-size warrior of the steppe with his spear. The palace was raided by nomads, one of whom worked a piece of the tapestry into a pair of trousers. They brought no great luck to the wearer who ended his days in a massacre by the Xiongnu, probably in the first century BC. The biography of this garment gives a vivid glimpse of the dynamic life of Central Asia at the end of the first millennium.

¶1281: Aristophanes and stable isotopes: a taste for freshwater fish in Classical Thebes (Greece)?

¶1282: 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. But from what and how? After considering the possible sources of meat, milk and manure, the authors highlight the contribution of freshwater fish, and find support in Aristophanes – where the citizens are heard clamouring for the eels of Lake Kopais.

¶1283: Pre-Columbian geometric earthworks in the upper Purús: a complex society in western Amazonia

¶1284: It's an ill wind that blows nobody any good. The combination of land cleared of its rainforest for grazing and satellite survey have revealed a sophisticated pre-Columbian monument-building society in the upper Amazon Basin on the east side of the Andes. This hitherto unknown people constructed earthworks of precise geometric plan connected by straight orthogonal roads. Introducing us to this new civilisation, the authors show that the 'geoglyph culture' stretches over a region more than 250km across, and exploits both the floodplains and the uplands. They also suggest that we have so far seen no more than a tenth of it.

¶1285: New light on the Anglo-Saxon succession: two cemeteries and their dates

¶1286: The origin of the English is an interesting problem – and not only for them. In one short century, the evidence from texts, burial, artefacts, stable isotopes and now DNA provides several different answers to the question of whether England was invaded by Germans in the fifth century and if so in what manner. The rigorous approach by our authors tips the balance back in favour of a population changing its cultural allegiance – rather than being physically overwhelmed – but, as they emphasise, any new reading must depend on a very high level of archaeological precision – perhaps only now coming within reach.

¶1287: High prestige Royal Purple dyed textiles from the Bronze Age royal tomb at Qatna, Syria

¶1288: During the ongoing excavations in the palace of the famous Qatna complex, the excavators noted patches of brown staining on the floor of a high status tomb. Chemical extraction revealed the presence of brominated derivatives of indigo and indirubin, and more detailed characterisation showed that it likely came from *Hexaplex trunculus*. In short, this was none other than the renowned Tyrian or Royal Purple mentioned by Pliny, which was to have such an influential career colouring

the clothing of the powerful. Furthermore, it was associated in the tomb with ghosts of high quality textiles preserved in gypsum.

¶1289: Isotopes and individuals: diet and mobility among the medieval Bishops of Whithorn

¶1290: Stable isotopes get personal in this analysis of burials at a medieval cathedral. Compared with the local meat-eating rank and file, those people identified as bishops consumed significantly more fish and were incomers from the east. These results, while not so surprising historically, lend much increased confidence that isotope analysis can successfully read the status and mobility of individuals in a cemetery.

¶1291: Landscapes of death: GIS modelling of a dated sequence of prehistoric cemeteries in Västmanland, Sweden

¶1292: We will never be able to excavate everything – nor should we – but it would be good to know how to make the best use of what is visible in the landscape to write social prehistories. In this project the author creates a set of parameters for the 1000 mound-cemeteries seen north of Lake Mälaren and clusters them by period, using 51 examples that have been excavated and dated. The result is that 1000 cemeteries can now be allocated to period, with that special kind of confidence in which statisticians rejoice.

¶1293: The Acropolis and its new museum

¶1294: The new Acropolis Museum was opened in June 2009 with worldwide fanfare. For this was for the Athenian acropolis – the Acropolis. After two lower galleries, visitors reach the top floor and find what is now the world's most exciting coup of archaeological presentation – a sudden view of the Parthenon. We stand there in the middle of a gallery that sets out the temple's sculpted pediments, metopes and friezes according to the original plan. They are hung on a framework that matches the Parthenon's colonnades at the same orientation and scale and on the same plan as the great temple itself (Figure 1); so that, walking along the gallery, we can imagine ourselves in the temple by just looking out at it on the Acropolis.

¶1295: A brief history of TAG

¶1296: Readers will know that Antiquity, a long term supporter of TAG, now gives this most spontaneous and peripatetic of conferences a memory by hosting the 'TAG Archive' on its website. In this article Bisserka Gaydarska offers a preliminary analysis of TAG trends – how the subjects of talks and the speakers who gave them have changed over the past few decades. Readers are invited to comment on her findings and share their views with us by emailing us at [editor@antiquity.ac.uk](mailto:editor@antiquity.ac.uk).

¶1297: Sex, symmetry and silliness in the bifacial world

¶1298: After 10 years of pursuing sexy handaxes it is probably time to put these coquettish creatures to bed. Readers wishing to continue the debate are courteously directed to our Project Gallery.

¶1299: Symmetry is sexy: reply to Hodgson's 'Symmetry and humans'

¶1300: In his contribution to the Antiquity debate over the viability of Kohn and Mithen's 'Sexy Handaxe Theory' (1999), Hodgson (2009: 195-8) asserts that 'symmetry is not connected with health and thus cannot have served as a sign of genetic worth'. Because I find his interpretation of the current literature on symmetry and its relationship to health and attractiveness to be flawed, I cannot accept Hodgson's argument. I address each of my concerns below in the first part of this response. I also remain unconvinced that, even if Hodgson's assertion were supported by the

literature, it would necessarily follow that symmetry in manufactured objects, including Acheulean handaxes, cannot signal 'sexiness'. In the second part of my response I explain why I consider this to be so.

¶301:

¶302: Rescuing and publishing archaeology in Uppland, Sweden -

¶303: Stenåldern i Uppland: uppdragsarkeologi och eftertanke [The Stone Age in Uppland: rescue archaeology and afterthought]

¶304: Att nå den andra sidan: om begravning och ritual i Uppland [Reaching the other side: burial and ritual in Uppland]

¶305: Hus och bebyggelse i Uppland: delar av förhistoriska sammanhang [House and settlement in Uppland: fragments of prehistoric context]

¶306: Land och samhälle i förändring: Uppländska bygder i ett långtidsperspektiv [Land and society in transformation: Uppland settlements in a long-term perspective]

¶307: Mellan himmel och jord: Ryssgärdet, en guldkimrande bronsåldersmiljö i centrala Uppland [Between Heaven and Earth: Ryssgärdet, a golden Bronze Age environment in central Uppland]

¶308: Mellan hav och skog: Högmossen, en stenåldersmiljö vid en skimrande strand i Norra Uppland [Between sea and forest: Högmossen, a Stone Age environment at a glistening beach in Norra Uppland]

¶309: Early Eurasia: pattern and process among pastoralists -

¶310: The prehistory of the Silk Road.

¶311: Pastoralist landscapes and social interaction in Bronze Age Eurasia.

¶312: Excavations at St Ethernan's monastery, Isle of May, Fife

¶313: Inchmarnock: an Early Historic island monastery and its archaeological landscape. x

¶314: Harnessing the tides: the Early Medieval tide mills at Nendrum monastery, Strangford Loch.

¶315: Portmahomack: monastery of the Picts.

¶316: Under the same sky: two British settlements in early colonial Australia -

¶317: Port Essington: the historical archaeology of a north Australian nineteenth-century military outpost

¶318: The same under a different sky? A country estate in nineteenth-century New South Wales

¶319: A view to a kill: investigating Middle Palaeolithic subsistence using an Optimal Foraging perspective.

¶320: Adrar Bous: archaeology of a Central Saharan granitic ring complex in Niger

¶321: The centre of the Russian plain in the Neolithic age: decoration of clay vessels and methods for the periodization of cultures.

¶322: Zur Herkunft des Schädelkults im Neolithikum des Karpatenbeckens

- ¶1323: Danske jættestuer.
- ¶1324: Contacto cultural entre el Mediterráneo y el Atlántico (siglos XII-VIII a.n.e): la precolonización a debate
- ¶1325: Las espadas del Bronce Final en la Península Ibérica y Baleares
- ¶1326: The Balawat Gates of Ashurnasirpal II.
- ¶1327: Sparta and Laconia: from prehistory to pre-modern
- ¶1328: Paesaggi pastorali: studio etnoarcheologico sul pastoralismo in Sardegna. 2
- ¶1329: Pre-Columbian Jamaica.
- ¶1330: The Scioto Hopewell and their neighbors: bioarchaeological documentation and cultural understanding.
- ¶1331: Borderlands: the archaeology of the Addenbrooke's Environs, South Cambridge
- ¶1332: Roman mosaics of Britain. Volume III: south-east Britain (in 2 parts).
- ¶1333: Vorsicht Glas! Die römischen Glasmanufakturen von Kaiseraugst
- ¶1334: The recovery of Roman Britain 1586-1906: a colony so fertile.
- ¶1335: Wasperton: a Roman, British and Anglo-Saxon community in central England.
- ¶1336: Monuments and minds: monument re-use in Scandinavia in the second half of the first millennium AD
- ¶1337: Guests in the house: cultural transmission between Slavs and Scandinavians 900 to 1300 AD.
- ¶1338: The Shapwick Project, Somerset: a rural landscape explored
- ¶1339: Curiosity and Enlightenment: collectors and collections from the sixteenth to the nineteenth century.
- ¶1340: Rewriting deep France -
- ¶1341: La révolution néolithique en France.
- ¶1342: L'âge du Bronze en France.
- ¶1343: L'âge du Fer en France: premières villes, premiers états celtiques.
- ¶1344: La France gallo-romaine.
- ¶1345: Archéologie médiévale en France: le premier Moyen Age (ve -xie siècle).
- ¶1346: Archéologie médiévale en France: le second Moyen Age (xiie -xvie siècle). 1
- ¶1347: Des feux dans la vallée: les habitats du mésolithique et du néolithique récent de l'Essart à Poitiers.
- ¶1348: Prehistoric collected papers -
- ¶1349: La valeur fonctionnelle des objets sépulcraux: actes de la table ronde d'Aix-en-Provence 25-27 octobre 2006

¶350: Creating communities: new advances in Central European Neolithic research.

¶351: Listing -

¶352: Listing archaeological sites, protecting the historical landscape

## **Name:** Antiquity 2010 abstracts

¶1: Antiquity 2010 abstracts

¶2: ISSUE 1

¶3: The emergence of agriculture in southern China

¶4: The authors give us a newly documented account of the dissemination of agriculture, and rice cultivation in particular, into southern China and beyond. From the central and eastern Yangtze it spread in two prongs – east to Guangdong, Taiwan and island Southeast Asia and south to Guangxi and Vietnam.

¶5: Radiocarbon chronology for the Early Gravettian of northern Europe: new AMS determinations for Maisières-Canal, Belgium

¶6: The authors explore the arrival of the earliest Gravettian in north-west Europe, using new high precision radiocarbon dates for bone excavated at Maisières-Canal in Belgium to define a short-lived occupation around 33 000 years ago. The tanged points in that assemblage have parallels in British sites, including Goat's Hole (Paviland). This is the site of the famous ochred burial of a young adult male, confusingly known as the 'Red Lady', now dated to around 34 000 BP. The new results demonstrate that this British 'rich burial' and the Gravettian with tanged points may belong to two different occupation horizons separated by a cold spell.

¶7: Subsistence diversity in the Younger Stone Age landscape of Varangerfjord, northern Norway

¶8: Explorations of Stone Age diversity take another step forward with this study of a group of neighbouring sites in Arctic Norway. While all are situated around a fjord, and only a few kilometres apart, the faunal assemblage shows that some are seal specialists, while others hunt reindeer and others again ambush dolphins. Each was creating its own local environment, hunting territory and landscape, not defended but respected, with intimate connections between people and places.

¶9: The date and context of a stone row: Cut Hill, Dartmoor, south-west England

¶10: The beginning of monolithic monumentality in Europe is of outstanding significance and its accurate dating a consummation devoutly to be wished. In this case study from England, the researchers had the good fortune to find monoliths stratified above and below by peat and so were able to give them a bracketed radiocarbon date and an environmental context. The results show that the stones, belonging to a linear alignment of eight others, were erected in a clearing of heathland in the fourth millennium BC. The date raises the possibility of a Neolithic appearance for this type of stone row in south-west Britain and Brittany.

¶11: Not so coarse, nor always plain – the earliest pottery of Syria

¶12: The site of Tell Sabi Abyad in Syria offers a superb stratified sequence passing from the aceramic (pre-pottery) to pottery-using Neolithic around 7000 BC. Surprisingly the first pottery arrives fully developed with mineral tempering, burnishing and stripey decoration in painted slip. The expected, more experimental-looking, plant-tempered coarse wares shaped by baskets arrive about 300 years later. Did the first ceramic impetus come from elsewhere?

¶13: Oscillating climate and socio-political process: the case of the Marquesan Chiefdom, Polynesia

¶14: Does climate affect behaviour and social process? In this case study, powerful scientific, anthropological and archaeological arguments are deployed to show that it can. The capricious climate of the latest centuries of the Marquesas Islands was instrumental in transforming a chieftain society into less hereditary and more flexible polities by the time of European contact.

¶15: Chert hoes as digging tools

¶16: What type of implement was used to cut and move earth in prehistory? In the Mississippian culture at least, the key tool was the stone hoe – formed from a chert blade strapped to a handle. These blades were hoarded and depicted in use, leaving little doubt that they were for digging, in the service of agriculture and extracting earth for building. Drawing on a series of controlled experiments, the authors deduce the capabilities and biographies of the stone hoes, evoking the admirable efforts of the people who constructed the massive mounds of Cahokia.

¶17: Domestic campsites and cyber landscapes in the Rocky Mountains

¶18: The dwellings of prehistoric Native North Americans are amongst the hardest archaeological structures to find and characterise – they leave only a shallow ring of stones. But the authors show that, when recorded to modern levels of precision, these tipi-stances contain a wealth of information. The stone rings are mapped in detail by hand, and located by GPS, their hearths are located by fluxgate survey and sampled for radiocarbon dating, and the results displayed in layered maps on GIS. Different social groups had different floor plans, so that, even where artefacts are missing, the movement of peoples can be dated and mapped. The results also bring to the fore the great cultural value of these, the dominant monument types of Bighorn Canyon National Recreational Area.

¶19: A Lady of York: migration, ethnicity and identity in Roman Britain

¶20: Modern methods of analysis applied to cemeteries have often been used in our pages to suggest generalities about mobility and diet. But these same techniques applied to a single individual, together with the grave goods and burial rite, can open a special kind of personal window on the past. Here, the authors of a multidisciplinary project use a combination of scientific techniques to illuminate Roman York, and later Roman history in general, with their image of a glamorous mixed-race woman, in touch with Africa, Christianity, Rome and Yorkshire.

¶21: Degrees of freedom in the Caribbean: archaeological explorations of transitions from slavery

¶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? The author here summarises ideas he has been developing in Jamaica and York over the past two years.

¶23: The archaeology of occupation, 1940-2009: a case study from the Channel Islands

¶24: The occupation of the Channel Islands during World War II and its subsequent commemoration, memorialisation and re-enactment as heritage offers a parable for the advent of materiality in many other periods and places. The author draws a contrast between the official and the clandestine at the time of occupation, and points out the even more illuminating contrast between first hand domestic memories gradually fading with the generations and the public recognition of the events in museums, monuments and memorials – which on some islands took more than half a century to come to pass.

¶25: Ground-penetrating radar for anthropological research



¶126: During its development years, geophysical survey has served field archaeology by defining possible sites underground, prior to excavation or preservation. Now we can see the art taking off as a research method in its own right. After summarising some recent research applications of magnetic mapping, the author gives us three case studies from USA and Jordan, where ground-penetrating radar (GPR) has produced new interpretations of prehistory and history. Since GPR can map in horizontal slices without damage, it opens up important heritage preservation options. In one case, excavation was discouraged on ethical grounds, in another it was inhibited by the presence of later monuments and in a third, an early agricultural site, the GPR actually saw more than the excavators. This presages a research tool of particular power.

¶127: Identifying low-level food producers: detecting mobility from lithics

¶128: The existence of low-level food producers, neither wholly hunter-gatherers nor wholly agriculturalists, is predicted but hard to prove. Here the authors use lithics, the one ubiquitous common indicator, to show how the detection of missing flakes can indicate degrees of mobility, while mobility in turn shows how people coped with the unpredictable appearance of food resources. In Australia, they were opportunists, armed with a ready cutting edge. In the Fayum, they had less far to go, but still roamed.

¶129: An investigation of Etruscan cremations by Computed Tomography (CT)

¶130: The cremation urn is a tiny archaeological site of its own, with finds, features, stratification and structure. The old prescription was to take the pot apart, or slice it, and micro-excavate with inevitable damage and loss. Here is a new methodology – the application of a CT scan as used in medicine. The authors 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.

¶131: Volcanoes, ice-cores and tree-rings: one story or two?

¶132: Good archaeology relies on ever more precise dates – obtainable, notably, from ice-cores and dendrochronology. These each provide year-by-year sequences, but they must be anchored at some point to real historical time, by a documented volcanic eruption, for example. But what if the dating methods don't agree? Here the author throws down the gauntlet to the ice-core researchers – their assigned dates are several years too old, probably due to the spurious addition of ‘uncertain’ layers. Leave these out and the two methods correlate exactly...

¶133: Unlocking historic landscapes in the Eastern Mediterranean: two pilot studies using Historic Landscape Characterisation

¶134: Historic Landscape Characterisation (HLC) maps landscape with particular reference to its historic character and development. Executed using sources including satellite imagery and aerial photography and presented in a Geographic Information System (GIS), this offers a powerful insight into a landscape story. Here two leading advocates of the approach apply HLC for the first time to historic landscapes in the Eastern Mediterranean.

¶135: Raymond Dart and the danger of mentors

¶136: Archaeology, like all scientific and scholarly disciplines, requires the transmission of knowledge and ideas. This commonly involves the influence of mentors and role models: figures who can at

times take on the role of gurus. 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.

¶137: In the first part of 1925, Dart — then a youthful professor of anatomy in Johannesburg — published in quick succession two papers in the pre-eminent British science journal *Nature*. One (on the discovery of *Australopithecus* with the announcement and interpretation of the Taung fossil cranium) would become a landmark document in the history of palaeoanthropology and prehistory (Dart 1925a). The other is a classic example of the approaches which would later be seen as belonging in the lunatic fringe of archaeology. Dart would continue publishing on both themes throughout his long and productive life (from his birth in Australia in 1893 to death in Johannesburg in 1988).

¶138: Great Men in the jungle of nations

¶139: Moctezuma, Aztec ruler was the last of four big temporary exhibitions about 'world rulers' that the British Museum has put on in the past three years. Moctezuma was the king who received Cortés and the Conquistadores in 1519 and was killed the next year in their custody. The previous three exhibitions were on the First Emperor of China, the Roman Emperor, Hadrian, and Shah 'Abbas, respectively. Hadrian and The First Emperor were archaeological (James 2008a, 2008c). So was Moctezuma. It ran from September 2009 to January 2010.

¶140: Kingship is evidently in vogue among London's galleries. During The First Emperor's showing, Tutankhamun entertained on the other side of the river (James 2008b); and the Victoria & Albert Museum mounted Maharaja during Moctezuma's run. 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'. Whether as heroes or as scapegoats, democracies tend to promote 'celebrities' by the same token and, as well as governing, perhaps monarchs, ancient or contemporary, served and serve that function too. Historians, sociologists and anthropologists have tackled these themes through comparison and so have archaeologists, with epigraphy, iconography and the excavation of palaces and tombs (Blanton et al. 1996; Quigley 2005).

¶141: Mesolithic Europe: diversity in uniformity -

¶142: Mesolithic Europe.

¶143: Mesolithic horizons.

¶144: From Bann Flakes to Bushmills

¶145: Mesolithic studies in the North Sea Basin and beyond: proceedings of a conference held at Newcastle in 2003.

¶146: Where the river bends – under the boughs of trees.

¶147: Taking the pulse of archaeology in Jordan -

¶148: Jordan: an archaeological reader.

¶149: Bronze Age rural ecology and village life at Tell el-Hayyat, Jordan

- ¶150: Archaeology and desertification: the Wadi Faynan Landscape Survey, southern Jordan
- ¶151: Bearing the truth about Celtic art: Kunst der Kelten in Bern
- ¶152: The invisible diggers: a study of British commercial archaeology
- ¶153: Handbook of archaeological theories.
- ¶154: The Palaeolithic settlement of Asia
- ¶155: Paléolithique moyen en Wallonie: la collection Louis Eloy
- ¶156: Les échanges du nord de la Mésopotamie avec ses voisins proche-orientaux au IIIe millénaire (ca 3100-2300 av. J.-C.)
- ¶157: Beyond Babylon: art, trade, and diplomacy in the second millennium BC.
- ¶158: Ancient Turkey.
- ¶159: Archaeology in India: individuals, ideas and institutions.
- ¶160: Weaving cultural identities on trans-Asiatic networks: Upper Thai-Malay Peninsula – an early socio-political landscape.
- ¶161: Exercice de stèle: une archéologie des pierres dressées, réflexion autour des menhirs de Carnac.
- ¶162: La Sicile et l'Europe campaniforme.
- ¶163: Vesuvius: a biography.
- ¶164: Blood & mistletoe: the history of the Druids in Britain.
- ¶165: Monuments, empires, and resistance: the Araucanian polity and ritual narratives.
- ¶166: The lost legions: culture contact in colonial Australia.
- ¶167: Contested objects: material memories of the Great War.
- ¶168: Big books -
- ¶169: The past in perspective: an introduction to human prehistory.
- ¶170: The Oxford handbook of archaeology.
- ¶171: The Human past: world prehistory and the development of human societies.
- ¶172: Glossy books -
- ¶173: The great empires of the ancient world.
- ¶174: Sites of antiquity from ancient Egypt to the fall of Rome: 50 sites that explain the Classical world.
- ¶175: Civilizations of the ancient world.
- ¶176: Small books -
- ¶177: Dictionary of archaeological terms
- ¶178: A practical guide to in situ dog remains for the field archaeologist.
- ¶179: Archaeology: a sensorial approach to the materiality of the past.

¶180: Not books

¶181:

¶182: ISSUE 2

¶183: The emergence of bone-working and ornamental art in the Caucasian Upper Palaeolithic

¶184: New work from the Caucasus is revolutionising the timing and character of the shift from Neanderthals to early Modern humans in Eurasia. Here the authors reveal a powerful signal of that change from excavations at Mezmaiskaya: the abrupt appearance of a well-formed bone industry and ornaments.

¶185: An Early Epipalaeolithic sitting burial from the Azraq Oasis, Jordan

¶186: Detailed analysis of the anatomy and taphonomic process of a burial in Jordan shows that the body was originally bound in a sitting position and placed in marshland, where it collapsed into the splayed tableau eventually recovered by excavation. The authors succeed in reconstructing a burial rite from one of the most elusive of mortuary phases: the Early Epipalaeolithic in south-west Asia.

¶187: New rock art discoveries in the Kurnool District, Andhra Pradesh, India

¶188: The authors have surveyed the little known paintings of the Kurnool area in central south India, bringing to light the varied work of artists active from the Palaeolithic to the present day. By classifying the images and observing their local superposition and global parallels, they present us with an evolving trend – 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’. Here are the foundations for one of the world's longest sequences of rock art.

¶189: Administrators' bread: an experiment-based re-assessment of the functional and cultural role of the Uruk bevel-rim bowl

¶190: Well-designed experimental archaeology combined with ingenious social argument show that a type of coarse-ware pottery, the BRB, performed a key role in early Mesopotamian governance. Its thick walls and conical shape produce a fine loaf of risen bread, supplied perhaps as tasty recompense to those undertaking the newly-proliferating public administrative duties.

¶191: A first ‘Wessex 1’ date from Wessex

¶192: The furnished barrow burials of Wessex represent a maturation of the Beaker rite during the Early Bronze Age in Britain. Many of these burials were unearthed centuries ago, when archaeology was at its most eager and insouciant, but – happily for us – there were often a few careful recorders on hand. Thanks to their records, the modern scientists engaged in the Beaker People Project can still follow the trail back to a museum specimen and obtain high precision dates – as in the case of the ‘Wessex 1’ grave from West Overton in Wessex reported here.

¶193: Radiocarbon dating the Iron Age in the Levant: a Bayesian model for six ceramic phases and six transitions

¶194: 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.

¶195: The article is supported by an online supplement which can be found in at <http://antiquity.ac.uk/projgall/finkelstein324>

¶196: Living on the lake in the Iron Age: new results from aerial photographs, geophysical survey and dendrochronology on sites of Biskupin type

¶197: The island site of Biskupin with its densely planned interior bears an uncanny resemblance to a prison camp. Is it typical of the Iron Age in Northern Europe? The authors here explore neighbouring sites around Poznań using aerial photographs, geophysical survey and dendrochronology – to stunning effect. These low impact methods have given high impact results: dated street plans, some similar and others different from Biskupin, but within the same time frame: almost a repertoire of early urbanism. The authors must also be congratulated on the identification of a new type of Iron Age feature, the ‘open area for spouse avoidance’ defined at Sobiejuchy.

¶198: Still water, hidden depths: the deposition of Bronze Age metalwork in the English Fenland

¶199: Finds of metalwork always raise the question of why they were deposited: a smith's collection, a concealed hoard or a votive offering? Findspots in water suggest offerings, since they would be awkward to retrieve. But understanding the context of deposition means knowing the prehistoric environment. The Fenland area of England has many Bronze Age sites, and deposits of metalwork and a well-mapped ancient environment too. Putting all three together the authors begin to assemble a grammar of deposition: swords and rapiers in rivers, some mixed collections placed in still water and others on once-dry land with burnt mounds.

¶100: Ancient bird stencils discovered in Arnhem Land, Northern Territory, Australia

¶101: The discovery of rare bird stencils from a unique Australian rock art complex is reported, the species they most closely resemble is discussed and their significance in terms of world rock art and climate change is highlighted.

¶102: The fall of Phaethon: a Greco-Roman geomyth preserves the memory of a meteorite impact in Bavaria (south-east Germany)

¶103: Arguing from a critical reading of the text, and scientific evidence on the ground, the authors show that the myth of Phaethon – the delinquent celestial charioteer – remembers the impact of a massive meteorite that hit the Chiemgau region in Bavaria between 2000 and 428 BC.

¶104: Buildings as persons: relationality and the life of buildings in a northern periphery of early modern Sweden

¶105: The author shows how houses in the northern Baltic were constructed using two realities: the reality of timber and the equally potent reality of spirits supporting and controlling the fate of structures. Excavations in seventeenth-century Tornio (now in modern-day Finland) showed that 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.

¶106: Cities and social order in Sasanian Iran – the archaeological potential

¶107: The author shows how several of the great ruins of Sasanian cities of the last centuries BC are enriched by a vivid documentation. And while archaeological study is only just beginning, it clearly has exceptional potential for mapping the social order onto the streets and buildings.

¶108: Kumako: a place of convergence for Maroons and Amerindians in Suriname, SA

¶109: The author is exploring the site of Kumako in Suriname, a destination for Maroons escaping from plantations in coastal Suriname between the seventeenth and eighteenth centuries. She finds evidence for a structured settlement, distinctive pottery and local ritual practices, raising new questions about the degree of interaction and acculturation between Maroons and indigenous people.

¶110: Historic routes to Angkor: development of the Khmer road system (ninth to thirteenth centuries AD) in mainland Southeast Asia

¶111: Road systems in the service of empires have long inspired archaeologists and ancient historians alike. Using etymology, textual analysis and archaeology the author deconstructs the road system of the Khmer, empire builders of early historic Cambodia. Far from being the creation of one king, the road system evolved organically to serve expeditions, pilgrimages and embedded exchange routes over several centuries. The paper encourages us to regard road networks as a significant topic, worthy of comparative study on a global scale.

¶112: Colonisation, mobility and exchange in New Zealand prehistory

¶113: An analysis of the exchange of lithics in settlement period New Zealand (fourteenth century AD) is used to throw light on the mechanisms of colonisation more generally. The early distribution of New Zealand's Mayor Island obsidian demonstrates efficient exploration and dispersal, and the rapid establishment of long-distance exchange networks similar to that seen in early Melanesian obsidian movements. But in New Zealand the motivation is the cementing of social networks, rather than maintaining connections back to a homeland. In the sixteenth century, the distribution of a new high status material, nephrite, shows a different supply system – suggesting trade.

¶114: Fire on the desert: conflict archaeology and the Great Arab Revolt in Jordan, 1916–18

¶115: Archaeologists specialising in twentieth-century conflict here turn their attention from the trenches of Europe to the desert landscape of the Arabian theatre. The thrust and parry between the Ottoman Army and Lawrence's Arabian forces are reflected in defence-works and the outgoing and incoming bullets found there. The Ottoman generals changed their defences from long lines to redoubts, implying that the less visible guerrillas were having a palpable effect on strategy. Here, archaeology amplifies and enhances the story told in T.E. Lawrence's *Seven Pillars of Wisdom*

¶116: Social change at the Harappan settlement of Gola Dhoro: a reading from animal bones

¶117: Detailed analysis of the animal bone assemblage at Gola Dhoro here throws light on the expansion of the Indus civilisation into Gujarat. A square fort, imposed on a settlement of livestock herders in the later third millennium BC, was shown to have contained people who introduced a broader diet of meat and seafood, and new ways of preparing it. These social and dietary changes were coincident with a surge in craft and trade.

¶118: Huaqueros and remote sensing imagery: assessing looting damage in the Virú Valley, Peru

¶119: This article presents a new initiative in combating looting from the air, building on previous work in Iraq and Jordan. Looted sites in the Virú Valley, Peru, are visible as pit clusters on dated versions of Google Earth. Compare these with earlier air photographs and Gordon Willey's famous survey of the 1940s, and we have a dated chronicle of looting events. This makes it possible to demonstrate that modern looting is certainly taking place and linked to an upsurge in the antiquities trade. As well as being a new instrument for managing heritage, the author shows that the looting

survey offers an important research dividend: the location of cemeteries not previously systematically documented, with potential for more thorough investigation even of already looted areas.

¶120: Ashmolean Museum transformed

¶121: Letter from Libya: epigraphy and landscape

¶122: The rise, zenith and fall of writing systems

¶123: Towards Etruscan identity

¶124: How urban was fifth-century BC Bourges?

¶125: Birds.

¶126: Time in archaeology: time perspectivism revisited.

¶127: Lithic technology.

¶128: Sídliště mamutího lidu, u Milovic pod Pálavou: otázka strukturs mamutími kostmi/Milovice, site of the mammoth people below the Pavlov hills: the question of mammoth bone structures

¶129: Palaeolithic studies in Zaraysk 1999-2005.

¶130: First peoples in a New World: colonizing Ice Age America.

¶131: Thinking Mesolithic.

¶132: Between two worlds: the frontier region between ancient Nubia and Egypt 3700 BC – 500 AD

¶133: Die Casa del Fauno in Pompeji (VI 12) 1. Bauhistorische Analyse. Die stratigraphischen Befunde und Funde der Ausgrabungen in den Jahren 1961 bis 1963.

¶134: L'Arabie à la veille de l'Islam: bilan clinique

¶135: The Traprain Law Environs Project: fieldwork and excavations 2000-2004.

¶136: Managing archaeological landscapes in Northumberland

¶137: The ancient Andean village: Marcaya in Prehispanic Nasca.

¶138: The churches dedicated to St Clement in medieval England: a hagio-geography of the seafarer's saint in 11th century North Europe.

¶139: Great War archaeology.

¶140: Handbook of space engineering, archaeology, and heritage. x

¶141: ISSUE 3

¶142: New light on Neolithic revolution in south-west Asia

¶143: Shortly after his retirement from a distinguished career in the Department of Archaeology at Edinburgh, the author gave the Rhind Lectures for 2009, bringing together his thoughts about the Neolithic revolution, and comparing Childe's ideas with today's. These lectures, summarised here, announced the modern vision to a wide audience. It is a reversal of the old: Epipalaeolithic people

came together in the first large, permanent communities, to form extensive settlements which only later needed to be fed by farming.

¶144: Indications of bow and stone-tipped arrow use 64 000 years ago in KwaZulu-Natal, South Africa

¶145: The invention of the bow and arrow was a pivotal moment in the human story and its earliest use is a primary quarry of the modern researcher. Since the organic parts of the weapon – wood, bone, cord and feathers – very rarely survive, the deduction that a bow and arrow was in use depends heavily on the examination of certain classes of stone artefacts and their context. Here the authors apply rigorous analytical reasoning to the task, and demonstrate that, conforming to their exacting checklist, is an early assemblage from Sibudu Cave, KwaZulu-Natal, South Africa, which therefore suggests bow and arrow technology in use there 64 millennia ago.

¶146: Faces of the ancestors revealed: discovery and dating of a Pleistocene-age petroglyph in Lene Hara Cave, East Timor

¶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. This new discovery at a known cave shows what precious evidence still lies in store even in well-trodden places.

¶148: Gravettian painting and associated activity at Le Moulin de Laguenay (Lissac-sur-Couze, Corrèze)

¶149: Presented here is the so far unique discovery and interpretation of an occupation area directly associated with Upper Palaeolithic cave paintings. The paintings, of red spots and hand stencils, overlook two hearths with selected flints. There were also fragments of stalactite, deduced by analysis and experiment to be waste products from the manufacture of beads. The authors deduce that the hearths and their assemblage complement the ritual nature of the paintings.

¶150: The iceman as a burial

¶151: Since his discovery in 1991 the iceman has been widely seen as meeting a dramatic end – mortally wounded by an arrow shot while attempting to flee through an Alpine pass. A careful study of all the located grave goods, here planned comprehensively for the first time, points strongly towards the scene as one of a ceremonial burial, subsequently dispersed by thawing and gravity. The whole assemblage thus takes on another aspect – not a casual tragedy but a mortuary statement of its day.

¶152: The earlier Neolithic in Cyprus: recognition and dating of a Pre-Pottery Neolithic A occupation

¶153: Intensive survey and initial excavations have succeeded in pushing back the Neolithic human occupation of Cyprus to the earlier ninth millennium cal BC. Contemporary with PPNA in the Levant, and with signs of belonging to the same intellectual community, these were not marginalised foragers, but participants in the developing Neolithic project, which was therefore effectively networked over the sea.

¶154: The origins of metallurgy in central Italy: new radiometric evidence

¶155: Precision radiocarbon dating continues to bring historical order into key moments of social and economic change, such as the use of metals. Here the author dates human bone in graves with metal artefacts and shows that copper, antimony and silver were being fashioned into daggers and beads in west central Italy by the early to mid fourth millennium cal BC; but the new-fangled objects



had not reached contemporary cemeteries on the other side of the Apennines. We can perhaps look forward to a time when the arrival of metallurgy in Europe is neither diffusionary nor piecemeal, but the result of real historical events and social contacts, mapped for us by radiocarbon.

¶156: The beginning of Iron Age copper production in the southern Levant: new evidence from Khirbat al-Jariya, Faynan, Jordan

¶157: The authors have explored the workplace and house of copper workers of the early Iron Age (twelfth to tenth century BC) in Jordan's Wadi Faynan copper ore district, showing that it belongs in time between the collapse of the great Bronze Age states and the arrival of Egyptians in the area under Sheshonq I. They attribute this production to local tribes – perhaps those engaged in building the biblical kingdom of Edom.

¶158: Revealing Iberian woodcraft: conserved wooden artefacts from south-east Spain

¶159: Six wells at Tossal de les Basses in Spain captured a large assemblage of Iberian woodworking debris. The authors' analysis distinguishes a wide variety of boxes, handles, staves, pegs and joinery made in different and appropriate types of wood, some – like cypress – imported from some distance away. We have here a glimpse of a sophisticated and little known industry of the fourth century BC.

¶160: An unusual Late Antique funerary deposit with equid remains (Usseau, France)

¶161: A Late Antique burial in central-western France contained the skull and long bones of two individuals, overlaid by the parts of an equid carcass. 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.

¶162: When they come to model Heaven: big science and the monumental in post-war Britain

¶163: How useful is the archaeology of the present? In this tour de force the author takes an iconic structure of modern times – the radio telescope at Jodrell Bank – and reveals the conjuncture of its origins and its subsequent parallel lives in science, war, politics and the imagination. 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. Sceptics should read on...

¶164: Gristhorpe Man: an Early Bronze Age log-coffin burial scientifically defined

¶165: A log-coffin excavated in the early nineteenth century 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. In many ways the interpretation is much the same as before: a local big man buried looking out to sea. Modern analytical techniques can create a person more real, more human and more securely anchored in history. This research team shows how.

¶166: What did grinding stones grind? New light on Early Neolithic subsistence economy in the Middle Yellow River Valley, China

¶167: Grinding stones have provided a convenient proxy for the arrival of agriculture in Neolithic China. Not any more. Thanks to high-precision analyses of use-wear and starch residue, the authors show that early Neolithic people were mainly using these stones to process acorns. This defines a new stage in the long transition of food production from hunter-gatherer to farmer.

¶168: Ancient texts and archaeology revisited – radiocarbon and Biblical dating in the southern Levant

¶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). The authors show how 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, and urge such application to forthcoming work at the key Biblical site of Megiddo.

¶170: Prospects for Sweden

¶171: Swedish archaeology enters the new decade reeling, not so much from seasonal feasting as from lay-offs and excavation unit close-downs caused by the 2008-09 recession. Where to now? Where should we go? And, wishful thinking aside, where are we likely to end up?

¶172: Salomon Reinach and the religious interpretation of Palaeolithic art

¶173: When did upper Palaeolithic cave art come to be thought of as religious? The author shows an origin rooted in the intellectual movements of the later nineteenth century, and in particular in the personage and thought of Salomon Reinach.

¶174: Witchcraft and Deep Time—a debate at Harvard

¶175: Archaeology, consistently warned off religion by wise old heads, here rushes deeper into the thicket to tackle the thorny topic of ancient witchcraft. The occasion was a seminar at Harvard organised by Stephen Mitchell and Neil Price to mark the twentieth anniversary of Carlo Ginzburg's influential book on the connections between witches and shamanism – and by implication the possible connections with prehistoric ritual and belief. Archaeology was by no means the only voice at the meeting, which was attended by scholars active in history, literature, divinity and anthropology. 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. But maybe taming strangeness is an archaeologist's real job...

¶176: Mediated diffusion in Iron Age Europe

¶177: Diffusion of Mediterranean traits to central and north-western Europe during the middle Iron Age is a topic well rehearsed now by three generations of archaeologists. The stimulating recent exhibition Golasecca at the Musée d'Archéologie nationale in France, showed that – funds permitting – plenty of scope remains for research.

¶178: Elaborately made imports, at for instance the Heuneburg, Vix or Hochdorf, have been interpreted as evidence for how aristocrats adopted Greek and Etruscan styles to reinforce their status and regional power between about 600 and 400 BC. Art historians revealed how their bronzesmiths responded selectively to templates from not only states to the south but also eastern nomads. Archaeologists worked out how goods were brought up the Rhône valley by the enterprising Greeks of Marseille or by the northerners themselves exploiting that colony. The 'trade' is thought to have encouraged development of social complexity. More recently, to demonstrate the recipients' 'agency', attention has focused on potters' responses, adoption of coinage and writing and 'feasts' for chiefs to show off 'prestigious' exotica to rivals, clients or tributaries. Similar models

of trade, 'appropriation' and sociopolitical development have been developed for the Late Pre-Roman Iron Age and the Roman Iron Age.

¶179: Neolithic Britain and Ireland: are we nearly there? -

¶180: A tale of the unknown unknowns: a Mesolithic pit alignment and a Neolithic timber hall at Warren Field, Crathes, Aberdeenshire.

¶181: On the fringe of Neolithic Europe: excavation of a chambered cairn on the Holm of Papa Westray, Orkney.

¶182: A place by the sea: excavations at Sewerby Cottage Farm, Bridlington.

¶183: Excavations at Bestwall Quarry, Wareham 1992–2005. Volume 1: the prehistoric landscape

¶184: People of the long barrow: life, death and burial in the earlier Neolithic.

¶185: Defining a regional Neolithic: the evidence from Britain and Ireland.

¶186: A view from the West: the Neolithic of the Irish Sea zone.

¶187: Myths and ceremonial centres in the ancient Caribbean -

¶188: Myths and realities of Caribbean history.

¶189: Tibes: people, power, and ritual at the center of the cosmos.

¶190: Archives, ancestors, practices: archaeology in the light of its history.

¶191: Civilizations of ancient Iraq.

¶192: Lithics in the Scandinavian Late Bronze Age: sociotechnical change and persistence

¶193: Die wirtschaftlichen Grundlagen der Bronzezeit Europas/The economic foundations of the European Bronze Age

¶194: The English coast: a history and a prospect.

¶195: Europe's lost world: the rediscovery of Doggerland

¶196: Fengate revisited: further Fen-edge excavations, Bronze Age fieldsystems & settlement and the Wyman Abbott/Leeds archives

¶197: The Iron Age round-house: later prehistoric building in Britain and beyond.

¶198: The Iron Age in East Yorkshire: an analysis of the later prehistoric monuments of the Yorkshire Wolds and the culture which marked their final phase

¶199: History Man: the life of R.G. Collingwood.

¶200: The distribution of bronze drums in early Southeast Asia: trade routes and cultural spheres (

¶201: African landscapes: interdisciplinary approaches

¶202: Ancient churches of Ethiopia.

¶203: Anglo-Saxon deviant burial customs.

¶204: Wulfstan's voyage: the Baltic Sea region in the early Viking age as seen from shipboard

¶205: Mary Rose, your noblest shippe: anatomy of a Tudor warship

¶206: Reflections: 50 years of Medieval Archaeology, 1957-2007

¶207: Satellite remote sensing for archaeology.

¶208: Archaeological achievements in Europe -

¶209: L'Europe: un continent redécouvert par l'archéologie.

¶210: La fabrique de l'archéologie en France.

¶211: Lattara, Lattes, Hérault: comptoir gaulois méditerranéen entre Etrusques, Grecs et Romains.

¶212: Photography and splendour -

¶213: Caral: le primera civilización de América / Caral: the first civilization in the Americas. 1

¶214: Kingdoms of ruin: the art and architectural splendours of ancient Turkey.

¶215: Wine, worship, and sacrifice: the golden graves of ancient Vani.

¶216: Understanding the heritage -

¶217: Understanding the politics of heritage.

¶218: Understanding heritage and practice.

¶219: Understanding heritage and memory.

¶220: The Leakeys: a biography.

¶221: Overburden?

¶222:

¶223: ISSUE 4

¶224: Early Holocene coca chewing in northern Peru

¶225: Chewing coca in South America began by at least 8000 cal BP: our authors found and identified coca leaves of that date in house floors in the Nanchoc Valley, Peru. There were also pieces of calcite — which is used by chewers to bring out the alkaloids from the leaves. Excavation and chemical analysis at a group of neighbouring sites suggests that specialists were beginning to extract and supply lime or calcite, and by association coca, as a community activity at about the same time as systematic farming was taking off in the region.

¶226: The date and context of Neolithic rock art in the Sahara: engravings and ceremonial monuments from Messak Settafet (south-west Libya)

¶227: The authors find a context for the rock art of the central Sahara by excavating and recording examples of engraved stones from circular platforms used to sacrifice animals. 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. Furthermore, they show that these places were part of a dense and extensive monumental landscape, occupying a harsh environment, supplying quartzite, but with little settlement, appearing to serve the spiritual needs of hundreds of Neolithic people.

¶1228: Walls, ramps and pits: the construction of the Samar Desert kites, southern Negev, Israel

¶1229: Archaeological investigations of 'desert kites' in south Israel show them to have been animal traps of considerable sophistication and capacity, constructed in the Early Bronze Age or earlier. Extensive stone-wall arms gather in gazelles from their habitual trails and canalise them into a sunken enclosure, cunningly hidden from view of the galloping herd until it was too late...

¶1230: Earliest direct evidence for broomcorn millet and wheat in the central Eurasian steppe region

¶1231: Before 3000 BC, societies of western Asia were cultivating wheat and societies of China were cultivating broomcorn millet; these are early nodes of the world's agriculture. The authors are searching for early cereals in the vast lands that separate the two, and report a breakthrough at Begash in south-east Kazakhstan. Here, high precision recovery and dating have revealed the presence of both wheat and millet in the later third millennium BC. Moreover the context, a cremation burial, raises the suggestion that these grains might signal a ritual rather than a subsistence commodity.

¶1232: Co Loa: an investigation of Vietnam's ancient capital

¶1233: History, legend and memory have long pointed to Co Loa, an earthwork enclosure outside Hanoi, as the seat of an indigenous power that gave identity to the people of the Bac Bo region, north Vietnam. Survey, excavation and a set of radiocarbon dates now put this site on the historical map. The main rampart of the middle circuit was built in the later centuries BC, before the coming of Han Imperial China. Nor was this rampart the first defence. The authors show the potential of archaeology for revealing the creation and development of a polity among the prosperous people of the Dongson culture.

¶1234: The Sarmizegetusa bracelets

¶1235: We present the authentication and analysis of these beautiful Dacian bracelets of the first century BC, originally pillaged by treasure hunters and recovered thanks to an international crime chase. They were originally fashioned from gold panned from the rivers or dug from the mines of Transylvania and hammered into the form of coiled snakes. The lack of context is the greatest loss, but a votive purpose is likely given their proximity to the great sacred centre at Sarmizegetusa Regia.

¶1236: Revisiting Indian Rouletted Ware and the impact of Indian Ocean trade in Early Historic south Asia

¶1237: Indian Rouletted Ware pottery is the iconic marker of the overseas reach of the subcontinent at the turn of the first millennium AD. 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. In this new analysis the author demonstrates a more complex socio-economic situation. While Greyware is distributed long term over south India, Rouletted ware is made in at least two regional centres for coastal communities using a new ceramic language, one appropriate to an emerging international merchant class.

¶1238: Mancala players at Palmyra

¶1239: Playing mancala-type games was an addictive pastime of antiquity and leaves its archaeological imprint on steps and ledges in the form of rows of little scoops. Here the author examines the traces of the game at Palmyra and shows that the Roman game of the third century (with five holes a side) was superseded when Palmyra's Temple of Baal was refashioned as a fort in the seventh century or

later. The new Syrian game, with seven holes a side, was played obsessively by the soldiers of an Arab or Ottoman garrison on the steps and precinct wall of the old temple.

¶1240: An early medieval symbol carved on a tree trunk: pathfinder or territorial marker?

¶1241: The chance discovery of a carved symbol on a waterlogged tree of the six–ninth century AD may be the earliest mark on a living tree that has so far come to light. Given its rarity, an obvious interpretation remains elusive, but the authors review a wide range of possibilities from analogies ancient and modern. 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.

¶1242: Prehistoric Timbuktu and its hinterland

¶1243: Timbuktu, an iconic destination for medieval caravans crossing the Sahara, has a prehistoric phase, here before AD 1000, which shows varying urban traits. The author's new project examines the context of Timbuktu's prehistoric urbanism by mapping the settlement patterns in its hinterland, and seeks to understand the social impacts of the Sahara's changing climate.

¶1244: The missing femur at the Mitla Fortress and its implications

¶1245: The authors explore the practice of extracting the thighbone from burials in Mesoamerica, making use of a newly excavated Classic period Zapotec burial at the Mitla Fortress, where the femur had been carefully removed and the interment resealed. 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.

¶1246: Bioarchaeology of human sacrifice: violence, identity and the evolution of ritual killing at Cerro Cerrillos, Peru

¶1247: The excavation of 81 skeletons at Cerro Cerrillos provided the occasion for a rigorously scientific deconstruction of human sacrifice, its changing methods and its social meaning among the Muchik peoples of ancient Peru. This paper shows how bioarchaeology and field investigation together can rediscover the root and purpose of this disturbingly prevalent prehistoric practice. Be warned: the authors' clinical and unexpurgated accounts of Andean responses to the spirit world are not for the fainthearted.

¶1248: Livestock and people in a Middle Chalcolithic settlement: a micromorphological investigation from Tel Tsaf, Israel

¶1249: Round and rectangular buildings with grain silos at a Copper Age site in Israel suggested social stratification to the excavators. Using micromorphology, the author demonstrates that while the rectangular building was occupied by people, the round ones had contained animals, perhaps as providers of milk, and dung for fuel. While this removes the direct indication of social variance, it strengthens the argument that animals, as well as grain, formed the basis for the creation of surplus.

¶1250: Rock-cut stratigraphy: sequencing the Lalibela churches

¶1251: The rock-cut churches of Ethiopia have long intrigued visitors and historians – and have frustrated archaeologists seeking their sequence of construction. Do they belong to one grand ceremonial monastic plan, or a long-lived ritual centre, continually refashioned over time? Since the churches are cut into live rock, the conventional signals of archaeological phasing are hard to find.

The authors address these problems at the famous site of Lalibela, showing that, embedded in the cuts and openings, the spoil heaps, and even in the now vanished sediments, the stratigraphic sequence is there to be read.

¶1252: Charting the effects of plough damage using metal-detected assemblages

¶1253: Many thousands of metal objects are retrieved from arable fields every year, by casual discovery or by treasure-seekers with metal-detectors. What is the status of this material? Here a senior archaeologist and a metal-detectorist get together to demonstrate scientifically the hostile context of the ploughsoil and the accelerating damage it is inflicting on the ancient material it contains. Their work raises some important questions about the 'archive under the plough': is it safer to leave the objects there, or to take advantage of a widespread hobby to locate and retrieve them?

¶1254: Will the sky fall in? Global warming – an alternative view

¶1255: Peter Mitchell (2008) has recently suggested in this journal that the world is facing a 'catastrophe' due to anthropogenic climate warming. Mitchell divides his commentary into two parts, and asks two key questions: what is the role of the archaeological community and individual archaeologists in this impending catastrophe and, how will this affect our day-to-day practice? I support most points in the second part (see Rowland 2008) but offer some alternative perspectives to issues raised in the first section of Mitchell's paper. 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'), including the socio-political milieu, the climate science itself and resulting government policies and guidelines.

Archaeologists/anthropologists have a role to play in each of these areas; in particular the longue durée of the archaeological record can provide some fresh insights, a point on which both Mitchell and I agree. Where I differ from Mitchell is that I see a need to refocus the debate toward issues of sustainability and away from the current over-emphasis on global warming.

¶1256: Figurine enigmas: who's to know?

¶1257: Should a public archaeology exhibition focus on objects as objects, or should it also explain something of where they come from and processes of interpreting them? If background is necessary, then how much is needed to make sense of the exhibits? Two recent exhibitions offered different answers. The first was largely descriptive, the second theoretical, and specifically, 'post-processualist'. Both featured prehistoric anthropomorphic figurines of fired clay. Whether or not because 'themore human, the less intelligible' (Hawkes 1954: 162), figurines are among the most intriguing and enigmatic finds. What were they for, and what did they mean? Why do they captivate us today; and how should archaeologists cater for that interest?

¶1258: Gordon Childe: memories and affirmation

¶1259: Thirty years after Childe's death we reviewed his persisting relevance (Gathercole 1987). Twenty-two more years have since passed, and we are pleased to see that his achievements have been reviewed again – in a special monograph (Saville 2009). Here Peter Gathercole admires the continuing modernity and ethical strength of his mentor's ideas, seasoning his reflections with some personal memories. Readers are invited to send us their own memories and tributes of Peter himself, who died on 11 October 2010 and will be much missed.

¶1260: East meets West at Medellín in Iron Age Iberia

- ¶1261: From Polis to National Park: the archaeology of Butrint and its audiences
- ¶1262: Islamic archaeology at a difficult age
- ¶1263: Hadrian's Wall: past, present and future
- ¶1264: Some ways forward along Irish roads
- ¶1265: Water, colour and the Maya
- ¶1266: The Acheulian site of Gesher Benot Ya'aqov. Volume 2: ancient flames and controlled use of fire.
- ¶1267: Animal husbandry in ancient Israel: a zooarchaeological perspective on livestock exploitation, herd management and economic strategies.
- ¶1268: L'architecture des signes: l'art pariétal des tombeaux néolithiques autour de la mer d'Irlande.
- ¶1269: The dolmen in Alvastra
- ¶1270: Las comunidades agrarias de la Edad del Bronce en la Mancha Oriental
- ¶1271: Social relations in later prehistory: Wessex in the first millennium BC.
- ¶1272: Corpus of Indus Seals and Inscriptions. Volume 3: new material, untraced objects and collections outside India and Pakistan. Part 1: Mohenjo-daro and Harappa
- ¶1273: Scholars, travels, archives: Greek history and culture through the British School at Athens
- ¶1274: Digging and dealing in eighteenth-century Rome.
- ¶1275: Maize cobs and cultures: history of Zea mays L.
- ¶1276: The Carnegie Maya II: the Carnegie Institution of Washington current reports, 1952–1957.
- ¶1277: Der Hafen von Haithabu
- ¶1278: Archaeological oceanography.
- ¶1279: Food and gender in Fiji: ethnoarchaeological explorations.



## **Name:** Antiquity 2011 abstracts

### ¶1: Antiquity 2011 Abstracts

### ¶2: ISSUE 1

¶3: Sanzuodian: the structure, function and social significance of the earliest stone fortified sites in China

¶4: The authors present new research on the Chifeng area of north-eastern China where they have been studying the remains of a society of the second millennium BC. This northern region, which saw the introduction of agriculture at the same time as the Yellow River basin experienced a brief and intensive period of fortification in the Late Neolithic/Early Bronze Age: natural ridges above the valleys were ringed with double stone walls and semicircular towers enclosing clusters of round houses with yards. Using large-scale survey and analysis of the structures at the key site of Sanzuodian, they place this phenomenon in its cultural and social context.

¶5: Human sacrifice and intentional corpse preservation in the Royal Cemetery of Ur

¶6: The Royal Tombs at Ur have been long famous for their chilling scenario of young soldiers and courtesans who loyally took poison to die with their mistress. The authors investigate two of the original skulls with CT scans and propose a procedure no less chilling, but more enforceable. The victims were participants in an elaborate funerary ritual during which they were felled with a sharp instrument, heated, embalmed with mercury, dressed and laid ceremonially in rows.

¶7: Long distance exchange in the Central European Neolithic: Hungary to the Baltic

¶8: As Mesolithic people living on the Baltic coast began to adopt farming in the later fifth millennium BC, imports of a new type and quality started to reach them from the south — highly decorated pots and then copper axes from the Hungary-Serbia area. With new excavations at the site of Dąbki 9 in northern Poland, the authors are able to show how high quality thin-walled shiny black vessels are travelling over 1000km in the early fourth millennium BC, bringing prestige cups and jugs to the Baltic shore.

¶9: Grey waters bright with Neolithic argonauts? Maritime connections and the Mesolithic–Neolithic transition within the ‘western seaways’ of Britain, c. 5000–3500 BC

¶10: Careful examination of the probable natural conditions for travel in the North Sea and Irish Sea during the late Mesolithic are here combined with the latest radiocarbon dates to present a new picture of the transition to the Neolithic in the British Isles. The islands of the west were already connected by Mesolithic traffic and did not all go Neolithic at the same time. The introduction of the Neolithic package neither depended on seaborne incomers nor on proximity to the continent. More interesting forces were probably operating on an already busy seaway.

¶11: Exploring the Mesolithic and Neolithic transition in Croatia through isotopic investigations

¶12: The generalised picture of Mesolithic marine diet giving way to a Neolithic terrestrial diet, as derived from isotope measurements, has been both championed and challenged in this journal. Here new results from the Balkans offer a preliminary picture of a diversity of food strategy, both before and after the great transition.

¶13: The eyes have it: human perception and anthropomorphic faces in world rock art

¶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.

¶15: Early Holocene pottery in the Western Desert of Egypt: new data from Nabta Playa

¶16: Dated and stratified potsherds excavated at Nabta Playa belong to the earliest phase of pottery-making in the Sahara – relatively sophisticated bowls decorated with a toothed wheel. The authors explore the origins of post-Pleistocene settlers in the Sahara and the Nile Valley and discuss what prompted them to make pottery.

¶17: Horses for the dead: funerary foodways in Bronze Age Kazakhstan

¶18: The authors examine the role of horses as expressed in assemblages from settlement sites and cemeteries between the Eneolithic and the Bronze Age in Kazakhstan. In this land, known for its rich association with horses, the skeletal evidence appears to indicate a fading of ritual interest. But that's not the whole story, and once again micro-archaeology reveals the true balance. The horses are present at the funeral, but now as meat for the pot, detected in bone fragments and lipids in the pot walls.

¶19: Paul Jacobsthal's Early Celtic Art, his anonymous co-author, and National Socialism: new evidence from the archives

¶20: Colleagues who find the current climate inhibiting to pure scholarship and authors eager to see their name in print should read this: an ultimately uplifting account of Jacobsthal's struggle to establish one of the foundations of European archaeology at a time of grave political persecution. 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: Early evidence for chickens at Iron Age Kirikongo (c. AD 100–1450), Burkina Faso

¶22: An excavated sequence from Burkina Faso shows that the Asian jungle fowl *Gallus gallus*, also known as the chicken, had made its way into West Africa by the mid first millennium AD. Using high precision recovery from a well-stratified site, the author shows how the increasing use of chickens could be chronicled and distinguished from indigenous fowl by both bones and eggshell. Their arrival was highly significant, bringing much more than an additional source of food: it put a sacrificial creature, essential for numerous social and economic transactions, in reach of everyone.

¶23: Tomb 100 at Cabezo Lucero: new light on goldworking in fourth-century BC Iberia

¶24: A goldsmith's toolkit found in an Iberian tomb reveals ground-breaking details about the manufacture of the gold ornaments for which this culture is renowned. Two blowpipes for joining gold with a high precision jet of air unlock the techniques of brazing, granulation and filigree. The authors go on to propose that the buried man was no ordinary craftsman, but a member of the warrior class in control of producing the treasures of the age.

¶25: Tlaxcallan: the archaeology of an ancient republic in the New World

¶26: Arguing from the overall settlement plan and the form of buildings, the authors present a persuasive case that the Late Postclassic city of Tlaxcallan and its near neighbour Tizatlan constitute the central elements of a republican state. This is an unusual political prescription, not only in Mesoamerica but further afield.

¶127: An archaeology of salt production in Fiji

¶128: The authors report the first exposure of prehistoric salt-working in the Pacific, one that used solar evaporation of sea water on large flanged clay dishes. This short-lived industry of the seventh century AD disappeared beneath the dunes, but its documented nineteenth- and twentieth-century successors offer it many useful analogies: the salt, now extracted by boiling brine, was supplied to inland communities upriver, where it functioned as a prime commodity for prestige and trade and an agent of social change.

¶129: The Staffordshire (Ogley Hay) hoard: the find, the context, the problems

¶130: A large and intriguing collection of gold and silver fragments dating mainly to the seventh century AD was found in the parish of Ogley Hay near the south Staffordshire border (England) in 2009 by Mr Terry Herbert, while using a metal detector. With its peculiar composition and uncertain context, the origins and purpose of the Staffordshire Hoard currently remain something of a puzzle.

¶131: The Staffordshire (Ogley Hay) hoard: recovery of a treasure

¶132: The Staffordshire (Ogley Hay) hoard was found on the 5–10 July 2009 by Mr Terry Herbert while metal-detecting on arable land at a site in south Staffordshire in the English Midlands (Figure 1). Mr Herbert contacted Duncan Slarke, the Portable Antiquities Scheme's Finds Liaison Officer for Staffordshire and the West Midlands, who visited the finder at his home and prepared an initial list of 244 bags of finds. These were then taken to Birmingham Museum and HM Coroner was informed. Duncan Slarke also contacted the relevant archaeological authorities including English Heritage, the Staffordshire Historic Environment Record, the Potteries Museum, Stoke-on-Trent, Birmingham Museum & Art Gallery and the Portable Antiquities & Treasure Department at the British Museum. A meeting was held in Birmingham on 21 July at which it was agreed that the controlled recovery of the remaining objects of the hoard and an archaeological investigation of the findspot was a priority. It was also agreed that one of the Portable Antiquities Scheme's National Advisors, Dr Kevin Leahy, should compile a hand-list of finds in preparation for the Coroner's Inquest.

¶133: The Staffordshire (Ogley Hay) hoard: problems of interpretation

¶134: The hoard presents us with a startling number of unfamiliar images from the Anglo-Saxon past, not least in the new icon of treasure that it presents. As the descriptions of treasure and gift-giving in *Beowulf* so vividly remind us, the gaining of treasure, and its corollary, gift-giving, were major preoccupations for Anglo-Saxons and their northern European contemporaries, whether Clovis, showering the crowds in Tours with gold *solidi* when he was created consul in 508, Oswiu attempting to buy off Penda before the Battle of Winwæd with what Bede (*HE* III.24; Colgrave & Mynors 1969: 288–91) described as an incalculable and incredible store of royal treasures or the huge *Danegelds* extorted by Vikings in the tenth and early eleventh century. But until July 2009, the picture presented by the archaeological evidence for Anglo-Saxon treasure could hardly have been more different: the material remains of treasure with which we are familiar come overwhelmingly from high-status burials, or as individual gold finds without context, most of them the result of relatively recent metal-detecting activity. Only one seventh-century Anglo-Saxon gold hoard exists, from Crondall in Hampshire, dated to c. 640; but that is essentially a coin hoard, the only non-numismatic items two small clasps which must have fastened the purse or satchel containing the coins.

¶135: The best we can do?

¶136: This is certainly a strange business: on the one hand, the thrill of discovery, the glory of gold, the flattery of the media and the purring of officialdom; on the other, the agonised frustrations of

academics whose job it is to make sense of everything brought to light on this island. An editor is supposed to remain neutral, but in this case there is no contest. Antiquity champions research — so while we are happy to welcome the arrival of a mass of shiny things, we are bound to lament the loss of an opportunity to understand what they mean. Then there is the paradox of the English system: the treasure hunters are applauded and rewarded, but the archaeologists are seemingly obliged to lurk in the shadows, anxious not to spoil the party. Does it have to be like this?

¶137: European Middle and Upper Palaeolithic radiocarbon dates are often older than they look: problems with previous dates and some remedies

¶138: Few events of European prehistory are more important than the transition from ancient to modern humans around 40 000 years ago, 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.

¶139: Representing children in excavated cemeteries: the intrinsic preservation factors

¶140: Children are often under-represented in excavated populations due to the poor survival of their bones. Using a group of medieval burials from Serbia, our researchers examine the differential survival of children and of different parts of the body within the same terrain, and rightly urge us to take these factors into consideration before attempting demographic, ritual or social interpretations.

¶141: Application of sky-view factor for the visualisation of historic landscape features in lidar-derived relief models

¶142: Aerial mapping and remote sensing 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.

¶143: Response to ‘The fall of Phaethon: a Greco-Roman geomyth preserves the memory of a meteorite impact in Bavaria (south-east Germany)’ by Rappenglück et al. (*Antiquity* 84)

¶144: The authors comment on the date of the formation of the Tüttensee, holding that it was not created by a meteorite in the first millennium BC as claimed in the *Antiquity* article, but formed at the end of the Ice Age and can have nothing to do with Phaethon and his chariot. In reply, Rappenglück et al. offer a brief defence of their thesis.

¶145: Reply to Doppler et al. ‘Response to “The fall of Phaethon: a Greco-Roman geomyth preserves the memory of a meteorite impact in Bavaria (south-east Germany) (*Antiquity* 84)”’

¶146: We acknowledge the observations of Doppler et al. on our paper and we are grateful to *Antiquity*'s editor for this opportunity to reply to their objections.

¶147: Firstly, it should be noted that we have not claimed that the Chiemsee once included the Tüttensee. We agree that the region in which both lakes lie was glacially formed. But while Lake Chiemsee is the result of the last Ice Age the Tüttensee basin originates from a much later Holocene meteorite impact. We do not use the myth of Phaeton to date this event that is known as the Chiemgau impact. On the contrary we estimate from archaeological evidence and OSL dating that the event occurred between 2200 and 800 BC, i.e. the Bronze Age (Rappenglück et al. 2010: 436). We

go on to discuss parallels between the independent dating of the Chiemgau impact and the possible time frame of the myth (Rappenglück et al. 2010: 435–37).

¶148: Maya milestone

¶149: Fiery pool: the Maya and the mythic sea is a travelling exhibition of nearly 100 finds that, together, imply a specific concept of the environment, physical and spiritual, for the Maya of Mesoamerica. As usual, the majority are from 'public' contexts, more or less aristocratic; but the exhibition generalises about Maya culture. Most of the exhibits are of the Classic period (c. AD 250–900), predominantly Late Classic, but there are some earlier pieces and several of the Postclassic (to the Spanish Conquest). Some are well known and there are striking new finds too. Curated by Daniel Finamore & Stephen Houston, Fiery pool draws from more than 40 collections in the USA, Mexico, Central America and further afield. It was shown at the Peabody Essex Museum, in Salem, Massachusetts, in 2010, and the Kimbell Art Museum, Fort Worth, Texas, in 2010–11. It is now in Missouri, at the St Louis Art Museum, where its tour finishes on 8 May 2011.

¶150: European rock art: arti-facts and fancies -

¶151: Representations and communications: creating an archaeological matrix of late prehistoric rock art.

¶152: Arkeologisk Rapport 7, Vitlycke Museum. Stiftelsen för dokumentation av Bohusläns hållristningar: Tossene socken [Foundations for the documentation of Bohuslän's rock carvings: parish of Tossene].

¶153: Documentation and registration of rock art in Tanum / Dokumentation och registrering av hållristningar i Tanum. No. 3: Kalleby, Finntorp, Ryk.

¶154: Complex societies in Japan: archaeology, history and mythology -

¶155: Himiko and Japan's elusive chiefdom of Yamatai: archaeology, history, and mythology.

¶156: Archaeology, society and identity in modern Japan. x

¶157: State formation in Japan: emergence of a 4th-century ruling elite.

¶158: South American perspectives -

¶159: Handbook of South American archaeology.

¶160: La arqueología y la etnohistoria: un encuentro andino

¶161: Conceiving God: the cognitive origin and evolution of religion.

¶162: Novaia Arkheologija (kriticheskii analiz teoreticheskogo napravleniia v arkheologii Zapada) [New Archaeology (critical analysis of the theoretical direction of Western archaeology)].

¶163: Archaeological investigation. x

¶164: Writing about archaeology.

¶165: The Oxford handbook of the Bronze Age Aegean. x

¶166: At empires' edge: Project Paphlagonia — regional survey in north-central Turkey (

¶167: Tittle Höyük 3. The Iron Age: introduction, stratification and architecture (

¶168: Hidden hands: Egyptian workforces in Petrie excavation archives, 1880–1924.

¶169: Qasr Ibrim: the earlier medieval period

¶170: Caciques and cemí idols: the web spun by Taíno rulers between Hispaniola and Puerto Rico.

¶171: The Rose and the Globe — playhouses of Shakespeare's Bankside, Southwark: excavations 1988–90

¶172: ISSUE 2

¶173: Dzudzuana: an Upper Palaeolithic cave site in the Caucasus foothills (Georgia)

¶174: The report announces the important radiocarbon-dated sequence recently obtained at Dzudzuana Cave in the southern Caucasus foothills. The first occupants here were modern humans, in c. 34.5–32.2 ka cal BP, and comparison with dated sequences on the northern slope of the Caucasus suggests that their arrival was rapid and widespread. The rich, well-dated assemblages of lithics, bone tools and a few art objects, coloured fibres, pollen and animal remains deposited at Dzudzuana through 20 millennia provide an invaluable point of reference for numerous other sites previously excavated in western Georgia. Detailed information has been placed in a supplementary excavation report online. The data support the significance of these excavations for a better understanding of modern human dispersals.

¶175: An 11 600 year-old communal structure from the Neolithic of southern Jordan

¶176: The authors present a new type of communal and monumental structure from the earliest Neolithic in western Asia. A complement to the decorated stone pillars erected at Göbekli Tepe in the north, 'Wadi Faynan 16 Structure O75' in the southern Levant is a ritualised gathering place of a different kind. It serves to define wider western Asia as an arena of social experiment in the tenth millennium BC, one in which community seems to take precedence over economy.

¶177: Glacial cycles and Palaeolithic adaptive variability on China's Western Loess Plateau

¶178: Intensive research on China's Western Loess Plateau has located 63 Palaeolithic deposits, which together allow the authors to present a general model of hominin occupation from 80 000 to 18 000 years ago. Tools, subsistence and settlement correlate nicely with the climate: the warm wet MIS3 seeing expansion and more organised acquisition of quartz, and the Late Glacial Maximum that followed, a reduction in human presence but possibly an increase in ingenuity.

¶179: Ritual in the landscape: evidence from Pınarbaşı in the seventh-millennium cal BC Konya Plain

¶180: Excavations in the rockshelter at Pınarbaşı, 24.5km south-east of Çatalhöyük, have brought to light a sequence of structures and a rich assemblage of animal bones, with some of the bones embedded in plaster objects. The authors argue for a strong link with Çatalhöyük, and propose a hunter-herder site operated by a close-knit group from that settlement, supplying meat to it, but practising their own up-country rituals — so providing a glimpse of the 'lived landscape'.

¶181: Towards a social geography of cultivation and plant use in an early farming community: Vaihingen an der Enz, south-west Germany

¶182: Through integrated analysis of archaeobotanical and artefactual distributions across a settlement, the authors discover 'neighbourhoods' using different cultivation areas in the surrounding landscape. Differences between groups also emerge over the life of the settlement in

the use of special plants, such as opium poppy and feathergrass. Spatial configurations of cultivation and plant use map out the shifting social geographies of a Neolithic community.

¶183: A Bronze Age battlefield? Weapons and trauma in the Tollense Valley, north-eastern Germany

¶184: Chance discoveries of weapons, horse bones and human skeletal remains along the banks of the River Tollense led to a campaign of research which has identified them as the debris from a Bronze Age battle. The resources of war included horses, arrowheads and wooden clubs, and the dead had suffered blows indicating face-to-face combat. This surprisingly modern and decidedly vicious struggle took place over the swampy braided streams of the river in an area of settled, possibly coveted, territory. Washed along by the current, the bodies and weapons came to rest on a single alluvial surface.

¶185: The Iceman's last days – the testimony of *Ostrya carpinifolia*

¶186: The demise of the Iceman is archaeology's current long-running detective story, in which the time and mode of death have yet to be agreed. Recent discussion in these pages favoured a ceremonial burial on the mountain, following his death and the conservation of the corpse in the home village. In a new forensic contribution, the author shows that, in addition to his other woes, the Iceman might have been taking medicine in the form of bark. This in turn implies that his final adventure might have taken place at anytime between spring and autumn, leaving the burial hypothesis without constraint.

¶187: Bioarchaeological evidence for conflict in Iron Age north-west Cambodia

¶188: Examination of skeletal material from graves at Phum Snay in north-west Cambodia revealed an exceptionally high number of injuries, especially to the head, likely to have been caused by interpersonal violence. The graves also contain a quantity of swords and other offensive weapons used in conflict. The authors propose a context for these warriors in the struggle between emergent polities in the Iron Age before the domination of Angkor.

¶189: The recent rock drawings of the Lenggong Valley, Perak, Malaysia

¶190: The authors present and interpret rock drawings found in caves in the Lenggong Valley, Perak, Malaysia. 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, 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.

¶191: Who was in Harold Bluetooth's army? Strontium isotope investigation of the cemetery at the Viking Age fortress at Trelleborg, Denmark

¶192: The circular fortress of Trelleborg on Zealand in Denmark is well known as a military camp with a key role in the formation of the Danish state under Harald Bluetooth in the tenth century AD. Taking a sample of 48 burials from the fort, strontium isotope analysis once again demonstrates its ability to eavesdrop on a community: at Trelleborg, the young men in its cemetery were largely recruited from outside Denmark, perhaps from Norway or the Slavic regions. Even persons buried together proved to have different origins, and the three females sampled were all from overseas, including a wealthy woman with a silver casket. Trelleborg, home of Harald Bluetooth's army, was a fortress of foreigners with vivid implications for the nature of his political mission.

¶193: Recent research in Southeast Asia: a tribute to Peter Bellwood

¶194: Few parts of the world have seen such an acceleration in the output of outstanding archaeological research as Southeast Asia, and we are fortunate to have persuaded some of the leading players to provide our readers with a major update of work in progress. The idea arose from a session at the recent IPPA congress, where a number of scholars gathered to pay tribute to Peter Bellwood, on the point of his retiring from his position as Secretary-General. We are very grateful to them for allowing versions of the papers they gave to find a wider audience through Antiquity, and delighted to have the chance to add our tribute to theirs.

¶195: Foraging-farming transitions at the Niah Caves, Sarawak, Borneo

¶196: The Niah Caves in Sarawak, Borneo, have captured evidence for people and economies of 8000 and 4000 years ago. Although not continuous on this site, these open two windows on to life at the cultural turning point, broadly equivalent to the transition from Mesolithic to Neolithic. They have much in common, inferring that the occupants, perhaps belonging to an older maritime dispersal, had a choosy appetite for the Neolithic package.

¶197: Archaeology and the Austronesian expansion: where are we now?

¶198: For many years the author has been tracking the spread of the Neolithic of Island Southeast Asia (ISEA) and its extension eastwards into the western Pacific, as a proxy for dating the spread of the Austronesian (AN) languages across that same vast area. Here he recalls the evidence, updates the hypothesis and poses some new questions.

¶199: The prehistory of a Friction Zone: first farmers and hunters-gatherers in Southeast Asia

¶100: The prime-mover for the arrival of the Neolithic in Island Southeast Asia is thought to be the expansion of rice farmers speaking an Austronesian language and coming from the north (see Spriggs, above). Much less is known of the indigenous hunter-gatherers and their interaction with the new farming communities. The mutually occupied area, in the definition of Peter Bellwood, was a 'Friction Zone', where two radically different cultures met. This paper emphasises how much land, and information, was lost when the rising sea drowned Sundaland, an area the size of India, and brings to bear archaeological and DNA evidence to emphasise the continuing role of hunter-gatherers in the later prehistory of Southeast Asia.

¶101: Across the Indian Ocean: the prehistoric movement of plants and animals

¶102: Here is a major research project that is peopling the Indian Ocean with prehistoric seafarers exchanging native crops and stock between Africa and India. Not the least exciting part of the work is the authors' contention that the prime movers of this maritime adventure were not the great empires but a multitude of small-scale entrepreneurs.

¶103: Iron and cloth across the Bay of Bengal: new data from Tha Kae, central Thailand

¶104: An important group of spindle whorls found at Tha Kae in Thailand carries traces suggesting the use of iron spindles, and includes an unusual type of whorl shaped like a door knob. The author explores the implied contacts reaching into south China, but is also able to add a probable link with India in the early first millennium AD, well in advance of the better known Dvaravati period (sixth–thirteenth centuries AD).

¶105: Anything but a backwater

¶106: In the spring of 1970, tired of the chilly Philadelphia winters where I was studying archaeology at the University of Pennsylvania, I arranged to spend a semester at the University of Hawai'i. There I



enrolled in Professor Wilhelm G. Solheim II's course in the prehistory of Southeast Asia. Bill Solheim — a colorful character if ever there was one, with his handle-bar mustache and endless anecdotes — was just then stirring up the sleepy field of Southeast Asian archaeology and prehistory. Together with his graduate students Chet Gorman and Don Bayard, Bill was making all kinds of startling claims about the course of cultural evolution in what most scholars had taken to be a secondary backwater: evidence for strikingly early plant domestication from Spirit Cave, precocious advances in bronze metallurgy at Non Nok Tah, and similar claims. At the time, Peter Bellwood, then based at the University of Auckland, was still focused on research among the islands of eastern Polynesia. But Peter saw the exciting developments coming out of Southeast Asia and soon decamped to The Australian National University in Canberra. Out of this new base he began his long and fruitful career of fieldwork in island Southeast Asia, and as the preeminent synthesiser of the region's prehistory

¶107: Agro-pastoralism and social change in the Cuzco heartland of Peru: a brief history using environmental proxies

¶108: The author 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. The introduction of highland maize and weeding practices 2700 years ago corresponds with major settlement development, as well as evidence for large herds of llamas not only facilitating trade but supplying abundant fertilizer and fuel in the form of excrement. Prolonged droughts and pre-Colombian epidemics probably influenced many of the social changes observed.

¶109: Cutting a Gordian Knot: the Bronze Age of Southeast Asia: origins, timing and impact

¶110: Two conflicting theories put the introduction of bronze into Southeast Asia 1000 years apart, one (before China) at 2000 BC, the other at 1000 BC. 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: Slashing and thrusting with Late Bronze Age spears: analysis and experiment

¶112: The bronze spearhead at the end of a long shaft is traditionally seen as a thrusting or throwing weapon, as seen in the movies. By examining the damage on a group of Late Bronze Age spearheads from Britain, and replicating their use in combat, the author shows that the spear was an even more versatile weapon — for throwing, thrusting and slashing (with a short shaft). The research puts a spotlight on the formidable skills developed in a Bronze Age life-time.

¶113: Acropolismos

¶114: The opening of the new Acropolis Museum in June 2009 was one of the most important museological events of our century so far. Nick James paid it a visit (*Antiquity* 83: 1144–51) and we have pleasure in offering three more reactions from different viewpoints.

¶115: Behold the raking geison: the new Acropolis Museum and its context-free archaeologies

¶116: In December 1834 Athens became the capital city of the newly founded Hellenic Kingdom. King Otto, the Bavarian prince whose political and cultural initiative shaped much of what modern Greece is today, sought to design the new city inspired by the heavily idealised model of Classical Hellas (see Bastea 2000). 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. The Acropolis became, naturally, the focal point of this effort. At the same time, however, and as

Greek nationalist strategies were beginning to unfold, 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 (see Yalouri 2001: 77–100). Archaeological sites thus became disputed spaces, 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 (Loukaki 2008). The Acropolis was duly cleansed from any non-Classical antiquities and began to be constructed as an authentic Classical space, a national project still in progress. 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' (Leontis 1995: 40–66; see also McNeal 1991; Hamilakis 2007: 85–99).

#### ¶117: Museums of oblivion

¶118: The relationship between antiquity, archaeology and national imagination in Greece, 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 (see e.g. Hamilakis 2007, 2009). In fact, Greece has proved a rich source of insights for other cases of nation-state heritage politics. The new Acropolis Museum project 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. This site is at the same time, however, an object of veneration within the Western imagination (you only have to look at the UNESCO logo), a pilgrimage destination for millions of global tourists, with all its revenue implications, and an endlessly reproduced and modified global icon (in both senses of the word).

#### ¶119: Soft targets and no-win dilemmas: response to Dimitris Plantzos

¶120: Most of the opposition directed at the new Acropolis Museum (hereafter NAM), both before and 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 [Wilson 2006]). Dimitris Plantzos comes at the museum from a different angle, but he too is determinedly on the attack. A first sign of this is his total silence about the protection and exhibition of the archaeological site underlying the museum, one of its major positive (and innovative) features.

#### ¶121: Isotopes and impact: a cautionary tale

¶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 ( $^{14}\text{C}$ ) 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  $\delta^{13}\text{C}$  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 (Pollard & Heron 2008).

#### ¶123: The prehistory of Southeast Asia: a retrospective view of 40 years research

¶124: When David Clark asked me in 1970 to contribute a chapter on Southeast Asia for his new book, *Models in archaeology*, I faced a dilemma. What could one say about an area the size of Western Europe of which virtually nothing was known? So I entitled my chapter 'Initial model formulation in terra incognita' and speculated on the basis of the handful of sites that had been excavated (Higham 1972). Nor was the prognosis for the area at all promising. The war in Vietnam was spilling over into Laos and Cambodia. China remained a looming void to the north, Burma was not receptive and Malaysia did not welcome foreign archaeologists. Only Thailand shone like a welcoming beacon.

¶125: Silk Road riches no embarrassment

¶126: The survival of organic materials in the waterless fringes of the Takla Makan and Lop Deserts in the Tarim basin in Xinjiang (north-western China) has fascinated us for a century, since Sven Hedin, Aurel Stein and Albert von Le Coq found the remains of settlements and cemeteries at the Great Wall's lonely outposts and along the routes between China and Central Asia known as the Silk Road. The finds date from the Bronze Age to the later first millennium AD. In the 1980s and '90s, it was shown that the most striking of them, the Tarim 'mummies', belong to both Mongoloid and Caucasoid peoples (Mallory & Mair 2000). The archaeology here of public and domestic life is full of the kinds of surprises and contradictions that we are learning to expect—if not accept—with 'globalisation'. Development in the region is now prompting new discoveries but also looters, so the research is urgent.

¶127: Early prehistoric cultural connections: Siberia and beyond -

¶128: Archaeology in Northeast Asia: on the pathway to Bering Strait

¶129: The Stone Age of Chukotka, northeastern Siberia (new materials)

¶130: New work on mathematics, measurement and society -

¶131: Numerical notation: a comparative history.

¶132: The archaeology of measurement: comprehending Heaven, Earth and Time in ancient societies.

¶133: Common threads and separate strands in Anglo-Saxon England -

¶134: Early medieval (late 5th–early 8th centuries AD) cemeteries at Boss Hall and Buttermarket, Ipswich, Suffolk

¶135: Excavations at Mucking. Volume 3: the Anglo-Saxon cemeteries, excavations by Tom and Margaret Jones. Part 1: Introduction, catalogues and specialist reports. Part 2: Analysis and discussion.

¶136: The Anglo-Saxon settlement and cemetery at Bloodmoor Hill, Carlton Colville, Suffolk

¶137: Balancing the scales: new perspectives on British landscapes -

¶138: Hunting in Britain from the Ice Age to the present.

¶139: Rockingham Forest: an atlas of the medieval and early-modern landscape

¶140: Social brain, distributed mind.

¶141: *Autour de la Table: explorations archéologiques et discours savants sur des architectures néolithiques à Locmariaquer, Morbihan (Table des Marchands et Grand Menhir)*. Synthèse d'un

programme de fouilles (J. L'Helgouac'h et S. Cassen, 1986–1994) et d'une Action Collective de Recherche (ACR) 2003–2006.

¶142: Die Einführung der Eisentechnologie in Südkaukasien und Ostanatolien während der Spätbronze- und Früheisenzeit

¶143: 50 years of archaeology in Southeast Asia: essays in honour of Ian Glover.

¶144: The origins of the civilization of Angkor, volume 3. The excavations of Ban Non Wat: introduction.

¶145: The ancient Indus: urbanism, economy and society.

¶146: Grounding knowledge/walking land: archaeological research and ethno-historical identity in central Nepal.

¶147: Antica Africa: alle origine delle società

¶148: Archaeology and international development in Africa.

¶149: Ancestral Maya economies in archaeological perspective.

¶150: Rethinking Puerto Rican precolonial history.

¶151: Lady Anne Clifford: culture, patronage and gender in 17th-century Britain

¶152: Microarchaeology: beyond the visible archaeological record.

¶153: Climate: the counter consensus.

¶154: ISSUE 3

¶155: Processes of change in Magdalenian societies in the Pyrenean isthmus (20–16 ky cal BP)

¶156: The author uses a detailed analysis of lithic assemblages to propose a major social and economic change in the Pyrenees around 18 ky cal BC, roughly the watershed between the Lower and Middle Magdalenian periods. Nomadic groups begin to settle down, occupy loose territories, move raw materials over vast distances and specialise in manufacture for hunting and domestic use. These trends coincide with a cold period and an increase in grassland, the Heinrich Stadial.

¶157: On the origin and significance of microburins: an experimental approach

¶158: The authors used knapping experiments to study the way that microburins are produced. Once thought of as signature pieces of the Mesolithic, these experiments suggest that they were by-products of a gradual technological development by knappers trying to make arrowheads that had no bulb of percussion — and were thus easier to haft. They make a case for an evolution already present in the late Palaeolithic and determined by practical, rather than cultural, social or environmental imperatives.

¶159: The Neolithic burial sequence at Flintbek LA 3, north Germany, and its cart tracks: a precise chronology

¶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. She shows when and how quickly people living on the shore of the Baltic adopted pit graves, megalithic chambers and long barrows. Better than

that, she provides a date for the famous cart tracks beneath the final barrow to 3420–3385 cal BC. Although other parts of the package — ploughing and pottery — are late arrivals, her analysis of the global evidence shows that Flintbek remains among the earliest sightings of the wheel in northern Europe.

¶161: Harvesting cereals and other plants in Neolithic Iberia: the assemblage from the lake settlement at La Draga

¶162: Marvellous preservation of organic materials at the Neolithic site of La Draga in north-east Iberia include a range of wooden harvesting tools. The authors examine the wood and flint to describe a range of the earliest harvesting techniques and their diverse applications.

¶163: Unpacking burial and rank: the role of children in the first monumental cemeteries of Western Europe (4600–4300 BC)

¶164: Examining the earliest grand mortuary monuments of the Neolithic, the authors question the assumption that they mark the resting place of society's higher ranks. Using the skeletal remains, the grave goods and the burial rites, they find no great differences in commemoration between the monumental cemeteries, with their long barrows, and the flat graves, without structures. In this analysis, the children proved to be the most vivid players: while the very young are largely excluded, some toddlers were selected to carry hunting equipment, a distinction shared with selected adult males. Some children were also laid to rest in the long barrows, with some adults. 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 at a prehistoric ceremonial complex in central Scotland: excavations at Forteviot, Perth and Kinross

¶166: Aerial photography and excavations have brought to notice a major prehistoric ceremonial complex in central Scotland comparable to Stonehenge, although largely built in earth and timber. Beginning, like Stonehenge, as a cremation cemetery, it launched its monumentality by means of an immense circle of tree trunks, and developed it with smaller circles of posts and an earth bank (henge). A change of political mood in the Early Bronze Age is marked by one of Scotland's best preserved dagger-burials in a stone cist with an engraved lid. The perishable (or reusable) materials meant that this great centre lay for millennia under ploughed fields, until it was adopted, by design or by chance, as a centre of the Pictish kings.

¶167: The Beaker salt production centre of Molino Sanchón II, Zamora, Spain

¶168: The authors take us to the salt lakes of Villafáfila in north-west Spain, where they have demonstrated by excavation that salt extraction had begun by the second half of the third millennium BC. The salt pans uncovered were accompanied by copious amounts of decorated Beaker pottery, for which political and symbolic interpretations are proposed.

¶169: Cornești-Iarcuri — a Bronze Age town in the Romanian Banat?

¶170: A massive Late Bronze Age fortified settlement in Central Europe has been the subject of a new and exemplary investigation by excavation and site survey. This prehistoric enclosure, nearly 6km across, had a complex development, dense occupation and signs of destruction by fire. It can hardly be other than a capital city playing a role in the determinant struggles of its day — weighty and far reaching events of the European continent now being chronicled by archaeology.

¶171: Restoring the balance: an Early Bronze Age scale beam from Tell Fadous-Kfarabida, Lebanon

¶172: The author reports an object of modest appearance but great significance — a small bone beam for weighing precious commodities. Weighing indicates the regulation of quantities for exchange or manufacture and is thus a key agent of social and economic complexity. Well-stratified and dated to the early third millennium BC, this find puts the people of the Levant among the earliest to quantify mass. We are rightly urged to inspect faunal assemblages for similarly subtle modifications of bones.

¶173: The meaning of wine in Egyptian tombs: the three amphorae from Tutankhamun's burial chamber

¶174: Three wine jars in Tutankhamun's fabulously preserved burial chamber had been opened and placed east, west and south of the sarcophagus. By means of inscriptions, endorsed by residue analysis, the author distinguishes the contents as red wine, white wine and a high quality fortified wine, and goes on to argue for specific symbolic meanings for these choices in the context of religious change after Akhenaten.

¶175: Aging cremated infants: the problem of sacrifice at the Tophet of Carthage

¶176: The Greeks and Romans reproached the Phoenicians for the sacrifice of infants, and the excavation of cremated infants at 'Tophets' (named after the sacrificial site in Jerusalem mentioned in the Bible) seems to bear this out. However, 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, showing that in the Tophet of Carthage the majority of the infants died between one and one and a half months. Sacrifice was thus very probable.

¶177: Prehistoric and historic networks on the Atacama Desert coast (northern Chile)

¶178: Comparing the records of fishing communities made in the sixteenth to twentieth centuries to the archaeological evidence of the sixth millennium BP, the authors propose a sophisticated prehistoric network for the coastal people of northern Chile. Residential seashore settlements link both along the coast to temporary production sites for fish, and inland to oasis-based providers of products from the uplands and salt flats. Sharing values and kinsfolk, the coastal communities must have travelled extensively in boats which, like their modern counterparts, made use of floats of inflated sealskin.

¶179: In the path of the Maize God: a royal tomb at Nakum, Petén, Guatemala

¶180: The authors describe the excavation and interpretation of an intact seventh-century high status burial at the Maya site of Nakum. The dead person wore an incised pectoral with an eventful biography, having started out as an Olmec heirloom 1000 years before. No less impressive was the series of votive rituals found to have been enacted at the tomb for another 100 years or more. The beautiful objects, their architectural setting and the long story they recount, offer a heart-breaking indictment of the multiple losses due to looting.

¶181: The first settlement of Remote Oceania: the Philippines to the Marianas

¶182: The authors compare pottery assemblages in the Marianas and the Philippines to claim endorsement for a first human expansion into the open Pacific around 1500 BC. The Marianas are separated from the Philippines by 2300km of open sea, so they are proposing an epic pioneering voyage of men and women, with presumably some cultivated plants but apparently no animals. How did they manage this unprecedented journey?

¶183: Strategies for constructing religious authority in ancient Hawai'i

¶184: Through intensive archaeological investigation of temples in Hawai'i, the authors reveal a sequence of religious strategies for creating and maintaining authority that has application to prehistoric sequences everywhere. Expressed in the orientation and layout of the temples and their place in the landscape, these strategies develop in four stages over the course of a few hundred years, from the fifteenth to nineteenth century AD, from local shrines associated with agriculture to the development of a centralising priesthood serving the larger political economy.

¶185: 'Treasures... of black wood, brilliantly polished': five examples of Taíno sculpture from the tenth–sixteenth century Caribbean

¶186: Five wooden sculptures from the pre-contact Caribbean, long held in museum collections, are here dated and given a context for the first time. The examples studied were made from dense Guaiacum wood, carved, polished and inlaid with shell fastened with resin. Dating the heartwood, sapwood and resins takes key examples of 'Classic' Taíno art back to the tenth century AD, and suggests that some objects were treasured and refurbished over centuries. The authors discuss the symbolic properties of the wood and the long-lived biographies of some iconic sculptures.

¶187: At the edge: High Arctic Walrus hunters during the Little Ice Age

¶188: A multi-disciplinary study of settlement in north-east Greenland found that life in this High Arctic zone was actually favoured by the climate brought in by the Little Ice Age (fifteenth–nineteenth century). Extensive ice cover meant high mobility, and the rare polynyas — small patches of permanently open coastal water — provided destinations, like oases, where huge numbers of migrating marine mammals and birds congregated. One such place was Walrus Island on Sirius Water, a veritable processing plant for walrus, where every spring Thule people stocked up meat supplies that would get the rest of the region through the winter. It was a further drop in the temperature in the mid nineteenth century that led to the region being abandoned.

¶189: Talking leaves and rocks that teach: the archaeological discovery of Sequoyah's oldest written record

¶190: The authors investigate the origins of the earliest script of the Cherokees, using inscriptions in the Red Bird River Shelter. Their analysis suggests that the engravings in the cave show the experimental creation of a syllabary (alphabet of signs). This in turn offers support for the historical notion that this writing system was not an ancestral practice preserved through missionaries, but an invention of the early nineteenth century; one that should be credited to the Native American pioneer scholar, Sequoyah.

¶191: Chalcolithic and modern potting at Gilund, Rajasthan: a cautionary tale

¶192: By an interesting coincidence the village of Gilund in Rajasthan, north-west India was host to an important Chalcolithic settlement of the early third millennium BC and to some of the last indigenous potters still working in the twenty-first century AD. The author shows how her study of the prehistoric potters was enhanced by what she learnt from their modern successors, pointing out that she was only just in time. These potters will be the last to practice and in this respect ethnoarchaeology is itself under threat.

¶193: The Thera eruption and Minoan palatial collapse: new interpretations gained from modelling the maritime network

¶194: What was the effect on Late Minoan civilisation of the catastrophic destruction of Akrotiri on Thera (Santorini) by volcanic eruption? Not much, according to the evidence for continuing

prosperity on Crete. But the authors mobilise their ingenious mathematical model (published in *Antiquity* 82: 1009–1024), this time to show that the effects of removing a major port of call could have impacted after an interval, as increased costs of transport gradually led to ever fewer routes and eventual economic collapse.

¶195: The microstratigraphy of middens: capturing daily routine in rubbish at Neolithic Çatalhöyük, Turkey

¶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.

¶197: Conceptualising climate change archaeology

¶198: Archaeology claims a long tradition, going back to the middle of the nineteenth century, of undertaking both palaeoclimate research and studies on the impact of past climate change on human communities (Trigger 1996: 130–38). Such research ought to be making a significant contribution to modern climate change debates, such as those led by the Intergovernmental Panel on Climate Change (IPCC); but in practice this rarely happens (e.g. McIntosh et al. 2000). This paper will attempt to conceptualise a ‘climate change archaeology’, which is defined here as the contribution of archaeological research to modern climate change debates (cf. Mitchell 2008). 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: Soviet inspiration in Chinese archaeology

¶200: On the sixtieth anniversary of the founding of China's Institute of Archaeology, the author looks back to its origins, and recalls a short period, now almost forgotten, of dynamic and fruitful collaboration with the archaeologists of Soviet Russia. 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 seems to pre-echo some of the themes of Anglo-American processual archaeology that was to follow a decade later.

¶201: Social construction and deconstruction of a ‘theocracy’

¶202: Archaeology aims at imagining past societies, using physical data together with, if available, historical documentation. 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 (Goonatilake 1982, 1984, 1999, 2001; Clough 2001). The present exercise aims to investigate and question the social and intellectual context in which Anuradhapura, the first capital in Sri Lanka, has been interpreted as belonging to a ‘theocracy’ (Coningham et al. 2007). Prehistoric archaeology has dated the site to around the ninth century BC at which time it was one of the largest cities in South Asia. A continuous set of chronicles, authenticated by physical remains, document the continuation of the city from at least the fourth/third century BC up to the eleventh century AD, when it was sacked by south Indian invaders. The written evidence includes Sinhalese chronicles (written in Pali), descriptions of the city by foreign travellers and a large number of inscriptions dating back to the third century BC.



¶203: Response to Goonatilake

¶204: People's finds: context and control

¶205: What should professional archaeologists do about objects discovered by amateurs? The best known cases involve metal-detectorists who, under the English 'Treasure Act (1996), are permitted to make agreements with land-owners to search for antiquities and keep them, although the Portable Antiquities Scheme (PAS; set up to complement the Act's provisions) encourages them to have their finds registered by an archaeologist. There is no doubt that this has greatly increased knowledge of artefacts discovered in England where, in the past decade, the annual number of 'portable antiquities formally reported has risen steeply (Bland 2008: 71). The British Museum is now promoting a code of practice (Bland 2008: 81–2); and, at pains to avoid counterposing professional archaeologists and amateurs, it is encouraging the opportunities for outreach and 'community archaeology' (British Museum n.d.: 16–18). Thus Bland (2008: 80) welcomes collective knowledge . . . founded on public . . . participation' rather than . . . research . . . conceived and executed by professionals'. Yet there are now fresh anxieties about preservation at detectorists' sites (Pestell & Ulmschneider 2003: 9–10; Wilson 2009; Plouviez 2010).

¶206: Pots and people in Eurasia: two recent Russian publications -

¶207: Ancient pottery production: results and prospects of investigation

¶208: The Novinki burial grounds of the Fatyanovo culture.

¶209: Dumbarton Oaks duet -

¶210: The art of urbanism: how Mesoamerican kingdoms represented themselves in architecture and imagery.

¶211: The place of stone monuments: context, use, and meaning in Mesoamerica's Preclassic transition.

¶212: Palaeolithic art in motion -

¶213: L'art des cavernes en action. Tome 1: les animaux modèles. Aspect, locomotion, comportement. 2

¶214: L'art des cavernes en action. Tome 2: les animaux figurés. Animation et mouvement, l'illusion de la vie.

¶215: Archaeologies of seafaring and the sea -

¶216: The global origins and development of seafaring.

¶217: Archaeology and the sea in Scandinavia and Britain: a personal account

¶218: North Sea archaeologies: a maritime biography 10 000 BC – AD 1500.

¶219: The Magdalenian household: unraveling domesticity.

¶220: Megalithic research in the Netherlands, 1547–1911: from 'Giant's beds' and 'Pillars of Hercules' to accurate investigations.

¶221: An archaeology of the senses: prehistoric Malta.

¶222: Crossing the Straits: prehistoric obsidian source exploitation in the North Pacific rim

¶1223: Ancient Babylonian medicine: theory and practice.

¶1224: The Marshall Albums: photography and archaeology.

¶1225: Sheri Khan Tarakai and early village life in the borderlands of north-west Pakistan.

¶1226: Desert animals in the eastern Sahara: status, economic significance, and cultural reflection in antiquity

¶1227: West African archaeology: new developments, new perspectives

¶1228: Boudica to Raedwald: East Anglia's relations with Rome.

¶1229: Europe's Barbarians AD 200–600.

¶1230: Hofstaðir: excavations of a Viking Age feasting hall in north-eastern Iceland

¶1231: Euratlas Periodis Expert: periodical historical atlas of Europe 1–2000

¶1232: ISSUE 4

¶1233: Franchthi Cave revisited: the age of the Aurignacian in south-eastern Europe

¶1234: The Aurignacian, traditionally regarded as marking the beginnings of Sapiens in Europe, is notoriously hard to date, being almost out of reach of radiocarbon. Here the authors return to the stratified sequence in the Franchthi Cave, chronicle its lithic and shell ornament industries and, by dating humanly-modified material, show that Franchthi was occupied either side of the Campagnian Ignimbrite super-eruption around 40000 years ago. Along with other results, this means that groups of Early Upper Palaeolithic people were active outside the Danube corridor and Western Europe, and probably in contact with each other over long distances.

¶1235: Lower Magdalenian secondary human burial in El Mirón Cave, Cantabria, Spain

¶1236: The authors describe the discovery of the first human burial of Magdalenian age to be found in the Iberian Peninsula—the partial skeleton of a young adult whose bones were stained with red ochre. The burial was well stratified in a sequence at the vestibule rear running from the Mousterian to the Mesolithic, and was adjacent to a large block that had fallen from the cave roof and been subsequently engraved. 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, placing the interment of this individual in the Lower Cantabrian Magdalenian, the period of most intensive human occupation of El Mirón Cave during the Upper Palaeolithic.

¶1237: A question of style: reconsidering the stylistic approach to dating Palaeolithic parietal art in France

¶1238: The authors deconstruct the basis for dating the Palaeolithic cave paintings of France and find it wanting. Only five per cent are directly dated and the remainder belong to a stylistic framework that has grown organically, and with much circularity, as new paintings were brought to light. Following a constructive bouleversement, the authors recommend a new chronometric foundation based on chains of evidence anchored by radiocarbon dates. The story so far is striking: it brings many of the themes and techniques thought typical of the later painters into the repertoire of their much earlier predecessors.

¶1239: First evidence of Pleistocene rock art in North Africa: securing the age of the Qurta petroglyphs (Egypt) through OSL dating

¶1240: Long doubted, the existence of Pleistocene rock art in North Africa is here proven through the dating of petroglyph panels displaying aurochs and other animals at Qurta in the Upper Egyptian Nile Valley. 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 making the rock engravings at Qurta the oldest so far found in North Africa.

¶1241: Hakenasa Cave and its relevance for the peopling of the southern Andean Altiplano

¶1242: Researchers in the High Andes in northern Chile report the study of a fine cave sequence, supported by 19 radiocarbon dates. The initial occupation at c. 11 500 cal BP represents the earliest human occupation known at this altitude. The toolkit suggests a hunting (logistical) camp used to take advantage of the animals gathering in the rich wetland of the neighbourhood.

¶1243: Pongo symbolism in the geometric rock art of Uganda

¶1244: In this paper the author places the rock art of Uganda in context. It probably belongs to the Late Stone Age period to the Holocene and its symbolism may be interpreted in the light of later belief systems recorded amongst the historical Pygmy people. Pongo is the bark cloth used to make the distinctive loin cloths of men and aprons of women. Pongo are probably depicted in the rock art to evoke the fecundity of ndura, linking the real and supernatural within the Pygmy cosmos.

¶1245: Beyond the drip-line: a high-resolution open-air Holocene hunter-gatherer sequence from highland Lesotho

¶1246: The activities of hunter-gatherers are often captured in rockshelters, but here the authors present a study of a riverside settlement outside one, with a rich sequence from 1300 BC to AD 800. Thanks to frequent flooding, periods of occupation were sealed and could be examined in situ. The phytolith and faunal record, especially fish, chronicle changing climate and patterns of subsistence, emphasising that the story here is no predictable one-way journey from hunter-gatherer to farmer. Right up to the period of the famous nineteenth-century rock paintings in the surrounding Maloti-Drakensberg region, adaptation was dynamic and historically contingent.

¶1247: Roots of diversity in a Linearbandkeramik community: isotope evidence at Aiterhofen (Bavaria, Germany)

¶1248: The early Neolithic in northern Central Europe ought to be the theatre in which incoming farmers meet local hunter-gatherers, with greater or lesser impact. By way of contrast, the authors use isotope analysis in a cemetery beside the Danube to describe a peaceful, well-integrated community with a common diet and largely indigenous inhabitants. Men and women may have had different mobility strategies, but the isotopes did not signal special origins or diverse food-producing roles. Other explanations attend the variations in the burial rites of individuals and their distribution into cemetery plots.

¶1249: Miners and mining in the Late Bronze Age: a multidisciplinary study from Austria

¶1250: The extraction and processing of metal ores, particularly those of copper and tin, are regarded as among the principal motors of Bronze Age society. The skills and risks of mining lie behind the weapons, tools and symbols that drove political and ideological change. But we hear much less about the miners themselves and their position in society. Who were these people? Were they rich and special, or expendable members of a hard-pressed workforce? In this study the spotlight moves

from the adits, slags and furnaces to the bones and seeds, providing a sketch of dedicated prehistoric labourers in their habitat. The Mauken miners were largely dependent on imported meat and cereals, and scarcely hunted or foraged the resources of the local forest. They seem to be the servants of a command economy, encouraged to keep their minds on the job.

¶1251: Consumption, exchange and production at the Great Settlement Shang: bone-working at Tiesanlu, Anyang

¶1252: Excavations at the Shang capital of Anyang have uncovered a massive bone-working industry. The animal bones, mainly those of cattle, pig and deer were provided as a spin-off from regular large-scale sacrifice, and made mainly into pins, awls and arrowheads. Although some of the pins were destined for the tombs of prominent women, a penetrating analysis shows that production greatly overran local consumption and the authors are able to raise the likelihood of a wide market for traded objects in addition to the more expected control of production by the elite.

¶1253: The deposition of bronzes at Swiss lakeshore settlements: new investigations

¶1254: The famous lakeside sites of Switzerland have long been known for their pile dwellings and their massive quantities of Late Bronze Age metalwork. On the most recent excavations, the bronzes have been mapped in situ, allowing comparison with assemblages from dryland sites and rivers, as well as providing a context for the nineteenth-century collections. The pile dwellings emerge as special places where depositions of selected bronze objects in groups or as single discards, comparable to those usually found in dryland deposits or in rivers, accumulated in the shallow water during a unique 250-year spell of ritual practice.

¶1255: A symbol — but of what? Iron Age daggers, Alessi corkscrews and anthropoid embellishment reconsidered

¶1256: An ingenious derivation for the La Tène dagger with anthropoid hilt shows how craftsmen gave an agreeable character to a working weapon. The dagger remained every bit as effective, but the splayed person on the hilt added a touch of playful luxury to the serious business of stabbing. By way of a modern anthropoid corkscrew, the author lures us away from an obsession with symbolism and encourages us to look for a more down-to-earth 'psychological functionality' in decorated objects.

¶1257: Roman rules? The introduction of board games to Britain and Ireland

¶1258: Competitive board games, played on the ground, on the floor or on wooden boards, provide entertainment, distraction and exercise for the mind — it is hard to believe that north-west Europe was ever without them. But the authors here make a strong case that the introduction of such games was among the fruits of Roman contact, along with literacy and wine. In Britain and Ireland games were soon renamed, but belonged like children's jokes to a broad underworld of fast-moving cultural transmission, largely unseen till now.

¶1259: What was a mortarium used for? Organic residues and cultural change in Iron Age and Roman Britain

¶1260: The Romans brought the mortarium to Britain in the first century AD, and there has long been speculation on its actual purpose. Using analysis of the residues trapped in the walls of these 'kitchen blenders' and comparing them with Iron Age and Roman cooking pots, the authors show that it wasn't the diet that changed — just the method of preparing certain products: plants were being ground in the mortarium as well as cooked in the pot. As well as plants, the mortars contained animal fats, including dairy products. The question that remains, however, is why these natural

products were being mixed together in mortaria. Were they for food, pharmaceuticals or face creams?

¶1261: New light on the early Islamic West African gold trade: coin moulds from Tadmekka, Mali

¶1262: Tadmekka, a town at the southern edge of the Sahara desert, has produced good evidence for making gold coins in the ninth–tenth century AD, the first concrete proof of coinage in pre-colonial West Africa. These were produced by melting gold dust or nuggets in ceramic moulds, similar to those used for the first pellet-like coinage of the European Iron Age. The authors suggest these coins were not political statements, but were probably blank and intended to facilitate the busy early Islamic caravan trade to destinations north, south or east. On arrival at the Mediterranean coast, these blank pieces would have been melted down or converted into inscribed coins by the local authorities.

¶1263: An ‘Imperial Philosophical Machine’: the archaeology of the Cambridge Observatory and early modern science

¶1264: Commercial excavators often find that their way back to the past runs through relatively recent structures. What should we do with them? Intellectually sensitive modern excavators, like our authors, are beginning to convince us that these recent constructions not only matter in themselves, but may have interesting links to what lies beneath. Here they introduce us to the foundations of an early telescope, a monument that takes its context both from the much-investigated lands of West Cambridge, and the more abstract landscape of early science. Forcing archaeology to ask fresh questions and make ambitious connections is only proper in a place heavy with the aroma of investigative scholarship.

¶1265: The filth and the fury: 6 Denmark Street (London) and the Sex Pistols

¶1266: In case readers are wondering whether this paper is written tongue in cheek — or with tongue sticking out — it is worth recalling that modern archaeology includes recent periods in its remit, and uses recent materiality to help understand more ancient times as well as a critique on modernity itself. Here the authors find graffiti left by a notorious group of popular musicians and probe it for social meaning as earnestly as students of cave art. Their archaeological study finds an underlying driver that is part political, part personal and therefore also part (anti-)heritage.

¶1267: Exploring an early medieval harbour and settlement dynamics at Stavnsager, Denmark: a geo-archaeological dialogue

¶1268: In this neat investigation of a harbour site, the authors show how much can be learnt by site survey — and by surface plotting and remote mapping in particular. Here the excavations are used to pilot the geophysics, rather than the other way round, and ground-penetrating radar is employed to show not just where features are, but their sequence and their current vulnerability. This exemplary project demonstrates how, in modern approaches to fieldwork, sites are to be studied rather than excavated, comprehended rather than stripped.

¶1269: Proteomics and Coast Salish blankets: a tale of shaggy dogs?

¶1270: Identifying animals to species from relict proteins is a powerful new archaeological tool. Here the authors apply the method to answer questions relating to the Salish of west coast North America. Did they weave their blankets out of dog hair? The proteomic analysis shows that they did, interweaving it with goat, and that the woolly dog was increasingly superseded by sheep in the later nineteenth century.

¶1271: What happened to the human mind after the Howiesons Poort?

¶1272: The authors deliver a decisive blow to the idea of unidirectional behavioural and cognitive evolution in this tightly argued account of why the bow and arrow was invented and then possibly laid aside by Middle Stone Age communities in southern Africa. Finding that all are modern humans (*Homo sapiens*), they paint a picture of diverse strategies for survival and development from 75 000 years ago onwards. It is one in which material inventions can come and go, human societies negotiating their own paths through a rugged mental landscape of opportunity.

¶1273: The rise and fall of ancient Egypt? Egyptology's never-ending story

¶1274: In an op-ed piece on The Wall Street Journal's website promoting his latest book, *The Rise and Fall of Ancient Egypt* (Wilkinson, T. 2010), Toby Wilkinson draws parallels between events in Egypt's past to those in its present. "The current situation in Egypt", we are told, "comes as no surprise to a student of the country's long history" (Wilkinson, T. 2011). 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.

¶1275: Archaeology in current society. A Central European perspective

¶1276: In recent years, Central Europe has experienced an unprecedented acceleration in social development (especially due to the demise of the communist regimes), in streams of thought (for example the post-modern vision of truth and the relativity of scientific knowledge) and, above all, in the availability of new information and communication technologies. Like every discipline, archaeology has been obliged not only to react to the contemporary dynamic but also to adapt to it in a positive — i.e. creative — way. Among the resultant trends to be noted in the Czech Republic are a decreasing interest in a single general theoretical paradigm, coupled with an increasing demand for the conservation and mitigation of sites threatened by development and looting. As a possible consequence of these developments, the past two decades have seen a shift in the agenda of archaeological researchers towards landscape and a realignment of the discipline away from the humanities and towards environmental and geographical considerations.

¶1277: "Yours (unusually) cheerfully, Gordon": Vere Gordon Childe's letters to R.B.K. Stevenson

¶1278: In early 1988 my grandfather, Robert Barron Kerr Stevenson (1913—1992), former Keeper of the National Antiquities of Scotland, was asked about his recollections of his former teacher and colleague Vere Gordon Childe. "There is", he wrote in reply, "very little that I can say of use to you". The reason for such a statement seems to be that my grandfather felt that his contacts with Childe had never been concerned with the broad historical and philosophical concepts that scholars were so interested in, believing rather that his own academic perspectives were more from the "worm's eye than the bird's eye view". Yet what my grandfather knew was a more personal side to Childe that does not come across in his published works.

¶1279: Maya: the quality of 'cultural diplomacy'

¶1280: Penetrating Bronze Age weaponry - Friedrich Laux. Die Schwerter in Niedersachsen

¶1281: Die Lanzenspitzen in Polen

¶1282: Mummies, coffins and a forgotten pharaoh -

¶1283: Tutankhamun's funeral.

- ¶1284: Herakleides: a portrait mummy from Roman Egypt.
- ¶1285: Egyptian mummies.
- ¶1286: Life everlasting: National Museums Scotland collection of Ancient Egyptian coffins.
- ¶1287: Horemheb: the forgotten pharaoh.
- ¶1288: Double Dutch: two perspectives on the landscapes of first millennium BC Italy - T
- ¶1289: Cult places and cultural change in Republican Italy: a contextual approach to religious aspects of rural society after the Roman conquest
- ¶1290: Regional pathways to complexity: settlement and land-use dynamics in early Italy from the Bronze Age to the Republican period
- ¶1291: Lost, found, repossessed or argued away – the case of the Picts -
- ¶1292: Pictish progress: new studies on northern Britain in the Early Middle Ages.
- ¶1293: The Men of the North: the Britons of southern Scotland.
- ¶1294: The Picts: a history.
- ¶1295: A new history of the Picts.
- ¶1296: The Picts. 8
- ¶1297: Strongholds of the Picts: the fortifications of Dark Age Scotland.
- ¶1298: Part of The Picts
- ¶1299: Artisanats et territoires des chasseurs moustériens de Champ Grand
- ¶1300: Becoming Neanderthals: the Earlier British Middle Palaeolithic.
- ¶1301: Prehension and hafting traces on flint tools: a methodology.
- ¶1302: An enquiring mind: studies in honour of Alexander Marshack.
- ¶1303: El arte parietal en monumentos megalíticos del Noroeste Ibérico: valoración, diagnóstico, conservación
- ¶1304: Traditions and transformations: approaches to Eneolithic (Copper Age) and Bronze Age metalworking and society in Eastern Central Europe and the Carpathian Basin
- ¶1305: The beginnings of Mesoamerican civilization: inter-regional interaction and the Olmec.
- ¶1306: The life and writings of Julio C. Tello: America's first indigenous archaeologist.
- ¶1307: The Aurelian Wall and the refashioning of Imperial Rome AD 271–855.
- ¶1308: Roman mosaics of Britain. Volume IV: Western Britain.
- ¶1309: Bobbio in the Early Middle Ages: the abiding legacy of Columbanus.
- ¶1310: Great excavations: shaping the archaeological profession.
- ¶1311: Extinctions & invasions: a social history of British fauna.

¶312: The archaeology of Mendip: 500,000 years of continuity and change.

¶313: Winds of change: the living landscapes of Hirta, St Kilda.

¶314: Leather tanneries: the archaeological evidence.

¶315: Ritual, belief and the dead in Early Modern Britain and Ireland.



## Name: Antiquity 2012 abstracts

¶1: Antiquity 2012 abstracts

¶2: ISSUE 1

¶3: Later hunter-gatherers in southern China, 18 000–3000 BC

¶4: The authors present new research on social and economic developments in southern China in the Early Holocene, ninth to fifth millennia BC. The 'Neolithic package' doesn't really work for this fascinating chapter of the human experience, where pottery, social aggregation, animal domestication and rice cultivation all arrive at different places and times. The authors define the role of the 'pottery-using foragers', sophisticated hunter-gatherers who left shell or fish middens in caves and dunes. These colonising non-farmers shared numerous cultural attributes with rice cultivators on the Yangtze, their parallel contemporaries over more than 5000 years. Some agriculturalists became hunter-foragers in turn when they expanded onto less fertile soils. No simple linear transition then, but the practice of ingenious strategies, adaptations and links in a big varied land.

¶5: Sanyangzhuang: early farming and a Han settlement preserved beneath Yellow River flood deposits

¶6: The authors present the discovery of a Han period farming site sealed beneath 5m of flood deposits, where courtyard houses have been excavated belonging to the Western Han Dynasty and Wang Mang period (c. 140 BC–AD 23). Preservation is exceptional, both at the village of Sanyangzhuang itself and, by dint of satellite reconnaissance, over a vast landscape temporarily covered by the flood. Deep profiles show that here land surfaces of the Neolithic and Warring States periods also lie buried. The potential for the study of the early agricultural sequence and a deeper knowledge of Han society is truly outstanding. The discoveries also offer a vivid account of the way a settlement was overwhelmed by flooding.

¶7: Chronology, mound-building and environment at Huaca Prieta, coastal Peru, from 13 700 to 4000 years ago

¶8: Renewed in-depth multi-disciplinary investigation of a large coastal mound settlement in Peru has extended the occupation back more than 7000 years to a first human exploitation ~13720 BP. Research by the authors has chronicled the prehistoric sequence from the activities of the first maritime foragers to the construction of the black mound and the introduction of horticulture and monumentality. The community of Huaca Prieta emerges as innovative, complex and ritualised, as yet with no antecedents.

¶9: Hunter-gatherers, biogeographic barriers and the development of human settlement in Tierra del Fuego

¶10: Tierra del Fuego represents the southernmost limit of human settlement in the Americas. While people may have started to arrive there around 10 500 BP, when it was still connected to the mainland, the main wave of occupation occurred 5000 years later, by which time it had become an island. The co-existence in the area of maritime hunter-gatherers (in canoes) with previous terrestrial occupants pre-echoes the culturally distinctive groups encountered by the first European visitors in the sixteenth century. The study also provides a striking example of interaction across challenging natural barriers.

¶11: An Early Holocene task camp (~8.5 ka cal BP) on the coast of the semi-arid north of Chile

¶12: According to current thinking, the peopling of South America involved a coastal as well as an inland exploitation. Here the authors describe a camp that may denote a transition between the two. As indicated by bifacial tools, the investigation shows that people began to move inland and hunt mammals around 8500 cal BP, perhaps in association with a change in the climate.

¶13: Large-scale cereal processing before domestication during the tenth millennium cal BC in northern Syria

¶14: At Jerf el Ahmar in northern Syria the authors have excavated a settlement where the occupants were harvesting and processing barley 1000 years in advance of its domestication. Rows of querns installed in square stone and daub buildings leave no doubt that this was a community dedicated to the systematic production of food from wild cereals. Given the plausible suggestion that barley was being cultivated, the site opens a window onto a long period of pre-domestic agriculture. Rye was also harvested, its chaff used to temper mud walls.

¶15: The chalcolithic of the Near East and south-eastern Europe: discoveries and new perspectives from the cave complex Areni-1, Armenia

¶16: The archaeological exploration of a cave in the southern Caucasus revealed evidence for early social complexity, ritual burial and wine-making in the early fourth millennium. The marvellous preservation of wood, leather and plants offers a valuable contrast to the poorer assemblages on contemporary tell sites. The authors make the case that the Areni-1 cave complex indicates connections between the urbanisation of early Mesopotamia and the Maikop culture of south Russia.

¶17: Interpreting the Beaker phenomenon in Mediterranean France: an Iron Age analogy

¶18: The author offers a new descriptive explanation of the Beaker phenomenon, by focusing on Mediterranean France and making reference to the Greek influx in the same area 2000 years later. In the Iron Age, the influence began with an exploratory phase, and then went on to create new settlements and colonise new areas away from the coast. The Beaker analogy is striking, with phases of exploration and implantation and acculturation, but adjusted to include a final phase where Beaker practice was more independent. Comparing the numerous models put forward to explain it, the author shows that immigration and a cultural package are both aspects of the Beaker phenomenon.

¶19: The oldest maritime sanctuary? Dating the sanctuary at Keros and the Cycladic Early Bronze Age

¶20: The sanctuary on the island of Keros takes the form of deposits of broken marble vessels and figurines, probably brought severally for deposition from elsewhere in the Cyclades. These acts of devotion have now been accurately dated, thanks to Bayesian analyses of the contemporary stratigraphic sequence on the neighbouring islet of Dhaskalio. 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.

¶21: African earthen structures in colonial Louisiana: architecture from the Coincoin plantation (1787–1816)

¶22: Coincoin, probably of Kongo parentage, was born a slave, became the concubine of a French planter, Pierre Metoyer, bore him ten children, and in 1787 was settled by him on a plantation of her

own. Locating and excavating her house, the authors discovered it to be a type of clay-wall building known from West Africa. The house, together with an adjacent clay boundary wall, was probably built by slaves of Bight of Biafra origin loaned from the neighbouring plantation of her ex-partner. These structures are witness to emerging initiatives and interactions among people of African descent—but different African origins—in eighteenth-century Louisiana.

¶123: Soilscaapes and settlements: remote mapping of activity areas in unexcavated prehistoric farmsteads

¶124: It is excellent to be able to present this latest achievement in the onward march of remote mapping, the art and science of exploring archaeological sites without digging them. Using a particularly graphic case study in Hungary, the author shows that deposits characterised by geophysical and chemical means can reveal their plans and the emphasis of their activity in some detail. This is not only a rapid and economic means of landscape investigation, but offers striking research results over a broad canvas, indicative of the numerous small dispersed settlements that so often escape the attention of the great excavation campaigns.

¶125: Space and movement in an Iron Age oppidum: integrating geophysical and topographic survey at Entremont, Provence

¶126: The famous Celtic site of Entremont, well known for its head cult and warrior statues, is a heritage gem of southern France. This naturally inhibits further excavation there, but the authors show just how much can be achieved through an integrated package of remote mapping techniques. Their exemplary methodology produced more than a high resolution plan of the unexcavated part of the site; this type of integrated procedure generates ground-breaking research, without breaking any ground. Here the investigation mobilised arguments for pre-urban monuments, and the activities, enclosures, entrances and circulation of the oppidum.

¶127: Disease, CCR5-Δ32 and the European spread of agriculture? A hypothesis

¶128: From its origins in the Starčevo-Körös culture of the Hungarian Plain around 5700 BC the Neolithic archaeological assemblage of the Linearbandkeramik (LBK) spread within two centuries to reach Alsace and the middle Rhine by 5500 BC, though the rapidity of the spread makes it difficult to measure using available radiocarbon evidence (Dolukhanov et al. 2005). In this same time period, during the Terminal Mesolithic, c. 5800 to 5500 BC, there is evidence for forager-herder-horticulturists in Central and Western Europe prior to the appearance of the LBK (Gronenborn 1999, 2009). The Cardial Neolithic complex spread round the shores of the northern Mediterranean from southern Italy to Portugal in the period 5700–5400 BC.

¶129: Opening the Mediterranean: Assyria, the Levant and the transformation of Early Iron Age trade

¶130: The evidence for structures of exchange in the Early Iron Age Mediterranean has been rationalised in many ways, variable in terms of both the evidence selected and the arguments applied. However, the most pervasive and tenacious explanation has been based upon a core-periphery model, which approaches the expansion of Phoenician commerce in the Early Iron Age by conceptualising it as flowing from a largely eastern Mediterranean core to the western Mediterranean periphery. Thus the Early Iron Age expansion has been interpreted as a direct function of Neo-Assyrian imperialism (Frankenstein 1979), an idea that has circulated in the work of many scholars (Shaw 1989; Kuhrt 1995: 403–410; Coldstream 2003: 240–41, 359; Fantalkin 2006).

¶131: Prospects: archaeological research and practice in Peru

¶132: The following comments reflect on the present state of Peruvian-led research archaeology and its prospects for the future, from the viewpoint of a friend, colleague but notably as an outsider. As such this piece is informed by both personal experience and the informed opinions of local Peruvian investigators who, for reasons that will become apparent, have opted for anonymity. The essential premise here is that the intellectual and financial basis of archaeology in Peru is at a critical stage, and a major part of this article is to see how the next generation can negotiate this quagmire; and believe me for all the myriad problems there are important rays of light that could significantly and positively alter the state of Peruvian archaeology. With this in mind, in this brief essay I consider the research environment, the theoretical basis, and the means by which research projects and resource mitigation are carried out, and summarise some of the challenges that archaeologists living and working in Peru now face. A recent, thorough treatise of the history and state of Peruvian archaeology can be found in Shimada and Vega-Centeno (2011).

¶133: Deceiver, joker or innocent? Teilhard de Chardin and Piltdown Man

¶134: Arthur Smith Woodward, an expert on fossil fish and Keeper of Palaeontology at the British Museum (Natural History), made the official announcement of the discovery of Piltdown Man' (*Eoanthropus dawsoni*) on 18 December 1912 at Burlington House in London. The announcement was sensational at the time and attracted interest in a purported new hominid species with a large cranium, apparently associated with an ape-like jaw. It was not until some 40 years later that *Eoanthropus* (Dawn man') was discredited (Weiner et al. 1953; Weiner 1955), with Charles Dawson (a country lawyer', as well as amateur archaeologist and palaeontologist) being identified as the probable perpetrator of a hoax in which human cranial fragments were combined artificially with the modified jaw of an ape (considered to be that of an orangutan), at Piltdown in Sussex. Despite extensive investigations and a plethora of publications, the exact circumstances surrounding the Piltdown hoax remain uncertain (Weiner et al. 1953; Weiner 1955; Spencer 1990a&b; Thomas 2002).

¶135: In the gallery: priorities today

¶136: How do visitors make sense of displays? What should curators be trying to achieve with them? Some 70 experts and students spent a day on these and related issues at the Fitzwilliam Museum, in Cambridge University, on 23 September last, to celebrate the completed rearrangement of its Greek & Roman gallery. That project provoked much of the discussion but comparisons were drawn from the current development of Oxford University's Ashmolean Museum and from elsewhere in Britain and overseas (James 2009, 2010). Short lectures by Kate Cooper and Lucilla Burn, of the Fitzwilliam, and by Rick Mather, architect of the Ashmolean's rearrangements, were followed by eight panellists' remarks on technical and methodological issues; and the day was rounded off with the Museum's Severis Lecture for 2011, Dimitrios Pandermalis on 'The new Acropolis Museum: project and realization' (Figure 1).

¶137: Human evolution: from broad-brush to tooth-brush

¶138: Probing deep into rock art

¶139: New light on a dark river: the early prehistory of Old Father Thames

¶140: Knocking vessels into shape in Bronze Age Europe

¶141: Urban and maritime glass assemblages in the western and eastern Mediterranean

¶142: Artefact studies in Late Iron Age and Roman Britain: a blast from the past?

¶143: Dans l'épaisseur du temps: archéologues et géologues inventent la préhistoire.

¶144: Gathering time: dating the Early Neolithic enclosures of southern Britain and Ireland.

¶145: The Urban Mind: cultural and environmental dynamics

¶146: Early mining and metallurgy on the western Central Iranian Plateau: the first five years of work

¶147: From Minos to Midas: ancient cloth production in the Aegean and in Anatolia

¶148: Interpreting ancient figurines: context, comparison, and prehistoric art.

¶149: The first Maya civilization: ritual and power before the Classic period.

¶150: Pastoralists, warriors and colonists: the archaeology of southern Madagascar

¶151: The death of archaeological theory?

¶152: ISSUE 2

¶153: Towards a prehistory of primates

¶154: Using the behaviour of related primates to provide analogies for early humans has a long tradition in archaeology. But these primates too have a past, and experienced particular contexts for the adoption of tool-using. In this pioneering review, the author explores distinctions among chimpanzees in ecology, diet and innovation, sets a wider agenda for a prehistory of primates and explains how archaeology could serve it.

¶155: Animation in Palaeolithic art: a pre-echo of cinema

¶156: Marc Azéma a Palaeolithic researcher and film maker has been exploring the representation of animal movement in cave art for more than 20 years, and here shares with us his latest examples, culled from the parietal art in the Chauvet Cave (Ardèche) and La Baume Latrone (Gard). Here he has shown that Palaeolithic artists have invented systems of breaking down movement and graphic narrative. His co-author, Florent Rivère, discovered that animal movement was also represented in more dynamic ways—with the use of animals drawn on a spinning disc. In these flickering images created by Palaeolithic people, the authors suggest, lie the origins of cinema.

¶157: The earliest surviving textiles in East Asia from Chertovy Vorota Cave, Primorye Province, Russian Far East

¶158: Carbonised textiles were found in a burnt down building inside a cave 30km from the far eastern coast of Russia. The textiles were made from untwisted or hand-twisted blades of sedge grass to form ropes, nets and woven mats. Dated by AMS to c. 9400–8400 cal BP these are the earliest textiles so far known from East Asia.

¶159: Early herders and monumental sites in eastern Africa: dating and interpretation

¶160: Using excavation and radiocarbon dating, the authors show that construction of megalithic pillar sites begins in eastern Africa by the fifth millennium BP, and is contemporary with the earliest herding in the region. Mobile herders and/or hunter-gatherers built and used these sites in a dynamic context of economic and social change. We are more familiar with monumentality as an adjunct of cereal cultivators—but this study demonstrates a relationship between early herding and monuments, with clear relevance to pre-cultivation monumentality of very much earlier periods elsewhere.

¶161: Rediscovering the settlement system of the 'Dian' kingdom, in Bronze Age southern China

¶162: Surface collection, exposed sections and the use of irrigation wells and channels enabled the authors to map the settlement pattern of the elusive Dian kingdom before it became a subsidiary of the Han empire. The pattern showed that the Dian were already hierarchical, with settlements of different sizes and a political centre in which ritual bronzes featured. The empire redrew the landscape, with settlement migrating away from the wetlands into the hills where it could oversee the routes of communication into Southeast Asia.

¶163: Bronze Age textile evidence in ceramic impressions: weaving and pottery technology among mobile pastoralists of central Eurasia

¶164: Textiles are powerful indicators of technology and contact, as the authors show for the peoples of the Bronze Age central Asian steppes. In this case the textiles are mainly missing, but have left their imprints on the surface of the inside of pots, captured when otherwise redundant cloths were used to paddle or jacket the clay before hardening and firing. A good supply of old cloths seems to have been part of a potters' equipment and some were used several times. The authors analyse and date the fibres and weaves to give an indication of changing cultural context through the Bronze Age.

¶165: Pride, prejudice, plunder and preservation: archaeology and the re-envisioning of ethnogenesis on the Loango coast of the Republic of Congo

¶166: This is the first description of the prehistory of the coastal Congo, won by the author and his colleagues against considerable odds: war, exploitation by big business and, above all, by the entrenched assumption that this part of the world had no history to save. Here is a first glimpse of that history: 3300 years of prehistoric settlement, movement and change chronicled by radiocarbon dating and a new ceramic typology.

¶167: Megalithic monumentality in Africa: from graves to stone circles at Wanar, Senegal

¶168: The World Heritage Site of Wanar in Senegal features 21 stone circles, remarkable not least because they were erected in the twelfth and thirteenth century AD, when Islam ruled the Indian Ocean and Europe was in its Middle Ages. The state of preservation has benefited the exemplary investigation currently carried out by a French-Senegalese team, which we are pleased to report here. The site began as a burial ground to which monumental stones were added, perhaps echoing the form of original funerary houses. Found in a neighbouring field were scoops left from the cutting out of the cylindrical monoliths from surface rock. While the origins of Wanar lie in a period of state formation, the monuments are shown to have had a long ritual use. The investigation not only provides a new context for one of the most important sites in West Africa but the precise determination of the sequence and techniques used at Wanar offers key pointers for the understanding of megalithic structures everywhere.

¶169: Twilight of the gods? The 'dust veil event' of AD 536 in critical perspective

¶170: The popular notion of social collapse consequent on natural catastrophe is here elegantly disentangled in a study of the dark summer of AD 536. Leaving aside the question of its cause, the authors show there is good scientific evidence for a climatic downturn, contemporary with good archaeological evidence for widespread disruption of settlement and population displacement in the northern latitudes. They then navigate through the shifting shadows of myth, and emerge with a welcome prize: strong circumstantial reasons for recognising that this widespread horror, like so many others, did leave its imprint on Scandinavian poetry and sculpture.

¶171: Roads to recovery: an investigation of early medieval agrarian strategies in Byzantine Italy in and around the eighth century

¶172: The cumulative power of botanical and chemical analysis is demonstrated here by our authors, who succeed in opening a window on Europe's most obscure period, in the south as in the north, the time after the Roman and then the Byzantine empire lost its hold. The emphasis here is on the rise in production and trade of cash crops in the eighth century as detected by survey, pollen, charcoal and residues. Taken together, the new data show a community well on the road to economic recovery after two centuries of recession and monetary failure.

¶173: From the battlefield to the labour camp: archaeology of civil war and dictatorship in Spain

¶174: The author explores responses to political violence through the materiality of three aspects of the Civil War in Spain: military lines in the battle for Madrid, a concentration camp in Extremadura and a remote settlement of forced labourers and their families. He shows how archaeology's revelations reflect, qualify and enrich the story of human survival under the pall cast by a dictatorship. Sharing the inquiry with the public of today also revealed some of the disquieting mechanisms by which history is composed and how archaeology can be used to deconstruct it.

¶175: Pioneers above Jordan: revealing a prehistoric landscape

¶176: Aerial photography is so fundamental an instrument of modern archaeology that we often take it for granted. But its methods are surprisingly specific and its most important experimental theatre was probably the territory of the Levant—and especially the rocky terrain of Jordan. The author, a prominent aerial archaeologist of our own day, takes time off to review the achievements of the pioneers, serving officers who established routes over the desert to deliver mail between Egypt and Iraq. The fabulous ancient landscape they discovered could only be appreciated through the low-level window provided by these slow-moving rickety machines and their intrepid pilots. In these days of jet travel, the precious basalt landscape is in danger of slipping off the agenda again—both for researchers and conservers.

¶177: Spatial methods for analysing large-scale artefact inventories

¶178: Finds distributions plotted over landscapes and continents, once the mainstay of archaeological cultural mapping, went into a lengthy period of decline when it was realised that many were artefacts of modern recovery rather than patterns of their own day. What price then, the rich harvest of finds being collected by modern routine procedures of rescue work and by metal-detectorists? The author 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.

¶179: Complexities of collapse: the evidence of Maya obsidian as revealed by social network graphical analysis

¶180: The authors use a social network analysis to map the changing patterns of obsidian supply among the Maya during the period of Classic to Postclassic transition. 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. A shift from inland to coastal supply routes appears to have contributed to the collapse of inland Maya urban centres. The

methods employed clearly have a high potential to reveal changing economic networks in cases of major societal transitions elsewhere in the world.

#### ¶181: Pseudoarchaeology: the concept and its limitations

¶182: The familiar term “pseudoarchaeology” allows us to categorise and comfortably 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.

#### ¶183: Archaeology and fiction

¶184: In the summer of 2006 author Margaret Elphinstone, embarking on a novel set in the prehistoric period (Elphinstone 2009), sought out archaeologist Caroline Wickham-Jones to discover more about Mesolithic Scotland. The resulting process proved to be more than a simple question and answer session: over three years, the two of us, novelist and archaeologist, each renegotiated the boundaries of our perceptual frameworks. This paper is intended to examine the learning process that most students of archaeology unconsciously experience, and it goes on to champion a respected role for fiction. As the status of history is reduced in the school syllabus, the number of people learning about their past from fiction will increase. Very few people learn much about the Mesolithic through formal education; indeed we are both astonished at how many well-educated people have no idea when or what the Mesolithic was. As representatives of our professions, we here demonstrate the special and timely benefits of what we term the informed novel.

#### ¶185: Argentinian archaeology: status and prospects

¶186: The many centuries of Argentinian archaeology have been studied by a number of scholars (e.g. Fern´andez 1982; Crivelli 1990; Politis 1995, 2003, 2007; Nastri 1999, 2004; Ramundo 2007a, 2008a, 2008c; Borrazzo et al. 2009). Although the analysis of current topics in the discipline and a tentative view on its future will be the aim of this critical appraisal, it does not pretend to be exhaustive, but the starting point for enriching the discussion. Amongst the topics briefly addressed are the plurality of theoretical frameworks, the variety of areas of specialisation, the protection of archaeological heritage, ethical aspects of the discipline, an analysis of academic training and the relationship between archaeology and local and/or aboriginal communities.

#### ¶187: The Flying Dutchman reaches port

¶188: Christopher Hawkes, foundation Professor of European Archaeology at Oxford, was once asked whether he knew a young archaeologist called Vincent Megaw. He responded: “Megaw? Megaw? There’s a whole tribe of Megaws!” This was a slight exaggeration. I was born in Stanmore, Middlesex, in 1934 to a Dutch Jewish mother, Th´er`ese, a talented pianist and mezzo-soprano whose parents were taken to Auschwitz in 1942 and an Ulster Protestant father, Eric, a pioneer of ultra short-wave propagation who died at the age of 48 (Figure 1). One uncle, A.H.S. (Peter) Megaw was a distinguished Byzantinist and great singer of contemporary Greek songs. He was the last Director of Antiquities of the former Colony of Cyprus and then Director of the British School at Athens. His younger brother, Basil, read Archaeology at Peterhouse where he met (and subsequently married)



Eleanor Hardy—family mythology has it that they got engaged while studying Early Bronze Age decorated axes (Megaw & Hardy 1938).

¶189: Cherchez la femme—a Palaeolithic preoccupation

¶190: The cave paintings in France and Spain are the Magdalenian's most famous feature. The exhibition, *Mille et une femmes de la fin des temps glaciaires* ("1001 women from the end of the Ice Age") 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; and that, although the landscape varied, this vast region was integrated by common techniques and imagery from 20 000 to 15 000 years ago. The "Lalinde-Gönnersdorf style" figurines of women, was the suggestion, were particularly characteristic. Assembled from some 20 collections in France, Switzerland, Germany, Poland and the Czech Republic, the exhibition was shown at the Museum of Prehistory in Les Eyzies from June to September last year. The compact presentation was in two parts.

¶191: Two perspectives on Iron Age southern Scandinavia

¶192: Principles and standards of heritage recording

¶193: Egyptology and the diffusion of culture: a biographical perspective.

¶194: Peninj: a research project on human origins (1995–2005).

¶195: The Acheulian site of Gesher Benot Ya'aqov. Volume 3: mammalian taphonomy, the assemblages of Layers V-5 and V-6.

¶196: Art pariétal: grottes ornées du Quercy.

¶197: Gebel Ramlah: Final Neolithic cemeteries from the Western Desert of Egypt.

¶198: Transport stirrup jars of the Bronze Age Aegean and East Mediterranean

¶199: An archaeology of interaction: network perspectives on material culture and society.

¶100: Il paesaggio agrario nella Sicilia ellenistico-romana: Alesa e il suo territorio

¶101: Les Romains et le commerce.

¶102: Bringing Carthage home: the excavations of Nathan Davis 1856–1859

¶103: Butrint 3: excavations at the Triconch Palace

¶104: Stages and screens: an investigation of four henge monuments in northern and north-eastern Scotland.

¶105: Great crowns of stone: the recumbent stone circles of Scotland.

¶106: Roman camps in Scotland.

¶107: things from the town: artefacts and inhabitants in Viking-Age Kaupang

¶108: Maya Christians and their churches in sixteenth-century Belize.

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

¶110: In care of the Southern Ocean: an archaeological and historical survey of the Auckland Islands

¶111: Living with herds: human-animal coexistence in Mongolia.

¶112: ISSUE 3

¶113: The Middle Palaeolithic in China a review of current interpretations

¶114: The author makes the case for cultural change during the period traditionally assigned to the Middle Palaeolithic in China (140–30 kya), challenging an earlier proposal (Antiquity 2002) that the period saw little change and the term should be abandoned.

¶115: The archaeology of Britain&s first modern humans

¶116: The sites of the first modern humans who occupied what is now Britain have been reduced to a handful by subsequent glaciation and the rise in sea level, and their assemblages have been further depleted because early excavators ignored the microliths. Confronting the challenges of this exiguous material, the author succeeds in painting a vivid picture of Aurignacian hunters following prey down the now submerged Channel River Valley, colonising the preferred hilly zones at the west of Britain. The presence of two types of bladelet manufacture suggests a lengthy or repeated period of subsequent occupation.

¶117: The oldest art of the Eurasian Arctic: personal ornaments and symbolic objects from Yana RHS, Arctic Siberia

¶118: The excavated site termed Yana RHS is dated to about 28000 BP and contained a stunning assemblage of ornamented and symbolic objects—the earliest art to be excavated in the Arctic zone. Decorated beads, pendants and needles connect the site to the Eurasian Upper Palaeolithic; but other forms and ornaments are unparalleled. Shallow dishes and anthropomorphic designs on mammoth tusks find echoes among hunting practice and shamanistic images of the indigenous Yukaghir people recorded in the early twentieth century.

¶119: A 14 000-year-old amber elk and the origins of northern European art

¶120: A Late Palaeolithic amber figurine has been skilfully recovered and reassembled from a ploughed open site in northern Germany. Dated between 11 800 and 11 680 cal BC it occupies a key point between the Magdalenian and the Mesolithic. The authors show that the figurine represents a female elk which was probably carried on the top of a wooden staff. They argue for continuity of art but change of belief in this crucial transition period.

¶121: The role of cult and feasting in the emergence of Neolithic communities. New evidence from Göbekli Tepe, south-eastern Turkey

¶122: Göbekli Tepe is one of the most important archaeological discoveries of modern times, pushing back the origins of monumentality beyond the emergence of agriculture. We are pleased to present a summary of work in progress by the excavators of this remarkable site and their latest thoughts about its role and meaning. At the dawn of the Neolithic, hunter-gatherers congregating at Göbekli Tepe created social and ideological cohesion through the carving of decorated pillars, dancing, feasting—and, almost certainly, the drinking of beer made from fermented wild crops.

¶123: The southern San and the trance dance: a pivotal debate in the interpretation of San rock paintings

¶124: Cave paintings and first-hand ethnographic accounts from living peoples have led to the notion that southern African spiritual experts routinely mediated with the other world through energetic dances leading to the trance state. The evidence for this idea has been challenged in recent years,

and the importance of the trance dance diminished accordingly. The authors confront these criticisms and place the shamanistic dance back on centre stage—with important consequences not only for the study of San peoples, but for wider prehistoric interpretations.

¶125: Did Neolithic farming fail? The case for a Bronze Age agricultural revolution in the British Isles

¶126: This paper rewrites the early history of Britain, showing that while the cultivation of cereals arrived there in about 4000 cal BC, it did not last. Between 3300 and 1500 BC Britons became largely pastoral, reverting only with a major upsurge of agricultural activity in the Middle Bronze Age. This loss of interest in arable farming was accompanied by a decline in population, seen by the authors as having a climatic impetus. But they also point to this period as the time of construction of the great megalithic monuments, including Stonehenge. We are left wondering whether pastoralism was all that bad, and whether it was one intrusion after another that set the agenda on the island.

¶127: Trade and society on the south-east African coast in the later first millennium AD: the case of Chibuene

¶128: The south-east coast of Africa in the later first millennium was busy with boats and the movement of goods from across the Indian Ocean to the interior. The landing places were crucial mediators in this process, in Africa as elsewhere. Investigations at the beach site of Chibuene show that a local community was supplying imported beads to such interior sites as Schroda, with the consequent emergence there of hierarchical power structures.

¶129: Bones, teeth, and estimating age of perinates: Carthaginian infant sacrifice revisited

¶130: Writing about the 'Tophet', a children's cemetery in Carthage, Smith et al. argued in these pages that the age distribution of the children peaks at 1–1.49 months, 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" (2011: 871). In this they had challenged Jeffrey Schwartz and colleagues, who previously argued (2010) that "skeletal remains from Punic Carthage do not support systematic sacrifice of infants". Here Schwartz et al. restate their position for Antiquity readers, showing that the verdict on the Phoenician practice of child sacrifice is, at best, not proven.

¶131: Recognising ritual: the case of Campanayuq Rumi

¶132: Exploration of a group of Early Horizon platforms by quadrat in Peru made contact with a midden, rich in artefacts and faunal remains. Was this the result of discard from an elite residence, or deposits of 'ceremonial trash' emanating from ritual performance? The author shows how this question may be decided, even through the analysis of a single small sample.

¶133: Life of an ancient monument: Hadrian's Wall in history

¶134: The Romans are Britain's favourite invaders, and Hadrian's Wall is among the largest and finest of the relics they left behind on the island. However, as our authors urge, we should demand more intellectual depth from our monuments today. Not simply a cultural asset anchored in the Roman empire, Hadrian's Wall had a busy afterlife, a material history reflecting the uses, attitudes and emotions of later centuries. Its 'biography' not only captures new information about the last two millennia, it offers a story that the modern visitor deserves to hear.

¶135: Composition, colour and context in Muisca votive metalwork (Colombia, AD 600–1800)

¶136: Chemical analysis of the stunning Muisca metalwork shows that the alloys of copper and gold were especially composed for each offering. Traditionally, the Muisca objects have been collected and studied as works of art. Our authors show that when it comes to drawing understanding of people from the objects they have left us, context is all. The results have much to reveal to metallurgists and students of symbolic metalwork everywhere.

¶137: Watchful realms: integrating GIS analysis and political history in the southern Maya lowlands

¶138: Travellers naturally prefer to use the most passable routes and establish staging points on the way. 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, our authors write a history of travel and exchange that vividly reflects the rivalry of two polities and the rise and fall of their nodal settlements.

¶139: The plundering of the ship graves from Oseberg and Gokstad: an example of power politics?

¶140: Not the least of the unusual revelations that have come from the wonderfully preserved ninth-century Norwegian ship burials at Oseberg and Gokstad, is the fact that both had been later broken into—by interlopers who defaced the ship, damaged the grave goods and pulled out and dispersed the bones of the deceased. These ‘mound-breakers’ helpfully left spades and stretchers in place, and through the application of some highly ingenious dendrochronology our authors have been able to date the break-ins with some precision. Mound-breaking, it seems, took place during the domination of Norway by Harald Bluetooth in the tenth century as part of an extensive campaign which included subduing local monuments as well as converting Scandinavians to Christianity. The old mounds retained such power in the landscape that it was worth desecrating them and disinterring their occupants a century after their burial.

¶141: The occurrence of tortoiseshell on a pre-Hispanic Maya mosaic mask

¶142: The Dumbarton Oaks Maya mosaic mask is shown to have included tortoiseshell on an earlobe—remarkable since this is the only demonstrated use of this material in pre-Hispanic Mesoamerica. The authors present diagnostic evidence for the presence of tortoiseshell, account for its absence in pre-Hispanic artefacts because of decay, and propose its use (in the mask) as being symbolic of the ocean.

¶143: Newborn twins from prehistoric mainland Southeast Asia: birth, death and personhood

¶144: Double infant burials in unusually high numbers occurred at Khok Phanom Di during a phase associated with immigration and some evidence of early agricultural practices. A study of their stratigraphic context and relative ages led to the interpretation that these were twins. Through an exploration of the medical and anthropological literature of twins, and in conjunction with their mortuary context, the authors conclude that these babies died of natural causes at, or soon after, birth.

¶145: A new interpretative approach to the chemistry of copper-alloy objects: source, recycling and technology

¶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.

¶147: Synchronising radiocarbon dating and the Egyptian historical chronology by improved sample selection

¶148: Egypt has some of the oldest written records and extended lists of named rulers. 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

¶150: In the course of their research campaign in Siberia, Ghent University archaeologists have developed a simple and cost effective method for the rapid 3D imaging of rock art, standing stelae and surface monuments. Their procedure will undoubtedly have a big role to play in archaeological research in advance of the oil pipeline expected soon.

¶151: Austronesian sailing to the northern Marianas, a comment on Hung et al. (2011)

¶152: Earliest settlement in the Marianas—a response

¶153: Human cognition: the Australian evidence

¶154: Stonehenge: new contexts ancient and modern

¶155: A Hittite trio -

¶156: Hattuscha: auf der Suche nach dem sagenhaften Großreich der Hethiter. 3

¶157: The world of the Neo-Hittite kingdoms: a political and military history.

¶158: The elements of Hittite.

¶159: Triumph and limitations of the corpus: the Late Bronze Age and Early Iron Age fibulae of southern Italy -

¶160: Le fibule dell'Italia meridionale e della Sicilia dall'età del bronzo recente al VI secolo a.C.

¶161: The ten-thousand year fever: rethinking human and wild primate malaria.

¶162: How to think like a Neanderthal.

¶163: La Grotte d'Ifri n'Ammar: le Paléolithique moyen

¶164: Pleistocene databases: acquisition, storing, sharing/Pleistozäne Datenbanken: Datenerwerb, Speicherung, Austausch

¶165: Archaeology and anthropology of salt: a diachronic approach

¶166: Animals as domesticates: a world view through history.

¶167: Living in mud.

¶168: Ceramica, abitati, territorio nella bassa valle del Tevere e Latium Vetus

¶169: The fall of the Western Roman Empire: an archaeological and historical perspective.

¶170: Buddhist landscapes in Central India: Sanchi Hill and archaeologies of religious and social change, c. third century BC to fifth century AD.

¶171: Churches in Early Medieval Ireland: architecture, ritual and memory.

¶172: The archaeology of English battlefields: conflict in the pre-industrial landscape

¶173: ISSUE 4

¶174: Dealul Guran: evidence for Lower Palaeolithic (MIS 11) occupation of the Lower Danube loess steppe

¶175: Owing to a thick blanket of loess and other later geological disruptions, the earliest hominins to reach Europe are hard to find. To a handful of possible sites, our authors add a new assemblage of lithics with a clear local context and corroborated OSL ages. Ancient humans were present in what is now Romania between 300 000 and 400 000 years ago.

¶176: New evidence for the processing of wild cereal grains at Ohalo II, a 23 000-year-old campsite on the shore of the Sea of Galilee, Israel

¶177: Traces of starch found on a large flat stone discovered in the hunter-fisher-gatherer site of Ohalo II famously represent the first identification of Upper Palaeolithic grinding of grasses. Given the importance of this discovery for the use of edible grain, further analyses have now been undertaken. Meticulous sampling combined with good preservation allow the authors to demonstrate that the Ohalo II stone was certainly used for the routine processing of wild cereals, wheat, barley and now oats among them, around 23 000 years ago.

¶178: Substantial settlement in the European Early Mesolithic: new research at Star Carr

¶179: The authors rewrite the character of Early Mesolithic settlement in Europe with their new research at one of its most famous sites. The picture of small mobile pioneering groups colonising new land is thrown into contention: far from being a small hunter-gatherer camp, Star Carr in 9000 cal BC extended for nearly 2ha and involved the construction of an estimated 30m of lakeside waterfront and at least one post-built house. With some justice, they suspect that the 'small groups' of Early Mesolithic Europe may have their rationale in the small excavations of archaeologists.

¶180: Stonehenge remodelled

¶181: We are pleased to present the latest account of the sequence of burial and construction at the site of Stonehenge, deduced by its most recent excavators and anchored in time by the application of Bayesian radiocarbon modelling. Five prehistoric stages are proposed, of varied duration, and related by our authors to neighbouring monuments in the Stonehenge environs. While it may never be possible to produce a definitive chronology for this most complex of monuments, the comprehensive and integrated achievement owed to these researchers has brought us much closer to that goal. It is from this firm platform that Stonehenge can begin its new era of communication with the public at large.

¶182: Middle Holocene intensification and domestication of camelids in north Argentina, as tracked by zooarchaeology and lithics

¶183: Using a detailed excavated sequence and a broad range of south Andean sites, the authors show that changes in the bones of camelids and in the lithic assemblages offer an account of how animals were intensively exploited and ultimately domesticated between the sixth and fourth millennia BP.

¶184: The topographic and environmental context of the earliest village sites in western South Asia

¶185: Researchers in several continents have found that agriculture began not in major river valleys but up in the hills, where early farmers tended crops on alluvial fans and improved irrigation by building earth barriers across them. Here the authors reveal a similar process in the hills of Baluchistan and Khyber Pakhtunkhwa, where early farming villages overlook the plains of the Punjab and Sindh, heartland of the later Indus civilisation. Today this is a troubled border zone, with difficult access on the ground, but our researchers make exemplary use of satellite survey to map the villages in their specific local environments.

¶186: The earliest representations of royal power in Egypt: the rock drawings of Nag el-Hamdulab (Aswan)

¶187: The vivid engravings on vertical rocks at the desert site of Nag el-Hamdulab west of the Nile comprise a rock art gallery of exceptional historical significance. The authors show that the images of boats with attendant prisoners, animals and the earliest representation of a pharaoh offer a window on Dynasty 0, and depict the moment that the religious procession of pre-Dynastic Egypt became the triumphant tour of a tax-collecting monarch.

¶188: Confirmation of the first Neolithic rondel-type enclosure in Poland

¶189: The early Neolithic rondel is a large curvilinear ditched and palisaded enclosure found in increasing numbers in Central Europe. It has close links with the tells of the Danube region, themselves highly suggestive instruments of the earliest Neolithic. Here the authors extend the distribution of rondels further to the north-east, with the discovery and verification of the first example in Poland. As they point out, it is aerial photography that made this advance possible and we can expect many more discoveries, given appropriate investment in the art.

¶190: Immigration and transhumance in the Early Bronze Age Carpathian Basin: the occupants of a kurgan

¶191: You never know until you look. The authors deconstruct a kurgan burial mound in the Great Hungarian Plain designated to the Yamnaya culture, to find it was actually shared by a number of different peoples. The Yamnaya were an influential immigrant group of the Late Copper Age/Early Bronze Age transition. The burials, already characterised by their grave goods, were radiocarbon dated and further examined using stable isotope analysis on the human teeth. The revealing sequence began with a young person of likely local origin buried around or even before the late fourth millennium BC—a few centuries before the arrival of the Yamnaya. It ended around 500 years later with a group of different immigrants, apparently from the eastern mountains. These are explained as contacts built up between the mountains and the plain through the practice of transhumance.

¶192: Agro-urban landscapes: the example of Maya lowland cities

¶193: The author sets out to explain why Maya cities are so dispersed, with a ceremonial core surrounded by spacious neighbourhoods. Using the case study of Xuch, and the judicious application of phosphate analysis, he shows that these were clusters of farmsteads, growing food. Tackling the apparent confrontation of town and country in the same settlement he urges us to reconsider 'urbanism' as being too narrow a term in archaeology. Solutions that combine food production and ritual can be seen as increasingly diverse. The paper provides valuable reflections for archaeologists studying settlement evolution the world over.

¶194: Desert labyrinth: lines, landscape and meaning at Nazca, Peru

¶195: The shapes drawn out by the famous Nazca lines in the Peruvian desert are at their most evident from the air—giving rise to some famously fantastic theories about their origin. The new understanding offered here is the result of a piece of straightforward brilliance on the part of our authors: get down on the ground, where the original users were, and see where your feet lead you. Using stratigraphic and taphonomic reasoning to decide which lines were contemporary, they discover an itinerary so complex they can justify calling it a labyrinth, and see it as serving ceremonial progressions.

¶196: Recognising strategies for conquered territories: a case study from the Inka North Calchaquí Valley

¶197: In this detailed study of fifteenth-century settlements in Argentina, the authors show how the Inka did not just use force, production and ritual to subdue the indigenous population. The conquerors' strategy included the re-ordering of settlement plans, routeways and landscape, class separation and even the imposition of a rigorous discipline on the indigenous vision, controlling what could be seen looking out or looking in. The material readings made in these South American examples have much to offer to archaeologists working in colonial periods elsewhere.

¶198: Mancala at the pyramids of Meroe

¶199: Game-boards carved on monuments offer an intriguing opportunity to track a certain mindset in time and space. In an earlier Antiquity article, the author showed us that mancala boards were carved on the Roman plinths at Palmyra by Arab soldiers. Here he takes us into Sudan, finding new mancala boards on the first-millennium pyramids at Meroe. With adroit detective work, he shows that these too are probably owed to military visitors, this time a group of nineteenth-century Turkish soldiers of the Ottoman empire—perhaps those assigned to help Giuseppe Ferlini to blow up and pillage the tombs.

¶200: Excavating in breccia: new methods developed at the Benzú rockshelter

¶201: Excavators examining breccia deposits are faced with the prospect of extracting finds from a material akin to concrete. Nevertheless such deposits are sometimes the only witness of early Palaeolithic occupation. Our inventive authors put aside the hammers, acids and explosives of earlier days, and used quarry techniques to cut the breccia into small blocks, which they then freed from their finds in the laboratory, using tools developed in palaeontology. As a result, they gathered a huge harvest of stone tools, bones and shells. It all goes to show that archaeological excavation is an exercise of infinite variety: to every problem, its solution; to every terrain, its method.

¶202: Macrofractures on bone-tipped arrows: analysis of hunter-gatherer arrows in the Fourie collection from Namibia

¶203: Bone points of two types, the one thin and poisoned and the other robust and not poisoned, are examined in this study of impact fractures. The bone points seem to have had similar experiences to stone points, producing fractures of a similar kind. Most of the fractures in the historical collection examined were caused by impacts. However, this early twentieth-century collection is not thought to be representative of contemporary fracture frequencies that occurred in hunting.

¶204: M.R. James and the archaeological uncanny



¶205: Does the curiosity of an archaeologist lead to encounters with forbidden things, inviting retribution? The learned antiquary M.R. James, writer of celebrated ghost stories, certainly thought so. In this vivid analysis, our author unearths the roots of James' impetus and compares it with that of his contemporary, Sigmund Freud. Of course, those days of paranormal terror are long gone, we are all rational now ... or are we?

¶206: Bayes versus pragmatism: a debate about dating Hawaiian temples

¶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.

¶208: Hawaiian temples and Bayesian chronology

¶209: The value of an "eclectic and pragmatic" approach to chronology building

¶210: The Romans: dream or nightmare?

¶211:

¶212: The bioarchaeology of humans: taking the pulse -

¶213: Social bioarchaeology.

¶214: Breathing new life into the evidence of death: contemporary approaches to bioarchaeology.

¶215: The bioarchaeology of individuals.

¶216: Lessons from the past: coping with natural hazards and climate change -

¶217: Sustainable lifeways: cultural perspectives in an ever-changing environment.

¶218: Surviving sudden environmental change: answers from archaeology.

¶219: Bioarchaeology and climate change: a view from South Asian prehistory.

¶220: Suited and booted: costume and textiles in Europe from Neolithic to Roman times - M

¶221: Wearing the cloak: dressing the soldier in Roman times. v

¶222: War and worship: textiles from 3rd to 4th century AD weapon deposits in Denmark and Northern Germany

¶223: Textiles and textile production in Europe: from prehistory to AD 400.

¶224: Interaction in Caribbeanscapes -

¶225: French colonial archaeology in the Southeast and Caribbean.

¶226: Islands at the crossroads: migration, seafaring, and interaction in the Caribbean.

¶227: Handaxes in the Imjin Basin: diversity and variability in the East Asian Palaeolithic.

¶228: *Homo symbolicus*: the dawn of language, imagination and spirituality.

¶229: The shape of script: how and why writing systems change.

¶230: Early Thailand from prehistory to Sukhothai.

¶1231: Prestigegüter entlang der Seidenstraße? Archäologische und historische Untersuchungen zu Chinas Beziehungen zu Kulturen des Tarimbeckens vom zweiten bis frühen fünften Jahrhundert nach Christus

¶1232: Cross-disciplinary perspectives on a contested Buddhist site: Bodh Gaya Jakata. x

¶1233: The Greek-Swedish excavations at the Agia Aikaterini Square, Kastelli, Khania 1970–1987 and 2001. Volume IV. The Late Minoan IIIB:1 and IIIA:2 settlements

¶1234: Classe: indagini sul potenziale archeologico di una città scomparsa.

¶1235: Excavations at Helgö XVIII: conclusions and new aspects.

¶1236: Die Gräber von Haithabu

¶1237: The archaeology of medieval Novgorod in context: studies in centre/periphery relations.

¶1238: Hybrid spaces: medieval Finnmark and the archaeology of multi-room houses

¶1239: Custodians of continuity: the Premonstratensian Abbey at Barlings and the landscape of ritual

¶1240: Critical historical archaeology.

## **Name:** Antiquity 2013 abstracts

¶1: Antiquity 2013 abstracts

¶2: ISSUE 1

¶3: The social construction of caves and rockshelters: Chauvet Cave (France) and Nawarla Gabarnmang (Australia)

¶4: Caves and rockshelters are a key component of the archaeological record but are often regarded as natural places conveniently exploited by human communities. Archaeomorphological study shows however that they are not inert spaces but have frequently been modified by human action, sometimes in ways that imply a strong symbolic significance. In this paper the concept of 'aménagement', the re-shaping of a material space or of elements within it, is applied to Chauvet Cave in France and Nawarla Gabarnmang rockshelter in Australia. Deep within Chauvet Cave, fallen blocks were moved into position to augment the natural structure known as The Cactus, while at Nawarla Gabarnmang, blocks were removed from the ceiling and supporting pillars removed and discarded down the talus slope. These are hence not 'natural' places, but modified and socially constructed.

¶5: The lowest levels at Dikili Tash, northern Greece: a missing link in the Early Neolithic of Europe

¶6: Tells famously capture the historical sequences of the earliest farmers—but digging them is not easy. With a depth of strata of 17m at Dikili Tash, the earliest occupation was out of reach of a trench. But our researchers got there by coring, extending the date of the first occupation back 1000 years, and deducing, from small samples, the changing environment and possible connections with Anatolia.

¶7: Jiahu 1: earliest farmers beyond the Yangtze River

¶8: The authors summarise the latest evidence for the introduction of rice cultivation into northern China, and show that it most probably began there in the early seventh millennium BC as a result of influence or migration from the Yangtze Valley.

¶9: Life, death and beyond in Akhenaten's Egypt: excavating the South Tombs Cemetery at Amarna

¶10: The authors report a summary of the results of six seasons of excavation at one of the cemeteries of Tell el-Amarna, the celebrated city of the 'monotheistic' revolutionary, Akhenaten. The osteology shows a workforce enduring stress and injuries to bone and muscle. The burial rites indicate low investment and personal interpretations as to spiritual meaning. In this exploration of a slice of a whole Egyptian urban society, the contrast between the working lives of the elite and its workforce becomes striking.

¶11: Edges of bronze and expressions of masculinity: the emergence of a warrior class at Kerma in Sudan

¶12: The author revisits the celebrated cemetery of the Bronze Age Kerma culture by the third cataract of the Nile and re-examines its monumental tumuli. The presence of daggers and drinking vessels in secondary burials are associated with skeletal remains that can be attributed to fighting men, encouraging their interpretation as members of a warrior elite. Here, on the southern periphery of the Bronze Age world, is an echo of the aggressive aristocracy of Bronze Age Europe.

¶13: Soundscapes and community organisation in ancient Peru: plaza architecture at the Early Horizon centre of Caylán

¶14: The thriving study of acoustic archaeology is here applied to an excavated plaza site in Peru, where the authors show that an intimate sound-space was intended, one which featured panpipe music as well as the spoken word. 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. The study also showed a dramatic change from the use of acoustics in a previous period, where sound was canalised in U-shaped temples in order to address large numbers of people.

¶15: An early date for cattle from Namaqualand, South Africa: implications for the origins of herding in southern Africa

¶16: When did cattle come to South Africa? Radiocarbon dates on a newly found cow horn indicates a time in the early first millennium AD. In a study of the likely context for the advent of cattle herding, the authors favour immigrants moving along a western route through Namibia.

¶17: Cultural hybridity and social status: elite tombs on China's Northern Frontier during the third century BC

¶18: It is a pleasure to present this vivid account of elite tombs on China's Northern Frontier, together with a closely argued case for cultural hybridity within the postcolonial paradigm. This incisive exposition of political interaction on a frontier will resonate with all of us who work with 'imperial-barbarian' relations—on any continent.

¶19: Stable isotopes and diet: their contribution to Romano-British research

¶20: The study of stable isotopes surviving in human bone is fast becoming a standard response in the analysis of cemeteries. Reviewing the state of the art for Roman Britain, the author shows clear indications of a change in diet (for the better) following the Romanisation of Iron Age Britain—including more seafood, and more nutritional variety in the towns. 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.

¶21: Feasting in Viking Age Iceland: sustaining a chiefly political economy in a marginal environment

¶22: The authors show that the principal correlates of feasting in Viking Age Iceland were beef and barley, while feasting itself is here the primary instrument of social action. Documentary references, ethnographic analogies, archaeological excavation and biological analyses are woven together to present an exemplary procedure for the recognition of feasting more widely.

¶23: A four-tier approach to the protection of cultural property in the event of armed conflict

¶24: This vitally important article sets out the obstacles and opportunities for the protection of archaeological sites and historic buildings in zones of armed conflict. Readers will not need to be told that modern munitions are devastating and sometimes wayward, nor that cultural heritage once destroyed cannot simply be rebuilt. The author 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, and guides us through the forest of players. Agencies so numerous, so obscure and so often ineffective might prompt the

response ‘a plague on all your acronyms’. All the more important, then, that the author and his associates continue their campaign and are supported by everyone who believes that cultural property has a value that lies beyond sectional interests.

¶125: Illuminating the Late Mesolithic: residue analysis of ‘blubber’ lamps from Northern Europe

¶126: Shallow oval bowls used on the Baltic coast in the Mesolithic have been suggested as oil lamps, burning animal fat. Here researchers confirm the use of four coastal examples as lamps burning blubber—the fat of marine animals, while an inland example burned fat from terrestrial mammals or freshwater aquatics—perhaps eels. The authors use a combination of lipid biomarker and bulk and single-compound carbon isotope analysis to indicate the origin of the residues in these vessels.

¶127: Luminescence dating of brick stupas: an application to the hinterland of Anuradhapura, Sri Lanka

¶128: The domed stupas are among the most distinctive of South Asia's religious monuments and have been shown to be sensitive indicators for their society. 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.

¶129: Burial mounds and settlement patterns: a quantitative approach to their identification from the air and interpretation

¶130: The author describes a process of systematic integration of aerial and satellite imagery, which has provided a huge increase in the number of known burial mounds in the area where the Danube meets the Black Sea. Careful evaluation of newly acquired and archival imagery from satellites and lower level platforms shows where data is comparable and how visibility varies with imagery type. Excavations to date suggest the majority of the mounds are of Greco-Roman date and associated with the large towns and their road networks. Clusters of barrows exist, hinting at associated settlement aggregation, but a large proportion are single tumuli, raising interesting questions about their social role in this period. Above all, the large numbers revealed by the survey must invite new thoughts on whether, or in what way, the mounds reflect social ranking.

¶131: Airborne spectral imagery for archaeological prospection in grassland environments—an evaluation of performance

¶132: The new generation of aerial photographers is using different wavelengths to sense archaeological features. This is effective but can be expensive. Here the authors use data already collected for environmental management purposes, and evaluate it for archaeological prospection on pasture. They explore the visibility of features in different seasons and their sensitivity to different wavelengths, using principal components analysis to seek out the best combinations. It turns out that this grassland gave up its secrets most readily in January, when nothing much was growing, and overall the method increased the number of known sites by a good margin. This study is of the greatest importance for developing the effective survey of the world's landscape, a quarter of which is under grass.

¶133: Lost and found: the remarkable curatorial history of one of the earliest discoveries of Palaeolithic portable art

¶134: Reassessment of archives, early publications and the auditing of museum collections have often led to the discovery or rediscovery of long-forgotten specimens (e.g. Hollmann et al. 1986: 330; Fainer & Man-Estier 2011: 506, 520). The combination of initial poor recognition, insufficient scientific analysis and inadequate storage conditions, can cause the loss to science of important archaeological specimens. New analytical techniques may allow reconsideration of previous interpretations (e.g. Pillon 2008: 720, 723-24; Hello et al. 2011; Higham et al. 2011: 522, 524) but in some cases it is the scientific value of a specimen that is not recognised at the moment of its discovery (e.g. Rosendahl et al. 2003: 277; Kaagan et al. 2011). Particularly revealing examples are those where the specimen found is the first of its kind. This was the case with the first handaxe recognised as manufactured by humans (Gamble & Kruszynski 2009: 468-70) or the first two sets of Neanderthal fossil remains found respectively at Engis in 1829-30 and Gibraltar in 1848, which were not recognised as an early human species until after the 1856 discovery of 'Neanderthal 1' at the Kleine Feldhofer Grotte in the Neander Valley near Düsseldorf, Germany (Stringer & Gamble 1993: 13). Similarly, lack of recognition caused the near loss of an engraved antler from the Magdalenian site of Neschers (France), possibly one of the first examples of Palaeolithic portable art.

¶135: Modern political views and the emergence of early complex societies in the Bronze Age Mediterranean

¶136: 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.

¶137: Early farming in Island Southeast Asia: an alternative hypothesis

¶138: Several recent articles in *Antiquity* (Barker et al. 2011a; Hung et al. 2011; Spriggs 2011), discuss the validity of, and revise, portrayals of an Austronesian farming-language dispersal across Island Southeast Asia (ISEA) during the mid-Holocene (approximately 4000-3000 years ago). In conventional portrayals of the Austronesian dispersal hypothesis (e.g. Bellwood 1984/85, 1997, 2002, 2005; Diamond 2001; Diamond & Bellwood 2003), and its Neolithic variant (e.g. Spriggs 2003, 2007), farmer-voyagers migrated out of Taiwan approximately 4500-4000 cal BP to colonise ISEA from 4000 cal BP (Bellwood 2002) and the Mariana Islands and Palau by c. 3500-3400 cal BP (Hung et al. 2011). The descendants of these voyagers subsequently established the Lapita Cultural Complex in the Bismarck Archipelago by c. 3470-3250 cal BP (Kirch 1997; Spriggs 1997) and became the foundational cultures across most of the Pacific from c. 3250-3100 cal BP (Kirch 2000; Addison & Matisoo-Smith 2010; dates for Lapita in Denham et al. 2012). A major problem with this historical metanarrative is the absence of substantial archaeological evidence for the contemporaneous spread of farming from Taiwan (Bulbeck 2008; Donohue & Denham 2010; Denham 2011).

¶139: The Great East Japan Earthquake and cultural heritage: towards an archaeology of disaster

¶140: The earthquake that struck Japan on 11 March 2011, named the Great East Japan Earthquake by the Japanese government, was one of the largest seismic events the world has seen for generations. Akira Matsui reported his experience of visiting the areas devastated by the earthquake and tsunami soon afterwards, outlining the initial assessment of damage caused to museums and cultural heritage assets, and the plans for their rescue (Kaner et al. 2011; Matsui 2011a). The present contribution reports how far the implementation of these plans has been successful, the prospects

for the future, and situates all of this in a broader context of archaeological response to earthquakes.

¶141: Resource and interpretation

¶142: What is archaeology? What is it for? How can archaeologists explain themselves in a country highly literate but little aware of their work; and what can be done about amateur collectors? How can a very small profession respond to the opportunities and challenges of economic development where statutory provision for archaeological mitigation often proves too blunt to explain how to proceed in particular circumstances? In Estonia, the professions middle order, having witnessed the assertion of national independence from Russia in 1991 as youngsters, is now coming into its own with these issues.

¶143: Egyptian archaeology and Egyptology: help at hand -

¶144: Egyptian archaeology.

¶145: A history of ancient Egypt.

¶146: A companion to ancient Egypt.

¶147: A Celtic cornucopia -

¶148: How ancient Europeans saw the world: visions, patterns, and the shaping of the mind in prehistoric times.

¶149: The Eastern Celts: the communities between the Alps and the Black Sea.

¶150: Kelten! Kelten? Keltische Spuren in Italien

¶151: Die Welt der Kelten: Zentren der Macht—Kostbarkeiten der Kunst.

¶152: Social zooarchaeology: humans and animals in prehistory.

¶153: Danmarks megalitgrave, volume 1.

¶154: An examination of prehistoric stone braces from Britain.

¶155: From machair to mountains: archaeological survey and excavation in South Uist.

¶156: A Late Iron Age farmstead in the Outer Hebrides: excavations at Mound 1, Bornais, South Uist.

¶157: Headhunting and the body in Iron Age Europe.

¶158: The complete archaeology of Greece: from hunter-gatherers to the 20th century A.D.

¶159: Acropolis restored.

¶160: Consumption, trade and innovation: exploring the botanical remains from the Roman and Islamic ports at Quseir al-Qadim, Egypt

¶161: From one sea to another: trading places in the European and Mediterranean Early Middle Ages

¶162: Beyond the blockade: new currents in Cuban archaeology.

¶163: From foraging to farming in the Andes: new perspectives on food production and social organization.

¶164: Andean expressions: art and archaeology of the Recuay culture.

¶165: Ancient Vietnam: history, art and archaeology.

¶166: The archaeological imagination.

¶167: ISSUE 2

¶168: Complex topography and human evolution: the missing link

¶169: Why did humans walk upright? Previous models based on adaptations to forest or savannah are challenged here in favour of physical incentives presented by steep rugged terrain—the kind of tectonically varied landscape that has produced early hominin remains. “Scrambler man” pursued his prey up hill and down dale and in so doing became that agile, sprinting, enduring, grasping, jumping two-legged athlete that we know today.

¶170: Butchering with small tools: the implications of the Evron Quarry assemblage for the behaviour of *Homo erectus*

¶171: Stratified stone tools found with elephant and hippopotamus teeth at Evron Quarry can be dated to before 780 000 years ago. The assemblage includes handaxes, but less expectedly, small stone tools in the form of flakes with notches and points. Not thought to be points for spears or arrows, these small tools are suggested to be usable for butchery. They represent an adaption of local materials that make poor handaxes—so showing an ingenious improvisation on the part of *Homo erectus*.

¶172: The development of Upper Palaeolithic China: new results from the Shuidonggou site

¶173: The Shuidonggou site cluster in northern China contains 12 different early prehistoric sequences with great potential to cast light on the transition to Upper Palaeolithic behaviour in East Asia. Here researchers present the latest results from Locality 2, reporting seven occupation levels with hearths, animal bone and diverse industries. Although previously compared with European Upper Palaeolithic sequences, the new work proposes a different trajectory of development. Distinctive macroblade technology arrived in the area, possibly from Mongolia or Siberia, about 41000–34000 years ago. This industry subsequently disappeared, to be replaced by flake technologies.

¶174: Magdalenian pioneers in the northern French Alps, 17 000 cal BP

¶175: Using the multi-disciplinary forces of the CNRS, the author defines an early group of colonisers in the northern Alps as the glaciers retreated. At the key site of La Fru, analysis of the lithics shows an assemblage characterised by microblades made from good quality flint supplied from sources a hundred or more kilometres away. Analogies with early assemblages in Beringia and in Britain suggest this may be identified as a pioneer phase. Later in the Magdalenian, the supply is more varied and regional, generating networks for the dissemination of new ideas.

¶176: A day in the life of an Ubaid household: archaeobotanical investigations at Kenan Tepe, south-eastern Turkey

¶177: The Ubaid period in south-west Asia constitutes a key period of social and political change anticipating the emergence of complex societies in the following millennium. Well-preserved archaeobotanical assemblages have enormous potential to document these changes at both the site and individual household levels. The conflagration that consumed Structure 4 at the Ubaid settlement of Kenan Tepe in south-eastern Turkey provides a case study through the analysis of almost 70 000 charred macrobotanical remains. The results suggest that labour may have been



pooled between households to process emmer wheat to spikelet stage after harvesting. Final processing was conducted on the roof of the house by members of the individual household as need arose. The pooling of resources may reflect the intensification of production and the emergence of elites during the Ubaid period in this region.

¶178: Chronology of the perishables: first AMS 14C dates of wooden artefacts from Aeneolithic–Bronze Age waterlogged sites in the Trans-Urals, Russia

¶179: Intriguing wooden objects, excavated (mostly unstratigraphically) from peat bogs in the Trans-Urals region of Russia, 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.

¶180: Sacred landscapes of the south-eastern USA: prehistoric rock and cave art in Tennessee

¶181: Systematic field exploration in Tennessee has located a wealth of new rock art—some deep in caves, some in the open air. The authors show that these have a different repertoire and use of colour, and a different distribution in the landscape—the open sites up high and the caves down low. 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.

¶182: Monumental ditched enclosures in southern Iberia (fourth–third millennia BC)

¶183: Large curvilinear enclosures are now established as a principal instrument of human activity in Central Europe from the Neolithic into the Bronze Age (Antiquity, *passim*). Here the authors introduce us to examples from southern Iberia and make the case that they should be regarded as part of the same continent-wide phenomenon.

¶184: The Nordic razor and the Mycenaean lifestyle

¶185: The bronze razor with the horse-head handle appeared in Scandinavia in the fifteenth century BC. Where did it come from and what did it mean? The author shows that the razor had some antecedents in the Aegean, although none of these objects were imported to the north. He argues that the Scandinavian warrior class consciously adopted elements of the Mycenaean warrior package, including a clean-shaven face. This vividly exposes new aspects of the busy and subtle nature of international communication in the Bronze Age.

¶186: Rethinking Early Iron Age urbanisation in Central Europe: the Heuneburg site and its archaeological environment

¶187: The Heuneburg on the Upper Danube has been one of the best-known archaeological sites of Early Iron Age Europe since the first excavations of the 1950s. Fieldwork carried out during recent years, however, has radically changed our accepted understanding of what was clearly a central place of supra-regional importance. In addition to the three-hectare hilltop fortification with its famous mudbrick wall, an outer settlement some 100ha in extent has been discovered. Its investigation has given new insights into the centralisation process that took place from the end of the seventh century BC. Moreover, recent discoveries from the richly furnished burials in the surrounding area offer significant clues to issues of social hierarchy and status transmission within Late Hallstatt communities. The results provide an entirely new picture of the earliest stages of urbanisation north of the Alps.

¶188: Situating megalithic burials in the Iron Age–Early Historic landscape of southern India

¶189: The megalithic burials of southern India—a wonderfully varied set of monuments—have long needed a chronology and a context. Broadly contemporary with the Roman and Sasanian empires, these dolmens, cairns and cists have continually raised contradictions with their material contents. The authors attack the problem using luminescence applied to pottery at the site of Siruthavoor in north-east Tamilnadu. Although sharing material culture, this first pilot project gave dates ranging from 300 BC to AD 600, so exposing the problem and perhaps, in OSL, its long-term solution.

¶190: The first towns in the central Sahara

¶191: At first sight Saharan oases appear unlikely locations for the development of early urban communities. Recent survey work has, however, discovered evidence for complex settlements of the late first millennium BC and early first millennium AD, surrounded and supported by intensive agricultural zones. These settlements, despite their relatively modest size, satisfy the criteria to be considered as towns. The argument presented here not only presents the evidence for their urban status but also argues that it was not agriculture but trade that conjured them into existence. Without the development of trans-Saharan trade, these complex oasis communities would have been unsustainable, and their subsequent economic fortunes were directly linked to the fluctuating scale and direction of that trade.

¶192: ‘The king in the car park’: new light on the death and burial of Richard III in the Grey Friars church, Leicester, in 1485

¶193: Archaeologists today do not as a rule seek to excavate the remains of famous people and historical events, but the results of the project reported in this article provide an important exception. Excavations on the site of the Grey Friars friary in Leicester, demolished at the Reformation and subsequently built over, revealed the remains of the friary church with a grave in a high status position beneath the choir. The authors set out the argument that this grave can be associated with historical records indicating that Richard III was buried in this friary after his death at the Battle of Bosworth. Details of the treatment of the corpse and the injuries that it had sustained support their case that this should be identified as the burial of the last Plantagenet king. This paper presents the archaeological and the basic skeletal evidence: the results of the genetic analysis and full osteoarchaeological analysis will be published elsewhere.

¶194: Marking resistance? Change and continuity in the recent rock art of the southern Kimberley, Australia

¶195: Enhanced by recent survey, 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. 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.

¶196: Reconsideration of the Copper Age chronology of the eastern Carpathian Basin: a Bayesian approach

¶197: 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. In this case study, the authors apply this rethinking to the Copper Age in a key region of Europe, the Great Hungarian Plain in the Carpathian Basin. They replace the traditional Early and Middle Copper Age, defined by

pottery types, with an 800-year sequence in which six cemetery and settlement sites experience different trajectories of use, and the pottery types make intermittent and often contemporary appearances. In this new chronology based on radiocarbon, the variations in pottery use must have some other explanation.

¶198: Acoustics of historic spaces as a form of intangible cultural heritage

¶199: Archaeological interest in the study of the acoustics of important historic buildings is currently gaining in importance, and there are several areas where research is conducted. Among these I include music archaeology, archaeology of sound, archaeomusicology and archaeoacoustics (Watson & Keating 1999; Scarre & Lawson 2006; Knight 2010: 1). Research on acoustic space can, in principle, be divided into two types of project: the measurement of acoustic parameters and the storage of acoustics as audio heritage.

¶100: The question of prehistoric silks in Europe

¶101: Textiles and clothing are among the most visible aspects of human social and symbolic behaviour and yet they have left all too few traces in the archaeological record and it is easy to overlook their importance. Luxury textiles such as silk can additionally provide evidence of long-distance contact, notably between Europe and China during the Han dynasty and the Roman empire. But can these connections be projected back in time to the prehistoric period? The late Irene Good proposed a number of identifications of silk in Iron Age Europe and was instrumental in bringing the issue to wider attention. Closer examination reported here, however, calls those identifications into question. Instead, the case is put that none of the claimed Iron Age silks can be confirmed, and that early traffic in silk textiles to Europe before the Roman period cannot be substantiated.

¶102: Digging deeper in the archaeological psyche

¶103: In the last 25 years the individual has increasingly come to the fore in archaeology, for example in phenomenology, agency and somatic archaeology, and more recently we have been encouraged to be reflexive in our methodology, and to hear multiple accounts of the past by other 'stakeholders' such as local communities. Alongside this focus on the individual in the past there has been a concomitant growth of interest in the history of archaeologists themselves (Murray 1999b: 871), most recently, for example, in the work of the Archives of European Archaeology Project (AREA n.d.), or the oral history of archaeology (Smith 2010). In the non-academic world the search by individuals and communities for a sense of identity in the remnants of the past has become a major issue in the fields of heritage, nationalism and identity studies (Hamilakis & Anagnostopoulos 2009).

¶104: Violent times: bioarchaeologies in the Americas -

¶105: The bioarchaeology of violence. x

¶106: Violence, ritual and the Wari empire. A social bioarchaeology of imperialism in the ancient Andes.

¶107: The creation of inequality: how our prehistoric ancestors set the stage for monarchy, slavery, and empire.

¶108: Manure matters: historical, archaeological and ethnographic perspectives.

¶109: JADE. Grandes haches alpines du Néolithique européen. Ve et IVe millénaires av. J.-C.

¶110: Ancient ice mummies.

¶111: Death and dying in the Neolithic Near East.

¶112: Local societies in Bronze Age northern Europe.

¶113: Atlantic Europe in the first millennium BC: crossing the divide.

¶114: Hadrian's Wall: a life.

¶115: Rural settlement and society in Anglo-Saxon England.

¶116: The Cuerdale Hoard and related Viking-age silver and gold from Britain and Ireland in the British Museum.

¶117: Medieval life: archaeology and the life course.

¶118: A fine and private place: the archaeology of death and burial in post-medieval Britain and Ireland

¶119: A bioarchaeological study of medieval burials on the site of St Mary Spital. Excavations at Spitalfields Market, London E1, 1991–2007.

¶120: Foundations of an African civilisation: Aksum & the northern Horn 1000 BC–AD 1300.

¶121: Infernal traffic: excavation of a liberated African graveyard in Rupert's Valley, St Helena.

¶122: Motul de San José: politics, history, and economy in a Classic Maya polity.

¶123: The lost woodlands of ancient Nasca: a case study in ecological and cultural collapse.

¶124: Antiquity on display: regimes of the authentic in Berlin's Pergamon Museum.

¶125: ISSUE 3

¶126: Broad spectrum or specialised activity? Birds and tortoises at the Epipalaeolithic site of Wadi Jilat 22 in the eastern Jordan steppe

¶127: The analysis of rich bone assemblages from an Epipalaeolithic site in Jordan show that wing feathers were being extracted, probably for ornamental or ceremonial purposes, from eagles and buzzards. These raptors were perhaps caught by luring them with tortoises, evident from smashed shells in the same assemblage. The authors speculate on the symbolic value of eagles' wings among these pre-Neolithic people.

¶128: Rock art landscapes beside the Jubbah palaeolake, Saudi Arabia

¶129: The authors have undertaken a systematic survey of rock art along the Jubbah palaeolake in northern Saudi Arabia and interpret the results using GIS. They conclude that the overwhelming majority of prehistoric rock art sites overlook contemporary early Holocene palaeolakes, and that the distribution of later Thamudic rock art offers insights into human mobility patterns at Jubbah in the first millennium BC.

¶130: Surfaces and streets: phytoliths, micromorphology and changing use of space at Neolithic Çatalhöyük (Turkey)

¶131: The site of Çatalhöyük occupies a key position within the development of larger settlements in south-west Asia, but the apparent absence of outdoor activity areas has challenged conceptions of social interaction within the site. Where did the inhabitants of this substantial settlement meet together if there were no public spaces? The identification of outdoor activity areas is difficult in

such a densely patterned settlement, but micromorphology and phytolith analysis, when used together, can provide secure interpretations. The present study applies these methods to a stratigraphic sequence of deposits in the South Area, where a succession of open areas was located adjacent to a series of buildings. The analysis reveals that these open areas were gradually transformed from a place for the dumping or accumulation of midden material in the early phases, to an informal and then a formally laid surface in the later stages. This suggests that although streets or courtyards may have been rare or absent in the early centuries at Çatalhöyük, they were present in the later phases of the occupation.

¶132: DNA evidence for multiple introductions of barley into Europe following dispersed domestications in Western Asia

¶133: It has long been recognised that the Neolithic spread across Europe via two separate routes, one along the Mediterranean coasts, the other following the axis of the major rivers. But did these two streams have a common point of origin in south-west Asia, at least with regard to the principal plant and animals species that were involved? 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. Barley was relatively rarely cultivated by the early Linearbandkeramik farmers of Central and Northern Europe, but became more common during the fifth and fourth millennia BC. The analysis reported here indicates that a genetic variety of barley more suitable for northern growing conditions was introduced from south-west Asia at this period. It also suggests that the barley grown in south-eastern Europe at the very beginning of the Neolithic may have arrived there by different routes from two separate centres of domestication in south-west Asia. The multiple domestications that this pattern reveals imply that domestication may have been more a co-evolutionary process between plants and people than an intentional human action.

¶134: Fourth-millennium-BC 'leopard traps' from the Negev Desert (Israel)

¶135: Stone-built installations known as 'leopard traps' are found throughout the deserts of the Middle East. They have generally been considered to be recent in date, and to have been built by Bedouin or other local communities to trap carnivores that threatened their flocks. But how much older might they be? Survey in the hyper-arid 'Uvda Valley of the southern Negev Desert in Israel discovered 23 'leopard traps', 19 of them clustered in a relatively small area. This study describes the architecture and function of these structures and presents the first optically stimulated luminescence ages for two of them. These results demonstrate that the traps are ancient and were already in use before the late fourth millennium BC, not long after the adoption of herding by the desert dwellers.

¶136: Melting snow patches reveal Neolithic archery

¶137: High altitude snowfields provide repositories of well-preserved organic remains of considerable antiquity, as spectacular discoveries such as the Similaun Iceman illustrate. In Scandinavia, melting snow patches have been systematically surveyed by volunteer groups for almost a century, and a growing collection of archaeological artefacts has been recovered. Only recently, however, has AMS dating confirmed that some of the finds go back as far as the Neolithic. Here fragments of five Neolithic arrowshafts and a Neolithic longbow discovered in 2010–11 in the Oppdal area of Norway are described. They throw light on Neolithic bow and arrow technology and tangentially on the hunting techniques which may have attracted hunters to these snow patches in search of game. The progressive and accelerated melting of the snow patches in recent years draws attention to

processes of climate change and the urgency of discovering and recovering these fragile perishable artefacts.

¶138: Distinguishing exploitation, domestication, cultivation and production: the olive in the third millennium Aegean

¶139: The author shows how better recovery techniques have allowed the early history of the Mediterranean olive to be rewritten. Small scale exploitation is detectable in the Neolithic, and is widespread by the Early Bronze Age. Users appear to be first attracted by the olive wood, the fruit benefitting from the pruning effect as the olive bush becomes a tree. This process eventually results in domestication—but this is an unintended consequence of a production process driven by demand. The story now aligns better with the model put forward in Colin Renfrew's thesis of 1972.

¶140: Site of Baodun yields earliest evidence for the spread of rice and foxtail millet agriculture to south-west China

¶141: The Chengdu plain of south-west China lies outside the main centres of early domestication in the Huanghe and Yangzi valleys, but its importance in Chinese prehistory is demonstrated by the spectacular Sanxingdui bronzes of the second millennium BC and by the number of walled enclosures of the third millennium BC associated with the Baodun culture. The latter illustrate the development of social complexity. Paradoxically, however, these are not the outcome of a long settled agricultural history but appear to be associated with the movement of the first farming communities into this region. Recent excavations at the Baodun type site have recovered plant remains indicating not only the importance of rice cultivation, but also the role played by millet in the economy of these and other sites in south-west China. Rice cultivation in paddy fields was supplemented by millet cultivation in neighbouring uplands. Together they illustrate how farmers moving into this area from the Middle Yangzi adjusted their cultivation practices to adapt to their newly colonised territories.

¶142: The meaning of material: ritual vessel assemblages in Chu burials of the fourth and third centuries BC, China

¶143: Finely crafted bronze vessels are one of the most distinctive products of early China, and illustrate the emphasis placed on formalised rituals in which these vessels are thought to have played a part. When found in graves, they have also been assumed to testify to the status of the deceased. In this study, it is shown that the repertoire of ritual vessels of bronze are often matched by similar vessels of pottery that were placed in elite graves. Together these suites of vessels indicate not only the status of the deceased but also the social standing of the mourners present during the funerary ceremonies, and in particular, perhaps, the principal heir. 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. Thus, early China presents another demonstration of the active and visible role that ostentatious grave goods were designed to play in the living context of funerary ceremonial. The conclusions also emphasise the greater understanding to be achieved by considering different categories of material together, rather than studying pottery and bronzes as separate domains.

¶144: Out of the Norwegian glaciers: Lendbreen—a tunic from the early first millennium AD

¶145: As the temperature rises each year, the assemblages of prehistoric hunters emerge from the ice. Archaeologists in Norway are now conducting regular surveys in the mountains to record the new finds. A recent example presented here consists of a whole tunic, made of warm wool and

woven in diamond twill. The owner, who lived in the late Iron Age (third–fourth centuries AD), was wearing well-worn outdoor clothing, originally of high quality.

¶146: Pitch production during the Roman period: an intensive mountain industry for a globalised economy?

¶147: The authors' research project in the Pyrenees mountains has located and excavated Roman kilns for producing pitch from pine resin. Their investigations reveal a whole sustainable industry, integrated into the local environmental cycle, supplying pitch to the Roman network and charcoal as a spin-off to the local iron extractors. The paper makes a strong case for applying combined archaeological and palaeoenvironmental investigations in upland areas, showing mountain industries to have been not so much marginal and pastoral as key players in the economy of the Roman period and beyond it into the seventh century AD.

¶148: Tangas of the Marajó (Brazil): ornamental pubic covers, their typology and meaning

¶149: Tangas are small convex triangular pottery covers found in large numbers in the Amazon delta. Their suggestive shape has long been attributed to use as a cover or shield for the female Mound of Venus, for protection, modesty ('cache-sexe' is the French term) or embellishment. Here the author offers a typology and searches for correlations between the shapes, sizes and patterns of the tangas and the date, location, purpose and status of the women who wore them. He emphasises that in spite of this advance, better understanding requires new information from properly designed excavations; 85 per cent of known tangas have been acquired by looting, purchase or low-precision digging.

¶150: From burials to population identity: archaeological appraisal of the status of a Lesser Antilles colonial cemetery (Baillif, Guadeloupe)

¶151: Settlements and cemeteries associated with a European colonial presence provide rich opportunities to gain insights into the character and composition of those populations, even in the absence of written records. The study reported here has the added fascination of a detective story, seeking to match an unknown burial ground to a series of known but long lost cemeteries. 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. The authors conclude that the Baillif cemetery was a nineteenth-century military graveyard, and that many of the young men who were buried here were new recruits who fell victim to endemic diseases such as dysentery, yellow fever and malaria.

¶152: Estimating trajectories of colonisation to the Mariana Islands, western Pacific

¶153: The colonisation of the Pacific islands represents one of the major achievements of early human societies and has attracted much attention from archaeologists and historical linguists. Determining the pattern and chronology of colonisation remains a challenge, as new discoveries continue to push back dates of earliest settlement. The length and direction of the colonising voyages has also led to lively debate seeking to trace languages and artefactual techniques and traditions to presumed places of origin. Seafaring simulation models provide one way of resolving these controversies. One of the most remote of these island groups, the Marianas, is shown here to have been settled not from Taiwan or the Philippines, as has been argued in Antiquity by Hung et al. (2011) and Winter et al. (2012), but from New Guinea or Island Southeast Asia to the south. It represents an incredible feat of early navigation over an ocean distance of some 2000km.

¶154: A Bayesian chronology for Great Zimbabwe: re-threading the sequence of a vandalised monument

¶155: Great Zimbabwe is one of the most iconic sites in southern Africa and indeed the world, but like so many famous monuments it has suffered from the attention of early excavators who have destroyed key categories of evidence. Chronology is crucial to understanding the development of the various elements of Great Zimbabwe and its relationship to other important regional centres such as Mapungubwe. 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. Construction of the stone walls probably began at the end of the twelfth or beginning of the thirteenth century AD, reaching its peak in the fourteenth and fifteenth centuries, although occupation continued up to at least the sixteenth and probably into the seventeenth century AD. These results indicate that occupation at Great Zimbabwe must have overlapped with that at Mapungubwe, and argue for a polycentric model of sociopolitical complexity in this region of southern Africa during that crucial formative period.

¶156: Neanderthal self-medication in context

¶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 from the northern Spanish site of El Sidrón. Both these plants are bitter tasting and have little nutritional value but are well known for their medicinal qualities. Bitter taste can signal poison. We know that the bitter taste perception gene TAS2R38 was present among the Neanderthals of El Sidrón (Lalueza-Fox et al. 2009), and their selection of yarrow and camomile was hence probably deliberate. With few nutritional benefits, reasons must be sought for why the Neanderthals collected and ingested these plants. They could have consumed them as flavouring, but this presupposes a degree of complexity in cuisine for which there is little evidence. The widespread evidence for animal self-medication, or zoopharmacognosy, however, offers an attractive behavioural context. We propose, indeed, that these plants were selected and ingested deliberately for the purpose of self-medication. Here, we investigate the implications of this new finding for Neanderthal knowledge of plants and we offer a context for plant knowledge and self-medication among early human and hominin populations.

¶158: Inshore or offshore? Boating and fishing in the Pleistocene

¶159: The first settlement of Australia over 40 000 years ago provides evidence of the maritime capabilities of early modern humans. Did they also take to the sea to fish? 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. Here Atholl Anderson takes issue with the evidence, arguing that inshore fishing is a more likely scenario, and that deep sea fishing was beyond the scope of Pleistocene communities. Despite the early settlement of Australia, advanced boat technology was developed only during the Holocene. His reassessment is followed by responses from Sue O'Connor and Rintaro Ono, Geoff Bailey and Jon Erlandson, and finally by Atholl Anderson's reply to those comments.

¶160: The case for complex fishing technologies: a response to Anderson

¶161: For one who is so intent on factual accuracy and precision in others, Anderson is surprisingly lenient on himself, and misrepresents our arguments. Some points of clarification are required before we proceed to address the more substantive issues regarding Pleistocene fishing and fishing technology. In the introduction to his critique, Anderson (above) states that "in regard to Wallacea, O'Connell et al. (2010: 60) cite" the evidence for fishing at Buang Merabak and Kilu Cave (Papua New



Guinea), and Jerimalai (Timor-Leste) and that they conclude that "these data are best read to indicate angling from boats well offshore". Firstly, as outlined in O'Connor et al. (2011) Wallacea is a strictly defined biogeographic region which comprises the Indonesian Islands lying to the east of Sundaland and to the west of Sahul and Near Oceania. Kilu Cave and Buang Merabak are in Near Oceania, not in Wallacea, and while the two island regions share depauperate terrestrial faunas the biota of the two are very different.

¶162: Dynamic shorelines and submerged topography: the neglected variables

¶163: Atholl Anderson's comment (above) on the recent finds from Jerimalai draws attention to the dangers of over-interpreting the wider significance of marine resources present in Pleistocene coastal sites without careful evaluation of at least three variables: (1) the accurate identification of the species represented and hence of their behaviour and accessibility to capture; (2) the actual quantities and rates of accumulation of the marine food remains; and (3) local ecological and oceanographic conditions. To these I would add a fourth variable: the bathymetry and submerged topography of the marine environment adjacent to the sites in question—the physical structure of what one might call the 'offshore catchment'—and changes resulting from relative sea level variation (including eustatic and isostatic/tectonic effects).

¶164: Interpreting archaeological fish remains

¶165: In an important paper, O'Connor et al. (2011) described evidence for marine fishing from around 42 000-year-old (cal BP) deposits at Jerimalai Shelter on Timor-Leste. The paper's title referred to evidence for pelagic fishing and the maritime skills of anatomically modern humans (AMH). Considering that not long ago human seafaring and marine fishing were considered to be limited to the terminal Pleistocene or early Holocene (see Erlandson 2001), the paper's broader significance lies in the further evidence for Pleistocene voyaging required to colonise Timor-Leste and the quantities of fish bone that represent a substantial marine fishing effort at a relatively early date.

¶166: Response to O'Connor and Ono, Bailey and Erlandson

¶167: I thank the contributors for their comments. We all agree that the Jerimalai data provide an intriguing glimpse of maritime activity in the Wallacean Pleistocene by showing that Scombridae were unusually prominent amongst 15 families of fish that had been caught around 40 000 BP. In various ways, we also agree that the hypothesis interpreting these data in O'Connor et al. (2011) is far from robust. Its fundamental proposition was that the scombrids were oceanic tuna, but O'Connor and Ono (above) now concede that, 'as we did not speciate [sic] the scombrids at Jerimalai we cannot be certain that oceanic species were represented'. Their description of samples and methods, which confirms the inadequacy of the comparative collection and notes that scombrid bone from Jerimalai Square A also may not be from tuna, simply underlines the thrust of my critique. Some of the scombrids might be oceanic tuna but since no tuna were identified, either as a class or species, the marine zones involved in scombrid fishing cannot be inferred, and the empirical argument for offshore tuna fishing collapses.

¶168: The Chinese school of archaeology

¶169: In 1959, at a meeting reviewing the 'archaeological achievements of the past 10 years' in celebration of the tenth anniversary of the 'New China (1949-)', the leading archaeologist Yin Da (1906-1983), then director of the Institute of Archaeology of the Chinese Academy of Sciences (CAS), 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).

¶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 (Liu & Chen 2001: 317). 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 the Nationalist 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: Ice Age art: arrival of the modern mind -

¶172: Ice Age art: arrival of the modern mind.

¶173: Ban Non Wat: new light on the Metal Ages of Southeast Asia -

¶174: Origins of the civilization of Angkor, volume 4. The excavation of Ban Non Wat: Part 2: the Neolithic occupation.

¶175: Origins of the civilization of Angkor, volume 5. The excavation of Ban Non Wat: Part 3: the Bronze Age.

¶176: Origins of the civilization of Angkor, volume 6. The excavation of Ban Non Wat: Part 4: the Iron Age, summary and conclusions.

¶177: Social complexity in Iron Age and early modern West Africa -

¶178: Egalitarian revolution in the Savanna: the origins of a West African political system.

¶179: Power and landscape in Atlantic West Africa: archaeological perspectives.

¶180: Archaeology at the far edges of the eastern North American Woodlands -

¶181: Late prehistoric Florida: archaeology at the edge of the Mississippian world.

¶182: Archaeology of Minnesota: the prehistory of the Upper Mississippi River region,

¶183: Plazas, palaces and peripheries in ancient Peru -

¶184: The Huánuco Pampa Archaeological Project, Volume 1: the plaza and palace complex

¶185: Frontier life in ancient Peru: the archaeology of Cerro la Cruz.

¶186: Maya household archaeology and settlement survey, then and now -

¶187: Chan: an ancient Maya farming community.

¶188: Utatlán: the constituted community of the K'iche' Maya of Q'umarkaj.

¶189: Human adaptation in the Asian Palaeolithic: hominin dispersal and behaviour during the Late Quaternary.

¶190: Last house on the hill: BACH area reports from Çatalhöyük, Turkey

¶191: Origins of agriculture in western Central Asia.

¶192: Technologies of enchantment? Exploring Celtic art: 400 BC to AD 100.

¶193: Constantinople to Córdoba: dismantling ancient architecture in the East, North Africa and Islamic Spain.

¶194: From chiefdom to state in early Ireland.

¶195: Greenland Isotope Project: diet in Norse Greenland AD 1000–AD 1450

¶196: Being an islander: production and identity at Quoygrew, Orkney, AD 900–1600.

¶197: Making sense of an historic landscape.

¶198: Les mondes de l'océan Indien. Tome 2: l'océan Indien, au coeur des globalisations de l'Ancien Monde (7e–15e siècle).

¶199: Islands in the rainforest. Landscape management in pre-Columbian Amazonia.

¶200: A shark going inland is my chief: the island civilization of ancient Hawai'i.

¶201: ISSUE 4

¶202: Plant foods in the Upper Palaeolithic at Dolní Věstonice? Parenchyma redux

¶203: The classic image of Upper Palaeolithic hunter-gatherers in Europe envisages them hunting large mammals in largely treeless landscapes. That is partly due to the nature of the surviving archaeological evidence, and the poor preservation of plant remains at such ancient sites. As this study illustrates, however, the potential of Upper Palaeolithic sites to yield macrofossil remains of plants gathered and processed by human groups has been underestimated. Large scale flotation of charred deposits from hearths such as that reported here at Dolní Věstonice II not only provides insight into the variety of flora that may have been locally available, but also suggests that some of it was being processed and consumed as food. The ability to exploit plant foods may have been a vital component in the successful colonisation of these cold European habitats.

¶204: The depiction of the individual in prehistory: human representations in Magdalenian societies

¶205: The Magdalenian stage of the Upper Palaeolithic is renowned for its 'art', 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. Particular attention is drawn to the realistic styles of portrayal employed in some parts of the region. This, it is argued, betokens the arrival of the individual, and the regional styles illustrate the presence of separate Magdalenian territories, occupied by communities that were in contact with one another but that chose different approaches to the human form as expressions of group identity.

¶206: Early seventh-millennium AMS dates from domestic seeds in the Initial Neolithic at Franchthi Cave (Argolid, Greece)

¶207: When, and by what route, did farming first reach Europe? A terrestrial model might envisage a gradual advance around the northern fringes of the Aegean, reaching Thrace and Macedonia before

continuing southwards to Thessaly and the Peloponnese. New dates from Franchthi Cave in southern Greece, reported here, cast doubt on such a model, indicating that cereal cultivation, involving newly introduced crop species, began during the first half of the seventh millennium BC. This is earlier than in northern Greece and several centuries earlier than in Bulgaria, and suggests that farming spread to south-eastern Europe by a number of different routes, including potentially a maritime, island-hopping connection across the Aegean Sea. The results also illustrate the continuing importance of key sites such as Franchthi to our understanding of the European Neolithic transition, and the additional insights that can emerge from the application of new dating projects to these sites.

¶1208: The persistent presence of the dead: recent excavations at the hunter-gatherer cemetery at Zvejnieki (Latvia)

¶1209: The well-known Mesolithic cemeteries of Northern Europe have long been viewed as evidence of developing social complexity in those regions in the centuries immediately before the Neolithic transition. These sites also had important symbolic connotations. This study uses new and more detailed analysis of the burial practices in one of these cemeteries to argue that much more is involved than social differentiation. Repeated burial in the densely packed site of Zvejnieki entailed large-scale disturbance of earlier graves, and would have involved recurrent encounters with the remains of the ancestral dead. The intentional use of older settlement material in the grave fills may also have signified a symbolic link with the past. The specific identity of the dead is highlighted by the evidence for clay face masks and tight body wrappings in some cases.

¶1210: Tainted ores and the rise of tin bronzes in Eurasia, c. 6500 years ago

¶1211: The earliest tin bronze artefacts in Eurasia are generally believed to have appeared in the Near East in the early third millennium BC. Here we present tin bronze artefacts that occur far from the Near East, and in a significantly earlier period. Excavations at Pločnik, a Vinča culture site in Serbia, recovered a piece of tin bronze foil from an occupation layer dated to the mid fifth millennium BC. The discovery prompted a reassessment of 14 insufficiently contextualised early tin bronze artefacts from the Balkans. They too were found to derive from the smelting of copper-tin ores. These tin bronzes extend the record of bronze making by c. 1500 years, and challenge the conventional narrative of Eurasian metallurgical development.

¶1212: The origins and spread of stock-keeping: the role of cultural and environmental influences on early Neolithic animal exploitation in Europe

¶1213: It has long been recognised that the proportions of Neolithic domestic animal species—cattle, pig and sheep/goat—vary from region to region, but it has hitherto been unclear how much this variability is related to cultural practices or to environmental constraints. This study uses hundreds of faunal assemblages from across Neolithic Europe to reveal the distribution of animal use between north and south, east and west. The remarkable results present us with a geography of Neolithic animal society—from the rabbit-loving Mediterranean to the beef-eaters of the north and west. They also demonstrate that the choices made by early Neolithic herders were largely determined by their environments. Cultural links appear to have played only a minor role in the species composition of early Neolithic animal societies.

¶1214: Strategic and sporadic marine consumption at the onset of the Neolithic: increasing temporal resolution in the isotope evidence

¶215: Stable isotope analysis has provided crucial new insights into dietary change at the Neolithic transition in north-west Europe, indicating an unexpectedly sudden and radical shift from marine to terrestrial resources in coastal and island locations. Investigations of early Neolithic skeletal material from Sumburgh on Shetland, at the far-flung margins of the Neolithic world, suggest that this general pattern may mask significant subtle detail. Analysis of juvenile dentine reveals the consumption of marine foods on an occasional basis. This suggests that marine foods may have been consumed as a crucial supplementary resource in times of famine, when the newly introduced cereal crops failed to cope with the demanding climate of Shetland. This isotopic evidence is consistent with the presence of marine food debris in contemporary middens. The occasional and contingent nature of marine food consumption underlines how, even on Shetland, the shift from marine to terrestrial diet was a key element in the Neolithic transition.

¶216: The early chronology of broomcorn millet (*Panicum miliaceum*) in Europe

¶217: The majority of the early crops grown in Europe had their origins in south-west Asia, and were part of a package of domestic plants and animals that were introduced by the first farmers. Broomcorn millet, however, offers a very different narrative, being domesticated first in China, but present in Eastern Europe apparently as early as the sixth millennium BC. Might this be evidence of long-distance contact between east and west, long before there is any other evidence for such connections? Or is the existing chronology faulty in some way? 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. These showed that the millet grains were significantly younger than the contexts in which they had been found, and that the hypothesis of an early transmission of the crop from east to west could not be sustained. The importance of direct dating of crop remains such as these is underlined.

¶218: The origins of terraced field agriculture in the Caucasus: new discoveries in the Kislovodsk basin

¶219: Terraced field systems are a feature of many regions of the world and have been dated as early as 6000 cal BC in the Levant (Kuijt et al. in *Antiquity* 81 (2007: 106–18)). The discovery of agricultural terraces in the northern Caucasus, reported here, extends their distribution into a new area. Relatively low population levels in the late medieval and early modern periods have preserved several blocks of terraced fields, some of them created at the beginning of the first millennium BC, others in the mid first millennium AD. The earlier terraced fields, associated with material and settlements of the Koban culture, culminated in over-exploitation of the land and exacerbated erosion during environmental change in the mid first millennium BC. The later series of terraced fields are of different form and are associated with the settlement in the area of communities of Alans in the first millennium AD. They largely avoided the areas rendered infertile by Koban period overexploitation. The morphology and chronology of the terraced field systems are explored using a combination of aerial photography, GIS analysis and field investigations.

¶220: The earliest Buddhist shrine: excavating the birthplace of the Buddha, Lumbini (Nepal)

¶221: Key locations identified with the lives of important religious founders have often been extensively remodelled in later periods, entraining the destruction of many of the earlier remains. Recent UNESCO-sponsored work at the major Buddhist centre of Lumbini in Nepal has sought to overcome these limitations, providing direct archaeological evidence of the nature of an early Buddhist shrine and a secure chronology. The excavations revealed a sequence of early structures preceding the major rebuilding by Asoka during the third century BC. The sequence of durable brick architecture supplanting non-durable timber was foreseen by British prehistorian Stuart Piggott

when he was stationed in India over 70 years ago. Lumbini provides a rare and valuable insight into the structure and character of the earliest Buddhist shrines.

¶1222: A Late Antique Christian king from Ṣafār, southern Arabia

¶1223: Southern Arabia was an important trading partner for the Roman world but owing to geography and politics its archaeology has been less intensively studied than that of neighbouring regions. A succession of kingdoms rose and fell in the last centuries BC and first centuries AD, but in the late Roman period the dominant power was Ḥimyar, with its capital at Ṣafār. In 2008 a relief sculpture was discovered at the site depicting a crowned ruler accompanied by symbols of office. This study reviews the arguments surrounding the date of the sculpture, but more importantly throws light on the cultural and political connections that it embodies. The proposal is that it represents an Aksumite puppet-ruler of the sixth century, at a key moment in the history of the Ḥimyarite kingdom. The crowned king of Ṣafār is significant not only in itself but also in helping to delineate the cultural and political stage on to which Islam was shortly to emerge.

¶1224: Between prehistory and history: the archaeological detection of social change among the Picts

¶1225: The development of small-scale kingdoms in the post-Roman world of northwestern Europe is a key stage in the subsequent emergence of medieval states. Recent excavations at Rhynie in north-eastern Scotland have thrown important light on the emergence of one such kingdom, that of the Picts. Enclosures, sculptured 'symbol stones' and long-distance luxury imports identify Rhynie as a place of growing importance during the fifth to sixth centuries AD. Parallels can be drawn with similar processes in southern Scandinavia, where leadership combined roles of ritual and political authority. The excavations at Rhynie and the synthesis of dated Pictish enclosures illustrate the contribution that archaeology can make to the understanding of state formation processes in early medieval Europe.

¶1226: The early Swahili trade village of Tumbé, Pemba Island, Tanzania, AD 600–950

¶1227: Indian Ocean maritime networks have become a special focus of research in recent years, with emphasis not only on the economics of trade but also the movement of domesticated plants and animals (see Fuller et al. in *Antiquity* 2011: 544–58). But did such contacts inevitably lead to radical social change? Excavations at Tumbé reveal a settlement of the late first millennium AD that was heavily engaged in the traffic in exotic materials and may have been producing shell beads for export. This activity seems to have flourished within a domestic context in a village setting, however, and does not seem to have stimulated pronounced social stratification nor to have led inexorably towards urbanisation. These results demonstrate that some communities were able to establish a stable balance between the demands of the domestic economy and long-distance trade that could persist for several centuries. Activities at Tumbé should hence be viewed in their own right, not as precursors to the formation of the Swahili trading towns of the later medieval period.

¶1228: Cycles of change in Jomon settlement: a case study from eastern Tokyo Bay

¶1229: Japanese archaeology benefits from the large number of rescue excavations conducted during recent decades that have led to an unparalleled record of archaeological sites. That record is here put to use to interrogate changing settlement patterns in the north-eastern corner of Tokyo Bay during several millennia of the Jomon period (Early, Middle and Late Jomon: 7000–3220 cal BP). Jomon hunter-gatherer occupation is characterised by large numbers of settlements, some of them substantial in size, containing hundreds of individual pit-house residential units. Detailed analysis of the rank-size distribution of these settlements reveals a pattern in which periods of settlement

clumping, with few large settlements, alternate with more dispersed settlement patterns on a regular cycle of approximately 600 years. The regularity of this cycle might suggest a correlation with cycles of climatic change, such as Bond events. Closer scrutiny shows, however, that such a correlation is unconvincing and suggests that cyclical change in Jomon settlement patterns may instead be due to other factors.

¶1230: Calculating ceramic vessel volume: an assessment of methods

¶1231: 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.

¶1232: Cemetery or sacrifice? Infant burials at the Carthage Tophet: Age estimations attest to infant sacrifice at the Carthage Tophet

¶1233: The recent article on the Carthage Tophet infants by Schwartz et al. (2012) takes issue with our paper (Smith et al. 2011) that claims the Carthaginians practiced infant sacrifice. Both studies were carried out on the same sample of cremated infant remains excavated by the ASOR Punic project between 1975 and 1980 (Stager 1982). We examined the contents of 334 urns while Schwartz et al. (2012) examined the same sample plus an additional fourteen urns (N = 348). We differed, however, in our conclusions regarding the age distribution of the infants and the extent to which it supported or refuted claims that Tophet infants were sacrificed. This note explains why we think that Schwartz et al. (2012) erred in their age assessments and introduces additional evidence to show that the age distribution of the Tophet infants supports our contention of infant sacrifice.

¶1234: Cemetery or sacrifice? Infant burials at the Carthage Tophet: Phoenician bones of contention

¶1235: Even if the foundation, rise and eventual demise of Carthage and its overseas territories in the West Mediterranean occurred in much the same space and time as the glory days of Archaic, Classical and Hellenistic Greece and Rome, there is no doubt that the Phoenicians and their Punic successors (to use the conventional terms) have rarely been regarded as fully signed-up members of the ancient world. Reduced to walk-on cameos as skilled silversmiths, agricultural experts, shrewd traders or military strategists, Phoenician and Punic representations tend to be rather stereotypical (Prag 2010, with earlier bibliography), which perhaps should not come as a surprise, as nearly all these portraits have been sketched by outsiders; they certainly do not add up to a coherent ethnographic or political description.

¶1236: The death of trance: recent perspectives on San ethnographies and rock arts

¶1237: The argument that shamanism is the key that unlocks the hidden meaning of rock art continues to provoke debate over three decades after it was first proposed. In a recent article in *Antiquity* (86: 696–706), David Lewis-Williams and David Pearce defend the argument that nineteenth-century ethnographies provide evidence for a trance dance and shamanic healing that are vital to understanding southern African rock art. In this reply, Anne Solomon challenges the claim that the ethnographic evidence describes shamanism and trance healing and argues that elision of southern San (/Xam) and Kalahari San practices in a single narrative has obscured important differences. The

author suggests that there is no evidence that dances or trance states were connected with healing in /Xam society. These confusions, it is argued, undermine key aspects of the shamanistic interpretation of rock art.

¶1238: Archaeological theory: back to the future?

¶1239: Mundane objects: materiality and non-verbal communication.

¶1240: Entangled: an archaeology of the relationships between human beings and things.

¶1241: A new benchmark for Chinese archaeology -

¶1242: A companion to Chinese archaeology (

¶1243: Ancient Central China: centers and peripheries along the Yangzi River

¶1244: Anglo-Saxon migration: historical fact or mythical fiction? -

¶1245: Worlds of Arthur: facts and fictions of the Dark Ages.

¶1246: Myth and history. Ethnicity and politics in the first millennium British Isles.

¶1247: Peruvian perspectives: pottery figurines and national heritage -

¶1248: The pottery figurines of pre-Columbian Peru. Volume III: the figurines of the south coast, the highlands and the Selva

¶1249: Peru: kingdoms of the sun and moon.

¶1250: Across Atlantic ice: the origins of America's Clovis culture.

¶1251: Wadi Hammeh 27: an early Natufian settlement at Pella in Jordan.

¶1252: Les Fouilles de la Terrasse D'Hayonim (Israël) 1980–1981 et 1985–1989—sous la direction de François Valla

¶1253: The Ayl to Ras an-Naqab archaeological survey, southern Jordan 2005–2007

¶1254: Tracking the Neolithic house in Europe

¶1255: The Tripolye culture. Giant-settlements in Ukraine: formation, development and decline.

¶1256: Plant use and crop husbandry in an early Neolithic village: Vaihingen an der Enz, Baden-Württemberg

¶1257: The idea of order: the circular archetype in prehistoric Europe.

¶1258: A forged glamour: landscape, identity and material culture in the Iron Age.

¶1259: Wroxeter, the Cornovii and the urban process: final report of the Wroxeter Hinterland Project, 1994–1997. Volume 2: characterizing the city.

¶1260: Experimental archaeology and fire: the investigation of a burnt reconstruction at West Stow Anglo-Saxon village

¶1261: The archaeology of the Prussian Crusade: holy war and colonisation.

¶1262: Disease in London, 1st to 19th centuries: an illustrated guide to diagnosis



¶263: An archaeology of the cosmos: rethinking agency and religion in ancient America.

¶264: Ban Non Wat: a great site reviewed

## **Name:** Antiquity 2014 abstracts

¶1: Antiquity 2014 abstracts

¶2: ISSUE 1

¶3: A new view from La Cotte de St Brelade, Jersey

¶4: Did Neanderthal hunters drive mammoth herds over cliffs in mass kills? Excavations at La Cotte de St Brelade in the 1960s and 1970s uncovered heaps of mammoth bones, interpreted as evidence of intentional hunting drives. New study of this Middle Palaeolithic coastal site, however, indicates a very different landscape to the featureless coastal plain that was previously envisaged.

Reconsideration of the bone heaps themselves further undermines the 'mass kill' hypothesis, suggesting that these were simply the final accumulations of bone at the site, undisturbed and preserved in situ when the return to a cold climate blanketed them in wind-blown loess.

¶5: An Early Upper Palaeolithic decorated bone tubular rod from Pod Hradem Cave, Czech Republic

¶6: Personal ornaments are a notable feature of the Early Upper Palaeolithic in Europe and an important expression of modern human identity. The tubular bone rod from Pod Hradem Cave in the Czech Republic is the first example of its kind from Central Europe. 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. It illustrates the cultural links across large areas of Europe at this time, although it is unique in its specific combination of size, raw material and decorative features.

¶7: New views on old hands: the context of stencils in El Castillo and La Garma caves (Cantabria, Spain)

¶8: Hand stencils are an intriguing feature of prehistoric imagery in caves and rockshelters in several parts of the world, and the recent demonstration that the oldest of those in Western Europe date back to 37 000 years or earlier further enhances their significance. Their positioning within the painted caves of France and Spain is far from random, but responds to the shapes and fissures in the cave walls. Made under conditions of low and flickering light, the authors suggest that touch—'palpation'—as much as vision, would have driven and directed the locations chosen for these stencils. Detailed study of the images in two Cantabrian caves also allows different individuals to be distinguished, most of whom appear to have been female. Finally, the project reveals deliberate associations between the stencils and features on the cave walls.

¶9: Defining Magdalenian cultural groups in Franco-Cantabria by the formal analysis of portable artworks

¶10: The motifs, techniques and stylistic features of Upper Palaeolithic art offer enormous potential for the investigation of social and cultural interactions in south-western France and northern Spain during the later stages of the last ice age. The key regions of Aquitaine, Cantabria and the Pyrenees clearly share an overall family resemblance, but detailed analysis of horse heads on portable objects of bone, antler and stone from Magdalenian contexts reveal that particular features can be attributed to different regions at different periods. Furthermore, the patterns of interconnection are structured very differently in the Upper Magdalenian than in the Middle Magdalenian, perhaps as rising temperatures in the latter period led to territorial expansion and social realignment.

¶11: The human face and the origins of the Neolithic: the carved bone wand from Tell Qarassa North, Syria

¶12: The origins of the Neolithic in the Near East were accompanied by significant ritual and symbolic innovations. New light is thrown on the social context of these changes by the discovery of a bone wand displaying two engraved human faces from the Early Neolithic site of Tell Qarassa in Syria, dating from the late ninth millennium BC. This small bone object from a funerary layer 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.

¶13: Cultural convergence in the Neolithic of the Nile Valley: a prehistoric perspective on Egypt's place in Africa

¶14: The African origins of Egyptian civilisation lie in an important cultural horizon, the 'primary pastoral community', which emerged in both the Egyptian and Sudanese parts of the Nile Valley in the fifth millennium BC. 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. The resulting picture challenges recent studies that emphasise climate change and environmental stress as drivers of cultural adaptation in north-east Africa. It also emphasises the crucial role of funerary practices and body decoration.

¶15: Economic change after the agricultural revolution in Southeast Asia?

¶16: Three prehistoric sites in the Upper Mun River Valley of north-eastern Thailand have provided a detailed chronological succession comprising 12 occupation phases. These represent occupation spanning 2300 years, from initial settlement in the Neolithic (seventeenth century BC) through to the Iron Age, ending in the seventh century AD with the foundation of early states. The precise chronology in place in the Upper Mun River Valley makes it possible to examine changes in social organisation, technology, agriculture and demography against a background of climatic change. In this area the evidence for subsistence has been traditionally drawn from the biological remains recovered from occupation and mortuary contexts. This paper presents the results of carbon isotope analysis to identify and explain changes in subsistence over time and between sites, before comparing the results with two sites of the Sakon Nakhon Basin, located 230km to the north-east, to explore the possibility of regional differences.

¶17: Crossbows and imperial craft organisation: the bronze triggers of China's Terracotta Army

¶18: The Terracotta Army that protected the tomb of the Chinese emperor Qin Shihuang offers an evocative image of the power and organisation of the Qin armies who unified China through conquest in the third century BC. It also provides evidence for the craft production and administrative control that underpinned the Qin state. Bronze trigger mechanisms are all that remain of crossbows that once equipped certain kinds of warrior in the Terracotta Army. A metrical and spatial analysis of these triggers reveals that they were produced in batches and that these separate batches were thereafter possibly stored in an arsenal, but eventually were transported to the mausoleum to equip groups of terracotta crossbowmen in individual sectors of Pit 1. The trigger evidence for large-scale and highly organised production parallels that also documented for the manufacture of the bronze-tipped arrows and proposed for the terracotta figures themselves.

¶19: Suprahousehold consumption and community ritual at La Laguna, Mexico

¶120: Recent work at La Laguna in Central Mexico provides an excellent illustration of the way in which information from architecture, food remains, ceramic vessels and chemical signatures can be brought together to demonstrate communal feasting associated with specific structures and public spaces. Structure 12M-3 contained a range of evidence indicative of food preparation and consumption. Ritual effigy vessels depicted deities connected with food and fertility, and fire and the hearth. Taken together, the several lines of evidence indicate that Structure 12M-3 was a special building, located directly behind the main temple and devoted to the preparation and production of communal feasts that were held in the adjacent plaza. This provides new insights into community life in the urban centres of early Mesoamerica.

¶121: Immortals in a foreign land: the Kargaly diadem

¶122: Spectacular objects may carry powerful messages about cultural affinities and legitimation. Such is the case set out here for the Kargaly diadem, supposedly a headpiece, of gold and semi-precious stones buried in a pit on the southern edge of the steppe in the northern foothills of the Tianshan mountains some 2000 years ago. This was a period when the Han Empire of China was seeking to increase its hold over the western borderlands and it is in that context, and the fluctuating rivalries of local polities, that the Kargaly diadem is to be understood. Chinese iconography figures prominently on the diadem which may have been a diplomatic gift from the Han imperial court, but technological details suggest that it was produced within the western borderlands beyond China itself. The combination of Chinese and other elements testify to the fluidity of cultural interaction around the borders of the expanding Han Empire and the imitation and incorporation of symbols of power by contending local elites.

¶123: The discovery of the school of gladiators at Carnuntum, Austria

¶124: Sophisticated techniques of archaeological survey, including airborne imaging spectroscopy, electromagnetic induction and ground-penetrating radar, are opening up new horizons in the non-invasive exploration of archaeological sites. One location where they have yielded spectacular results is Carnuntum in Austria, on the south bank of the Danube, capital of the key Roman province of Pannonia. Excavations in the late nineteenth and twentieth centuries revealed many of the major elements of this extensive complex, including the legionary fortress and the civilian town or municipium. Excavation, however, is no longer the only way of recovering and recording the details of these buried structures. In 2011, a combination of non-invasive survey methods in the area to the south of the civilian town, where little was visible on the surface, led to the dramatic discovery of remains interpreted as a gladiatorial school, complete with individual cells for the gladiators and a circular training arena. The combination of techniques has led to the recording and visualisation of the buried remains in astonishing detail, and the impact of the discovery is made all the greater by the stunning reconstruction images that the project has generated.

¶125: The four horses of an Iron Age apocalypse: war-horses from the third-century weapon sacrifice at Illerup Aadal (Denmark)

¶126: The Illerup Aadal weapon sacrifice mirrors the material world of a Germanic army from c. AD 210. Apart from the personal equipment and the weaponry of more than 400 warriors, it comprises four horses. The present paper gives the first conclusive analysis of the skeletal remains of these animals, involving osteological investigation and strontium isotope analysis. The results shed new light on the character of the sacrificial ceremonies which unfolded in the aftermath of Iron Age battles; on the nature of cavalry and its significance in Iron Age warfare; and on the much debated question as to where the army of Illerup Aadal had originally come from.

¶127: From Middle Horizon cord-keeping to the rise of Inka khipus in the central Andes

¶128: Recording devices formed of knotted cords, known as khipus, are a well-known feature of imperial administration among the Inka of Andean South America. The origins and antecedents of this recording system are, however, much less clearly documented. Important insights into that ancestry are offered by a group of eight khipus dating from the later part of the Middle Horizon period (AD 600–1000), probably used by the pre-Inka Wari culture of the central Andes. This article reports the AMS dating of four of these early khipus. A feature of the Middle Horizon khipus is the clustering of knots in groups of five, suggesting that they were produced by a people with a base five number system. Later, Inka khipus were organised instead around a decimal place-value system. Hence the Inka appear to have encountered the base five khipus among Wari descendant communities late in the Middle Horizon or early in the Late Intermediate period (AD 1000–1450), subsequently adapting them to a decimal system.

¶129: Fortified settlements and the settlement system in the Northern Zone of the Han Empire

¶130: How far are settlement patterns affected by imperial systems of administration and control? The prototype city state consisted perhaps only of the population centre and its surrounding hinterland, but large territorial states, and still more empires, required complex systems of government and defence. Historical sources tell of the Chinese imperial system of ‘commanderies’ or provinces, and ‘county seats’ or subordinate centres, but this may conceal a range of local variations and development histories that only detailed archaeological survey can reveal. In this study, devoted to the Northern Zone of the Han Empire close to its border with the troublesome Xiongnu, a four-fold hierarchy of walled settlements is presented which varies in its character, origins and development even within this single zone. Many of its special features can be attributed to the pressures and insecurities of the border setting, and are the direct result of Han imperial planning.

¶131: Making time work: sampling floodplain artefact frequencies and populations

¶132: The expansion of large-scale excavation in Britain and parts of Continental Europe, funded by major development projects, has generated extensive new datasets. But what might we be losing when surfaces are routinely stripped by machines? Investigation by hand of ploughsoils and buried soils in the Fenlands of eastern England reveals high densities of artefacts and features that would often be destroyed or overlooked. These investigations throw new light on the concept of site sequences where features cut into underlying ground may give only a limited and misleading indication of the pattern and timing of prehistoric occupation. The consequential loss of data has a particular impact on estimates of settlement density and population numbers, which may have been much higher than many current estimates envisage.

¶133: Imaginary creatures in Palaeolithic art: prehistoric dreams or prehistorians' dreams?

¶134: In the course of research currently being carried out at Santimamine (Bizkaia, Spain) (González Sainz & Idarraga 2010) and Altxerri (Gipuzkoa, Spain) 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. Despite their rarity—fewer than 50 are known in Palaeolithic parietal art—they have been the subject of debate and controversy since the first of them were discovered.

¶135: Bronze Age catastrophe and modern controversy: dating the Santorini eruption

¶136: The date of the volcanic eruption of Santorini that caused extensive damage to Minoan Crete has been controversial since the 1980s. Some have placed the event in the late seventeenth century BC. Others have made the case for a younger date of around 1500 BC. A recent contribution to that controversy has been the dating of an olive tree branch preserved within the volcanic ash fall on Santorini. 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.

¶137: The olive branch chronology stands irrespective of tree-ring counting

¶138: 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.

¶139: Radiocarbon and the date of the Thera eruption

¶140: 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 from the site of Akrotiri 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. Furthermore, no proof could be produced that this branch was alive during the eruption. The olive leaves found in an underlying horizon had no connection to the branch and could have been preserved in dry ground like this for ages before the eruption occurred. The remains of the branch were not found in a tight-fitting context but in a much larger cavity and it seems that the outer part of the branch, including the bark edge (waney edge)—contrary to the assertions of Friedrich et al. (2006)—are missing. 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.

¶141: The Thera olive branch, Akrotiri (Thera) and Palaikastro (Crete): comparing radiocarbon results of the Santorini eruption

¶142: An olive branch is traditionally a symbol of peace, but not necessarily in the context of chronological problems in the Eastern Mediterranean region and the Near East during the second millennium BC. Cherubini et al. (above) strongly attack the radiocarbon dating by Friedrich et al. (2006) of an ancient olive branch, buried by volcanic tephra during the Minoan Santorini eruption. The criticism stems from their investigation of growth rings in modern olive trees on Santorini. The authors attempt with additional arguments, beyond their botanical investigation, to defend the traditional low chronology of the Santorini eruption of around 1500 BC. However, they ignore other

crucial publications with radiocarbon dates concerning the Santorini eruption. In this response, we evaluate and negate their main arguments, and present our own conclusions.

¶143: The difficulties of dating olive wood

¶144: Olive wood is difficult to date for a variety of reasons, the most important of which is that one cannot tell visually what is an annual growth increment (usually referred to as a 'ring') and what is a sub-annual growth flush of which there may be any number in one growing season. (I have been able to count a dozen or more flushes in olive wood where the end of the growing season was somewhat more clearly marked than usual.) If one cannot determine the ring boundaries with certainty, one cannot do tree-ring dating, period. For Egyptologists reading this note, acacia is just as bad, and for the same reason. For 25 years I had a couple of sections of olive wood in my dendrochronology lab. Every term I would challenge students to tell me how many rings there were on them. No two students ever came up with the same answer and neither could I. An inspection of two different radii on the same piece also yielded widely varying results. (A side issue, not relevant here, is that the size of the ring in an olive tree does not necessarily reflect climatic conditions but rather the energies of the farmer or gardener who brings water to it. Thus olive is useless for purely dendrochronological cross-dating purposes.

¶145: A disastrous date

¶146: Paolo Cherubini and colleagues have demonstrated convincingly that the identification of olive wood tree-rings from Santorini is 'practically impossible'. Thus, the single piece of evidence that might have persuaded some archaeologists to support the 'high' 1613±13 BC date for the Thera eruption is hors de combat. The Thera olive-tree branch has gone the way of the Greenland Ice Core results of similar date and which enjoyed a similar devoted following until shown to be from a different eruption. Taken with Malcolm Wiener's explicit exposé of the myriad shortcomings of 14C dating, especially for this time period and event, these results take us back to where we were before the 'radiocarbon revolution', when the largest Holocene eruption in the ancient world happened as Minoan Crete enjoyed wideranging influence, perhaps even control, over the Aegean, when Late Minoan IA pottery styles proliferated, and Egypt was in the early stages of its New Kingdom period (Wiener 2012, 2013).

¶147: The olive tree-ring problematic dating

¶148: We are glad to see that our paper has stimulated a lively debate, and we acknowledge the appreciation of our work by Bietak, Kuniholm and MacGillivray as well as that of those who oppose our hypothesis (Bruins & van der Plicht, Friedrich et al., all above). The enigma of the dating of the Santorini eruption is a long-lasting one, and because of its bearing on the dating of several eastern Mediterranean civilisations, has attracted significant attention. The potentially great importance of the Santorini olive branch used by Friedrich et al. (2006) was that it came from the site itself, and possibly belonged to the destruction layer. As such, the sincere and serious attempt to date it made by Friedrich et al. (2006) should be appreciated. Unfortunately, large olive branches may exist as dead limbs for a very long time and thus represent earlier periods.

¶149: Vikings go multi-media

¶150: The temporary exhibition 'Viking' was on show at the National Museum of Denmark in Copenhagen from 22 June–17 November 2013, and will be on display in London from March–June 2014 and Berlin from September 2014–January 2015. The exhibition is accompanied by a catalogue, titled *Viking*, edited by Gareth Williams, Peter Pentz & Matthias Wemhoff.

- ¶151: Maritime archaeology galore -
- ¶152: Marine archaeology: a handbook
- ¶153: People and the sea: a maritime archaeological research agenda for England.
- ¶154: Beyond the horizon: societies of the Channel and North Sea 3500 years ago.
- ¶155: The archaeology of watercraft abandonment.
- ¶156: Landscapes of tells in the Near East and beyond -
- ¶157: Tell Hamoukar, volume 1. Urbanism and cultural landscapes in northeastern Syria: the Tell Hamoukar survey, 1999–2001
- ¶158: Ebla and its landscape: early state formation in the ancient Near East.
- ¶159: Tells: social and environmental space. Proceedings of the international workshop “Socio-environmental dynamics over the last 12,000 years: the creation of landscapes II (14th–18th March 2011)” in Kiel. V
- ¶160: Villages and cities in early Europe -
- ¶161: “Fürstensitze” und Zentralorte der frühen Kelten. Abschlusskolloquium des DFG-Schwerpunktprogramms 1171 in Stuttgart, 12.–15. Oktober 2009. 8
- ¶162: Die Frage der Protourbanisation in der Eisenzeit/La question de la proto-urbanisation à l'âge du Fer.
- ¶163: Les premières villes de Gaule: le temps des oppida.
- ¶164: Aldeas y ciudades en el primer milenio a.C.: la Meseta Norte y los orígenes del urbanismo
- ¶165: Politics and power among the Maya -
- ¶166: Politics of the Maya court: hierarchy and change in the Late Classic period.
- ¶167: Ancient Maya political dynamics.
- ¶168: Maya architecture: temples in the sky.
- ¶169: Royal cities of the ancient Maya.
- ¶170: Reassessing Paleolithic subsistence: the Neandertal and modern human foragers of Saint-Césaire.
- ¶171: Neandertal lithic industries at La Quina.
- ¶172: Das Mesolithikum-Projekt Ullafelsen (Teil 1). Mensch und Umwelt im Holozän Tirols (Band 1).
- ¶173: Gobero: the no-return frontier. Archaeology and landscape at the Saharo-Sahelian borderland
- ¶174: The city of Akhenaten and Nefertiti: Amarna and its people.
- ¶175: The archaeology of Cyprus: from earliest prehistory through the Bronze Age
- ¶176: Empire, authority, and autonomy in Achaemenid Anatolia.
- ¶177: Il luogo di culto di Monte Papalucio ad Oria. La fase arcaica



¶178: Carthage, colline de l'Odéon: maisons de la rotonde et du cryptoportique. Recherches 1987–2000. Volume 1: l'architecture et son décor

¶179: Persia's imperial power in Late Antiquity: the Great Wall of Gorgan and the frontier landscapes of Sasanian Iran

¶180: Les établissements des élites omeyyades en Palmyrène et au Proche-Orient

¶181: Cairns, fields, and cultivation: archaeological landscapes of the Lake District uplands.

¶182: The Merovingian cemetery of Bergeijk-Fazantlaan

¶183: Les gisements précolombiens de la Baie Orientale. Campements du Mésoindien et du Néoindien sur l'île de Saint-Martin

¶184: ISSUE 2

¶185: A recipe for disaster: emerging urbanism and unsustainable plant economies at Early Bronze Age Ras an-Numayra, Jordan

¶186: The intensification of agriculture as farming communities grew in size did not always produce a successful and sustainable economic base. At Ras an-Numayra on the Dead Sea Plain, a small farming community of the late fourth millennium BC developed a specialised plant economy dependent on cereals, grapes and flax. Irrigation in this arid environment led to increased soil salinity while recurrent cultivation of flax may have introduced the fungal pathogen responsible for flax wilt. Faced with declining yields, the farmers may have further intensified their irrigation and cultivation schedules, only to exacerbate the underlying problems. Thus specialised crop production increased both agricultural risk and vulnerability to catastrophe, and Ras an-Numayra, unlike other sites in the region, was abandoned after a relatively short occupation.

¶187: Catacomb culture wagons of the Eurasian steppes

¶188: The origin and development of wheeled vehicles continues to fascinate today no less than when Stuart Piggott (1974) first wrote about the subject in *Antiquity* 40 years ago. A growing number of examples from the steppes of southern Russia and Ukraine are providing new insights into the design and construction of these complex artefacts. A recent example from the Ulan IV burial mound illustrates the techniques employed and the mastery of materials, with careful selection of the kinds of wood used for the wheels, axles and other elements. Stable isotope analysis of the individual interred in this grave showed that he had travelled widely, emphasising the mobility of steppe populations.

¶189: The La Bastida fortification: new light and new questions on Early Bronze Age societies in the western Mediterranean

¶190: Recent excavations at La Bastida in south-eastern Spain have revealed an impressive stone-built fortification system dating to 2200–2100 cal BC that protected one of the main economic and political centres of Argaric Early Bronze Age society. It consists of parallel walls with projecting towers flanking a narrow entrance passage. The defensive character of these structures appears beyond question and their design suggests they were a response to significant changes in warfare and weaponry in this period. This sophisticated fortification system raises once again the question of possible Mediterranean contacts, along with social change and the role of physical violence in the rise of Argaric society.

¶191: Re-examining stone 'wrist-guards' as evidence for falconry in later prehistoric Britain

¶192: The polished stone objects known as 'wrist-guards' found in Early Bronze Age graves in Britain and Continental Europe have proved difficult to interpret. Are they connected with archery, as has long been supposed, or were they instead associated with falconry? Using trained birds of prey for hunting is an elite practice in many historical and ethnographic contexts, and would be consistent with the appearance of exotic materials in these graves. Detailed consideration of the wrist-guards and associated objects from a falconer's perspective, however, demonstrates that the argument is unconvincing.

¶193: A potter's workshop from Middle Bronze Age Cyprus: new light on production context, scale and variability

¶194: When fire swept through a workshop at Ambelikou Aletri on Cyprus in the nineteenth or twentieth century BC it brought a sudden halt to pottery production, leaving the latest batch of recently fired vessels. The remains of the kiln and its immediate surroundings provide a rare opportunity to gain direct insight into the technology and organisation of a Middle Bronze Age pottery workshop in the eastern Mediterranean. Analysis of the batch of cutaway-mouthed jugs adjacent to the kiln reveals a level of standardisation focused more on vessel shape than capacity, and shows that at a detailed level, no two jugs were alike. This pottery production site provides vital background for the study of contemporary pottery assemblages on Cyprus and elsewhere in the broader region.

¶195: Tracking the social lives of things: biographical insights into Bronze Age pottery in Spain

¶196: Pottery has sometimes been compared to a living organism in its cycle of birth, life and death or discard. A biographical approach to an unusual assemblage of pottery from the Late Bronze Age site of Pico Castro in central Spain suggests that they had been used together at a communal feast. The shared social memory that they acquired thereby conferred on them a special status that resulted in their eventual placement in the pit, fine wares and coarse wares together. Thus the varied biographies of the individual vessels—and the individual sherds—eventually converged not only in their discard but in the episodes that preceded it.

¶197: 'Gifts for the gods': lake-dwellers' macabre remedies against floods in the Central European Bronze Age

¶198: The lake-dwellings of the Circum-Alpine region have long been a rich source of detailed information about daily life in Bronze Age Europe, but their location made them vulnerable to changes in climate and lake level. At several Late Bronze Age examples, skulls of children were found at the edge of the lake settlement, close to the encircling palisade. Several of the children had suffered violent deaths, through blows to the head from axes or blunt instruments. They do not appear to have been human sacrifices, but the skulls may nonetheless have been offerings to the gods by communities faced with the threat of environmental change.

¶199: Tracking ancient beach-lines inland: 2600-year-old dentate-stamped ceramics at Hopo, Vailala River region, Papua New Guinea

¶100: The Lapita expansion took Austronesian seafaring peoples with distinctive pottery eastward from the Bismarck Archipelago to western Polynesia during the late second millennium BC, marking the first stage in the settlement of Oceania. Here it is shown that a parallel process also carried Lapita pottery and people many hundreds of kilometres westward along the southern shore of Papua New Guinea. The key site is Hopo, now 4.5km inland owing to the progradation of coastal sand dunes, but originally on the sea edge. Pottery and radiocarbon dates indicate Lapita settlement

in this location c. 600 BC, and suggest that the long-distance maritime networks linking the entire southern coast of Papua New Guinea in historical times may trace their origin to this period.

¶101: The earliest dental prosthesis in Celtic Gaul? The case of an Iron Age burial at Le Chêne, France

¶102: The discovery of an iron pin in place of an upper incisor tooth from a La Tène burial at Le Chêne in northern France may represent one of the earliest examples of a dental implant in Western Europe. The body was that of a young woman who had been buried in a richly furnished timber chamber. The iron pin may have been inserted during life to replace a lost tooth, or before burial to restore the visual integrity of the corpse. The concept of the dental prosthesis may have been taken from the Etruscans by returning Celtic mercenaries, although dental implants of this specific kind have not been found in Etruscan contexts.

¶103: Wroxeter and the end of Roman Britain

¶104: When and how did urban life in Roman Britain end? The excavations conducted by Philip Barker at Wroxeter from 1966–1990 produced evidence suggesting a post-Roman phase of urban activity that continued into the sixth or seventh century AD, up to 200 years beyond the traditionally accepted chronology. Careful re-examination of the evidence, however, throws doubt on these claims. More recent work on Late Roman Britain coupled with new discoveries in Wales and the west challenges the evidence for the post-Roman survival of Wroxeter as an urban centre and suggests that it may have been largely abandoned, along with other Roman towns, in the late fourth or early fifth century AD.

¶105: Fish for the city: meta-analysis of archaeological cod remains and the growth of London's northern trade

¶106: The growth of medieval cities in Northern Europe placed new demands on food supply, and led to the import of fish from increasingly distant fishing grounds. 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. In particular it identifies a marked increase in imported cod from the thirteenth century AD. That trend continued into the fifteenth and sixteenth centuries, after a short downturn, perhaps attributable to the impact of the Black Death, in the mid fourteenth century. The detailed pattern of fluctuating abundance illustrates the potential of archaeological information that is now available from the high-quality urban excavations conducted in London and similar centres during recent decades.

¶107: The chronology and collapse of pre-Aztec raised field (chinampa) agriculture in the northern Basin of Mexico

¶108: Raised field agriculture in the Basin of Mexico was a highly sustainable farming method that did not depend upon centralised political control. Study of the chinampa system around the Early and Middle Postclassic city of Xaltocan through a combination of remote sensing, GIS, targeted excavation and AMS dating has revealed an extensive area of raised fields that was abandoned when Xaltocan was conquered by an alliance of powerful neighbours during the fourteenth century AD. The rise and abandonment of the chinampa system were thus directly linked to the political economy of the city-state. The failure to revive the raised field systems in the following Aztec period can also be attributed to the impact of political, economic and ecological factors.

¶109: The hidden paintings of Angkor Wat

¶110: The temple of Angkor Wat in Cambodia is one of the most famous monuments in the world and is noted for its spectacular bas-relief friezes depicting ceremonial and religious scenes. Recent work reported here has identified an entirely new series of images consisting of paintings of boats, animals, deities and buildings. Difficult to see with the naked eye, these can be enhanced by digital photography and decorrelation stretch analysis, a technique recently used with great success in rock art studies. 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 Vishnavite Hindu use to Theravada Buddhist.

¶111: Prehistory by Bayesian phylogenetics? The state of the art on Indo-European origins

¶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.

¶113: Geophysical survey at Late Bronze Age fortresses: comparing methods in the diverse geological contexts of Armenia

¶114: Geophysical techniques now available to archaeology have the potential to provide large-scale survey data that can map the buried structures of extensive and complex sites. Recent work at two Late Bronze Age hilltop fortresses in the mountainous volcanic terrain of Armenia provides an excellent illustration of their potential. Magnetometry revealed an unknown residential complex at Tsaghkahovit. Across the plain at Gegharot, where magnetometry was less successful, ground-penetrating radar identified terracing extending down the western slope of the hill below the fortress, greatly increasing the size of the occupied area. Combined with targeted excavations, these geophysical approaches are providing novel insights into the unusual political relations between fortress-based sovereigns and mobile subjects in central Armenia.

¶115: New applications of photogrammetry and reflectance transformation imaging to an Easter Island statue

¶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. Here, two different techniques are applied to the impressive Easter Island statue on display in the Wellcome Gallery at the British Museum. Of particular importance are the details revealed of the petroglyphs that decorate its surface.

¶117: The origins of the first settlers in the Americas

¶118: The recent proposal that North America was first settled by Upper Palaeolithic people from Europe who crossed the Atlantic along the edge of the Arctic ice sheet has generated considerable controversy. Here Michael O'Brien and colleagues challenge the evidence that has been presented in support of that hypothesis. There follows a response by Dennis Stanford and Bruce Bradley, and a closing reply from O'Brien et al.

¶1119: On thin ice: problems with Stanford and Bradley's proposed Solutrean colonisation of North America

¶1120: Across Atlantic ice: the origin of America's Clovis culture (Stanford & Bradley 2012) is the latest iteration of a controversial proposal that North America was first colonised by people from Europe rather than from East Asia, as most researchers accept. The authors, Dennis Stanford and Bruce Bradley, argue that Solutrean groups from southern France and the Iberian Peninsula used watercraft to make their way across the North Atlantic and into North America during the Last Glacial Maximum (LGM). According to Stanford and Bradley, this 6000km journey was facilitated by a continuous ice shelf that provided fresh water and a food supply. Across Atlantic ice has received a number of positive reviews. Shea (2012: 294), for example, suggests that it is “an excellent example of hypothesis-building in the best tradition of processual archaeology. It challenges American archaeology in a way that will require serious research by its opponents”. Runnels (2012) is equally enthusiastic.

¶1121: Reply to O'Brien et al.

¶1122: Across Atlantic ice (AAI) sets out specifically to propose an alternative hypothesis of early human entry into the Americas and to stimulate research (Stanford & Bradley 2012: 16). O'Brien et al.'s response (above) primarily contains an unsupported dismissal of the evidence and these ideas. Unfortunately, to date, no work equivalent to AAI has been presented for any other Clovis origin hypothesis; this would be most welcome, especially from those who critique and reject the Solutrean hypothesis with unsupported assertions.

¶1123: For convenience we respond to each of O'Brien et al.'s critiques in the order in which they appear.

¶1124: Solutreanism

¶1125: The comments of Stanford and Bradley (above) do not address our criticisms and obfuscate the topic at hand with irrelevant data (e.g. the south-to-north movement of fluted points through the Ice Free Corridor), nonexistent data (e.g. ‘under the water’ or ‘destroyed sites’), and questionable data (e.g. Meadowcroft and Cactus Hill are by no means widely accepted, nor are Stanford and Bradley's ‘eight LGM sites’ in the mid-Atlantic region). Before touching on some of these points, we direct the reader to several recent articles (e.g. Morrow 2014; Raff & Bolnick 2014) that provide new evidence or arguments inconsistent with a trans-Atlantic migration, including the fact that DNA from the Clovis Anzick child (Montana) shows no European ancestry (Rasmussen et al. 2014). Although Stanford and Bradley describe their Solutrean ‘solution’ (Stanford & Bradley 1999) to the Pleistocene colonisation of North America as ‘testable’, their position is that the idea is correct until falsified. They propose that their colleagues have yet to provide sufficient ‘critiques’ or ‘challenges’ to discount it (see also Collins 2012; Collins et al. 2013). Yet they are the ones proposing a hypothesis inconsistent with overwhelming multidisciplinary evidence, and they ignore results of tests that do not support their claims.

¶1126: Is there something missing in scientific provenance studies of prehistoric artefacts?

¶1127: Determination of the provenance of material culture by means of chemical analysis has a long and distinguished history in archaeology. The chemical analysis of archaeological objects started in the intellectual ferment of late-eighteenth-century Europe (Caley 1948, 1949, 1967; Pollard 2013), almost as soon as systematic (gravimetric) means of chemical analysis had been devised (Pollard in prep.). Many of the leading scientists of the day, such as Vauquelin, Klaproth, Davy, Faraday and

Berzelius, carried out analyses of archaeological objects as part of their interests in the contents of the 'cabinets of curiosities' of the day (Pollard&Heron 2008). The subject moved from mere curiosity to systematic and problemorientated study with the work of Göbel (1842), Wocel (1854), Damour (1865) and Helm (1886), who essentially formulated the idea of 'provenance studies'—that some chemical characteristic of the geological rawmaterial(s) provides a 'fingerprint' which can be measured in the finished object, and that if an object from a remote source is identified at a particular place, then it is evidence of some sort of direct or indirect contact and 'trade' between the two places.

¶128: The changing careers of Vere Gordon Childe

¶129: It was Antiquity (Daniel 1980) that revealed details of the death of "the greatest prehistorian in Britain, and probably in the world" (Piggott 1958: 312), the Australian Vere Gordon Childe (1892–1957). Antiquity would later note what is still the over-modest marker of his final resting place (Barton 2000). And it was Antiquity that published Childe's 'Retrospect' in which he summarised his archaeological career, noting that it began at Oxford, and started again in 1922 "after a sentimental excursion into Australian politics" (Childe 1958: 69). In this article it is suggested that this was far more than an excursion; that through force of circumstance he abandoned a potentially high-flying archaeological trajectory and embarked on an equally high-flying replacement career in politics; only further force of circumstances brought him back to archaeology.

¶130: Near Eastern archaeology and the Arab Spring: avoiding the ostrich effect

¶131: As an American archaeologist who has worked in Syria, living in a rural village in Raqqa Province off and on for decades, I am frequently asked: did you see it coming? Were there early signs of the Arab Spring and the Syrian civil war? The answer is both yes and no. In retrospect, the signs were there, but foreign archaeologists did not always identify them. More often we simply chose to ignore them. Regardless, we have come to many important realisations. Foremost, Near Eastern archaeology has reached a major turning point, which raises a more pressing question: what now? 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: New era for Stonehenge

¶133: Provision for visiting Stonehenge was radically reorganised in 2013. Why was it so difficult to achieve? Will the new scheme work? Here we present a multi-part review of the new arrangements. Christopher Chippindale is a former editor of Antiquity and author of Stonehenge complete, which recounts the changing fortunes of the monument down the ages. Mike Pitts has excavated at Stonehenge and written about the site in Hengeworld. Chris Gosden, Professor of European Archaeology at Oxford, approaches the issues from a World Heritage Site perspective. The section is co-ordinated by N. James who reviews the effectiveness of a visitor centre several minutes by land train from the stones.

¶134: Tracking prehistoric migrations -

¶135: First migrants: ancient migration in global perspective.

¶136: Ancestral journeys: the peopling of Europe from the first venturers to the Vikings.

- ¶137: A milestone in medieval urban archaeology -
- ¶138: Perth High Street: archaeological excavation 1975–77. Fascicule 1: the excavations at 75–95 High Street and 5–10 Mill Street, Perth.
- ¶139: Perth High Street: archaeological excavation 1975–77. Fascicule 2: the ceramics, the metalwork and the wood.
- ¶140: Perth High Street: archaeological excavation 1975–77. Fascicule 3: the textiles and the leather.
- ¶141: Perth High Street: archaeological excavation 1975–77. Fascicule 4: living and working in a medieval Scottish burgh. Environmental remains and miscellaneous finds.
- ¶142: Cultural heritage management: power, values and identity -
- ¶143: US cultural diplomacy and archaeology. Soft power, hard heritage.
- ¶144: Heritage management, tourism, and governance in China.
- ¶145: UNESCO, cultural heritage and Outstanding Universal Value. Value-based analyses of the World Heritage and Intangible Cultural Heritage Conventions.
- ¶146: The Oxford handbook of the archaeology of death and burial.
- ¶147: Wadi Sura: the Cave of Beasts. A rock art site in the Gilf Kebir (SW-Egypt)
- ¶148: Le Capsien de Hergla (Tunisie): culture, environnement et économie
- ¶149: Archaeographies: excavating Neolithic Dispilio.
- ¶150: The Oxford handbook of the European Bronze Age.
- ¶151: Cities and citadels in Turkey: from the Iron Age to the Seljuks
- ¶152: Mediterranean islands, fragile communities and persistent landscapes: Antikythera in long-term perspective.
- ¶153: Anglo-Saxon graves and grave goods of the 6th and 7th centuries AD: a chronological framework
- ¶154: Deer Park Farms: the excavation of a raised rath in the Glenarm Valley, Co. Antrim
- ¶155: Late Antique Arabia. Ḥimyar, capital of Ḥimyar: rehabilitation of a 'decadent' society. Excavations of the Ruprecht-Karls-Universität Heidelberg 1998–2010 in the highlands of Yemen.
- ¶156: Mantai: city by the sea.
- ¶157: The Augustinian nunnery of St Mary Clerkenwell, London
- ¶158: The spectacle of the late Maya court: reflections on the murals of Bonampak.
- ¶159: The archaeology of Australia's deserts.
- ¶160: Crete, Cyprus, Cilicia and Corinthia -
- ¶161: Living on the margin: Chryssi Island and the settlement patterns of the Ierapetra area
- ¶162: Crossroads and boundaries: the archaeology of past and present in the Malloura valley, Cyprus

¶163: Rough Cilicia: new historical and archaeological approaches.

¶164: The Corinthia and the northeast Peloponnese: topography and history from prehistoric times until the end of Antiquity

¶165: Albania and France -

¶166: Light and shadow: isolation and interaction in the Shala valley of northern Albania

¶167: Cipières: community and landscape in the Alpes-Maritimes, France.

¶168: Mediterranean metaphors -

¶169: Space and time in Mediterranean prehistory.

¶170: The Hellenistic West: rethinking the ancient Mediterranean.

¶171: The archaeology of Mediterranean landscapes: human-environment interaction from the Neolithic to the Roman period.

¶172: ISSUE 3

¶173: New research at Riņņukalns, a Neolithic freshwater shell midden in northern Latvia

¶174: The prehistoric shell middens of Atlantic Europe consist of marine molluscs, but the eastern Baltic did not have exploitable marine species. Here the sole recorded shell midden, at Riņņukalns in Latvia, is on an inland lake and is formed of massive dumps of freshwater shells. Recent excavations indicate that they are the product of a small number of seasonal events during the later fourth millennium BC. The thickness of the shell deposits suggests that this was a special multi-purpose residential site visited for seasonal aggregations by pottery-using hunter-gatherer communities on the northern margin of Neolithic Europe.

¶175: Parchmarks at Stonehenge, July 2013

¶176: Despite being one of the most intensively explored prehistoric monuments in western Europe, Stonehenge continues to hold surprises. The principal elements of the complex are well known: the outer bank and ditch, the sarsen circle capped by lintels, the smaller bluestone settings and the massive central trilithons. They represent the final phase of Stonehenge, the end product of a complicated sequence that is steadily being refined (most recently in Darvill et al. 'Stonehenge remodelled', *Antiquity* 86 (2012): 1021–40). Yet Stonehenge in its present form is incomplete—some of the expected stones are missing—and it has sometimes been suggested that it was never complete; that the sarsen circle, for example, was only ever finished on the north-eastern side, facing the main approach along the Avenue. A chance appearance of parchmarks, however, provides more evidence.

¶177: Neolithic foundations in the Karama valley, West Sulawesi, Indonesia

¶178: Excavations at three open-air sites in the Karama valley of West Sulawesi have revealed similar suites of ceramics and overlapping chronologies. The pottery from the basal layers at Minanga Sipakko and Kamassi resembles that of the Philippines and Taiwan, and suggests the settlement of migrants from those areas, consistent with the theory of Austronesian expansion. The absence of the flaked lithic technology typical of earlier Sulawesi populations indicates that these two sites do not represent the indigenous adoption of Neolithic features. The Karama valley evidence underlines the importance, in the quest for the earliest farmers, of research at open-air sites close to



agriculturally suitable land, while indigenous populations may have continued for some time to occupy remote caves and rockshelters.

¶179: Highland fortress-polities and their settlement systems in the southern Caucasus

¶180: Recent survey work in western Azerbaijan has revealed that hilltop fortresses of the Bronze Age and Iron Age may have been parts of larger walled complexes and could have functioned as the urban centres of small independent polities. On the Şərur Plain long lengths of stone wall link the major fortress Oğlanqala to its smaller neighbour Qızqala 1, with evidence of a substantial settlement on the lower ground between the two. The southern Caucasus lies beyond the core area of Near Eastern states but these new discoveries suggest that major centres of power arose here, controlling both the fertile plains and strategic trade routes through mountainous terrain.

¶181: The socioeconomic status of Iron Age metalworkers: animal economy in the 'Slaves' Hill', Timna, Israel

¶182: The popular image of metalworking sites in desert settings envisages armies of slaves engaged in back-breaking labour. This is in conflict with ethnographic evidence indicating that skilled specialist metalworkers are often accorded high social status. This study approaches that contradiction directly by studying the remains of domesticated food animals from domestic and industrial contexts at Timna in southern Israel. The authors demonstrate that the higher-value meat cuts come from industrial contexts, where they were associated with the specialist metalworkers, rather than the 'domestic' contexts occupied by lower status workers engaged in support roles. It is suggested that the pattern documented here could also have been a feature of early metalworking sites in other times and places.

¶183: The Hasanlu (Iran) Gold Bowl in context: all that glitters...

¶184: The discovery of a crushed golden bowl in the remains of the Iron Age citadel of Hasanlu in 1958 attracted considerable media attention at the time. The circumstances of its loss have long remained unclear, but were clearly associated with the violent destruction of the site in c. 800 BC. Detailed review of the find context and the skeletons found nearby now suggests that the bowl was being looted during the sack of the citadel by Urartian soldiers from an upper room where weapons, armour and fine metal vessels were stored. The enemy soldiers carrying off the Gold Bowl died in the attempt when the upper floors of the building collapsed, plunging them to their deaths.

¶185: Identifying ceramic production and exchange in the Valley of Puebla, Mexico: a multifaceted approach

¶186: Pottery production in Formative Period Mesoamerica appears to have been organised at the household level, but its distribution also provides evidence of political or economic boundaries. One distinctive ware from the Valley of Puebla, Tlaquexpa Red, used for the manufacture of sub-hemispherical bowls, was analysed by instrumental neutron activation analysis. The results indicated that many of these vessels were being made by families at Tlaquexpa itself, but that some of their products were being traded to other communities, including the nearby civic-ceremonial centre of Xochiltengo. The study gives new insight into the role of pottery production in pre-Hispanic households.

¶187: From the Iron Age to Angkor: new light on the origins of a state

¶188: Excavations at four Iron Age moated sites in the Mun Valley in Thailand have identified seminal innovations, defined as emergent properties, that illuminate the origins of the kingdom of Angkor.

Combined with recent research at Angkor itself, they present a compelling case for re-examining fundamental cultural changes that took place over a period of little more than four centuries, from AD 400–800. They compare with similarly rapid developments in Mesoamerica and Mesopotamia; fundamental parallels are evident in the role of charismatic agents for change, an ideology conferring god-like status on leaders, a new and highly productive economic base, an expanded interaction sphere for the exchange of prestige goods, and endemic warfare.

¶189: The centre of their life-world: the archaeology of experience at the Middle Yayoi cemetery of Tateiwa-Hotta, Japan

¶190: Social analysis of cemeteries has traditionally viewed them as static images of social organisation. In this study of the Middle Yayoi jar-burial cemetery of Tateiwa-Hotta, however, the dynamic interrelationship between competing groups and successive generations can be discerned. Two initial burials proved to be foundational acts, followed by over 40 further burials spread over a series of generations. Differences in grave orientation and grave goods signalled the separate identities of the adjacent hamlets that came to bury their lineage leaders in this prominent location. Competition between lineages is indicated by externally acquired grave goods, including prestigious bronze mirrors from the Han commandery of Lelang in Korea, and by the varying styles of burial jar that illustrate and symbolise connections or alliances with other communities.

¶191: Transformations in ritual practice and social interaction on the Tiwanaku periphery

¶192: Ritual practices and their associated material paraphernalia played a key role in extending the reach and ideological impact of early states. The discovery of a leather bag containing snuffing tablets and traces of psychoactive substances at Cueva del Chileno in the southern Andes testifies to the adoption of Tiwanaku practices by emergent local elites. Tiwanaku control spread over the whole of the south-central Andes during the Middle Horizon (AD 500–1100) but by the end of the period it had begun to fragment into a series of smaller polities. The bag had been buried by an emergent local elite who chose at this time to relinquish the former Tiwanaku ritual practices that its contents represent.

¶193: Biała Góra: the forgotten colony in the medieval Pomeranian-Prussian borderlands

¶194: Biała Góra 3 is a small settlement founded in the late twelfth or early thirteenth century AD in the disputed Christian borderlands of Northern Europe. The incorporation of Pomerania into the Polish state in the tenth century was followed by a process of colonisation across the lower Vistula valley, which then stalled before resuming in the thirteenth century under the Teutonic Order. Biała Góra 3 is unusual in falling between the two expansionist phases and provides detailed insight into the ethnicity and economy of this borderland community. Pottery and metalwork show strong links with both Pomeranian and German colonists, and caches of bricks and roof tiles indicate durable buildings of the kind associated with the monastic and military orders. Evidence for the presence of merchants suggests Biała Góra 3 was one of many outposts in the commercial network that shadowed the Crusades.

¶195: An Aboriginal shield collected in 1770 at Kamay Botany Bay: an indicator of pre-colonial exchange systems in south-eastern Australia

¶196: A bark shield now in the British Museum can be identified from documentary and pictorial evidence as one collected by Captain Cook during his first voyage to Australia in 1770. Such shields often had special value to their Australian Aboriginal owners and hence might have been exchanged over considerable distances. This particular shield is known to have been collected in Kamay Botany

Bay but analysis of the bark of which it is made revealed it to be of red mangrove, a tropical species found today more than 500km distant on the New South Wales north coast. It hence bears valuable testimony to the long-distance exchange networks operating in eastern Australia in the period before the disruption caused by European colonisation.

¶197: The data explosion: tackling the taboo of automatic feature recognition in airborne survey data

¶198: The increasing availability of multi-dimensional remote-sensing data covering large geographical areas is generating a new wave of landscape-scale research that promises to be as revolutionary as the application of aerial photographic survey during the twentieth century. Data are becoming available to historic environment professionals at higher resolution, greater frequency of acquisition and lower cost than ever before. 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: The arboreal origins of human bipedalism

¶200: Almost a century and a half ago, Charles Darwin in *The Descent of Man* (1871: 141) highlighted the evolution of bipedalism as one of the key features of the human lineage, freeing the hands for carrying and for using and making tools. But how did it arise? The famous footprints from Laetoli in Tanzania show that hominin ancestors were walking upright by at least 3.65 million years ago. Recent work, however, suggests a much earlier origin for bipedalism, in a Miocene primate ancestor that was still predominantly tree-dwelling. Here Susannah Thorpe, Juliet McClymont and Robin Crompton set out the evidence for that hypothesis and reject the notion that the common ancestor of great apes and humans was a knuckle-walking terrestrial species, as are gorillas and chimpanzees today. The article is followed by a series of comments, rounded off by a reply from the authors.

¶201: Human bipedalism and the importance of terrestriality

¶202: Unreasonable expectations

¶203: Ignoring *Ardipithecus* in an origins scenario for bipedality is...lame

¶204: When the ancestors were arboreal

¶205: Adaptive diversity: from the trees to the ground

¶206: A new late Pleistocene archaeological sequence in South America: the Vale da Pedra Furada (Piauí, Brazil)

¶207: The date of the first settlement of the Americas remains a contentious subject. Previous claims for very early occupation at Pedra Furada in Brazil were not universally accepted (see Meltzer et al. 1994). New work at the rockshelter of Boqueirão da Pedra Furada and at the nearby open-air site of Vale da Pedra Furada have however produced new evidence for human occupation extending back more than 20 000 years. The argument is supported by a series of <sup>14</sup>C and OSL dates, and by technical analysis of the stone tool assemblage. The authors conclude that the currently accepted narrative of human settlement in South America will have to be re-thought. The article is followed by a series of comments, rounded off by a reply from the authors.

¶208: Standards and expectations

¶209: More of the same

¶210: New World, new models

¶211: Is dating an issue?

¶212: 'Simple' need not mean 'archaic'

¶213: The peopling of South America: expanding the evidence

¶214: Food globalisation in prehistory: top down or bottom up?

¶215: Scholarly interest has been growing in an episode of Old World globalisation of food resources significantly predating the 'Silk Road'. This process was characteristic of crosscontinental translocations of starch-based crops mostly during the third and second millennia BC but which might have been initiated in an earlier period (Jones et al. 2011). Among these translocations we can include a range of crops originally from Southwest Asia, notably bread wheat and barley, and others originally from northern China, such as broomcorn and foxtail millet (Hunt et al. 2008; Motuzaite-Matuzeviciute et al. 2013). Parallel patterns of crop movement between North Africa and South Asia have been observed and discussed in some depth (Boivin & Fuller 2009; Fuller et al. 2011; Boivin et al. 2013). The impetus behind this growth of interest has been the expansion of archaeobotanical research in South and East Asia over the past decade (Fuller 2002; Crawford 2006; Lee et al. 2007; Liu et al. 2008; Zhao 2010). This paper considers the agents responsible for the food globalisation process during the third and second millennia BC. A key aspect of trans-Eurasian starch-crop movement was that it constituted an addition to agricultural systems, rather than movement to regions devoid of existing starch-based agriculture. Other economic plants, such as grapes, dates and peas, also moved considerable distances in the archaeological record, often to areas previously devoid of those plants. However, the novel starchy crops held a particular significance. In both cases, Southwest Asian wheat and barley and East Asian millets went on to become important staple foods in many of their new destinations.

¶216: Contextualising the birth of Mediterranean Archaeoseismology

¶217: Archaeoseismology, investigating the effects of earthquakes on archaeological remains, has developed in recent decades into a flourishing multidisciplinary effort bringing together archaeologists, historians, geologists, seismologists, architects and engineers. Initially focusing on historical archaeological contexts in the Mediterranean (cf. Stiros & Jones 1996), archaeoseismology—also known as earthquake archaeology (see Sintubin forthcoming for terminology)—has nowadays extended its traditional scope to prehistoric and historical cultures worldwide (see contributions in Sintubin et al. 2010 and Silva et al. 2011 for recent examples).

¶218: Of hunters and handles: insights from palaeoanthropology -

¶219: From hand to handle: the first industrial revolution.

¶220: Rough and tumble: aggression, hunting, and human evolution.

¶221: 'Seek, and you shall find': a new era at the dawn of domestication and sedentism in Early Neolithic Iran -

¶222: The earliest Neolithic of Iran: 2008 excavations at Sheikh-e Abad and Jani. Central Zagros Archaeological Project, volume 1

- ¶1223: The neolithisation of Iran: the formation of new societies
- ¶1224: At the turn of the tide -
- ¶1225: The Bronze Age in the Severn Estuary
- ¶1226: The archaeology of the Essex coast, volume 2: excavations at the prehistoric site of the Stumble
- ¶1227: Text-book pottery texts -
- ¶1228: Pottery in archaeology.
- ¶1229: Ceramic petrography: the interpretation of archaeological pottery and related artefacts in thin section.
- ¶1230: Climate change archaeology: building resilience from research in the world's coastal wetlands.
- ¶1231: Le site magdalénien de Monruz: la vie quotidienne à travers le travail du silex
- ¶1232: The birth of Neolithic Britain: an interpretive account.
- ¶1233: Prehistoric rock art of India.
- ¶1234: Des images pour les dieux: art rupestre et art tribal dans le centre de l'Inde.
- ¶1235: The making of the Middle Sea: a history of the Mediterranean from the beginning to the emergence of the Classical world.
- ¶1236: The settlement at Dhaskalio: the sanctuary on Keros and the origins of Aegean ritual practice: the excavations of 2006–2008.
- ¶1237: Northwest Europe in the Early Middle Ages, c. AD 600–1150. A comparative history.
- ¶1238: Transforming townscapes. From burh to borough: the archaeology of Wallingford, AD 800–1400
- ¶1239: Bosworth 1485: a battlefield rediscovered.
- ¶1240: Un Néolithique Ouest-Africain: cadre chrono-culturel, économique et environnemental de l'Holocène récent en Pays dogon
- ¶1241: 14,000 años de alimentación en el Perú.
- ¶1242: Prehispanic settlement patterns in the Upper Mantaro, Junín, Peru: volume 2, the Wanka region
- ¶1243: Merchants, markets, and exchange in the pre-Columbian world.
- ¶1244: ISSUE 4
- ¶1245: Specialised hunting of Iberian ibex during Neanderthal occupation at El Esquilleu Cave, northern Spain
- ¶1246: Traditional views of Neanderthal hunting strategies envisage them preying on herd species such as bison and deer, rather than the sophisticated tracking of solitary animals. Analysis of faunal remains from El Esquilleu Cave in northern Spain, however, demonstrates that during certain periods of the Middle Palaeolithic occupation, Neanderthals focused on the hunting of ibex and chamois, small solitary species that inhabited the mountainous terrain around the site. These results indicate

that Neanderthal hunting practices may have had more similarity to those of their Upper Palaeolithic relatives than is usually assumed.

¶1247: The global implications of the early surviving rock art of greater Southeast Asia

¶1248: The rock art of Southeast Asia has been less thoroughly studied than that of Europe or Australia, and it has generally been considered to be more recent in origin. New dating evidence from Mainland and Island Southeast Asia, however, demonstrates that the earliest motifs (hand stencils and naturalistic animals) are of late Pleistocene age and as early as those of Europe. 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.

¶1249: The chronology of culture: a comparative assessment of European Neolithic dating approaches

¶1250: 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.

¶1251: Ritual, art and society in the Levantine Chalcolithic: the 'Processional' wall painting from Teleilat Ghassul

¶1252: The fragmentary 'Processional' wall painting from Teleilat Ghassul in Jordan 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.

¶1253: Beyond Stonehenge: Carn Menyn Quarry and the origin and date of bluestone extraction in the Preseli Hills of south-west Wales

¶1254: Recent investigations at Stonehenge have been accompanied by new research on the origin of the famous 'bluestones', a mixed assemblage of rhyolites and dolerites that stand among the much taller sarsens. Some of the rhyolite debitage has been traced to a quarry site at Craig Rhosyfelin near the Pembrokeshire coast; but fieldwork on the upland outcrops of Carn Menyn has also provided evidence for dolerite extraction in the later third millennium BC, and for the production of pillar-like blocks that resemble the Stonehenge bluestones in shape and size. Quarrying at Carn Menyn began much earlier, however, during the seventh millennium BC, suggesting that Mesolithic communities were the first to exploit the geology of this remote upland location.

¶1255: Foragers, fishers and farmers: origins of the Taiwanese Neolithic

¶1256: The Neolithic of Taiwan represents the first stage in the expansion of Austronesian-speaking peoples through the Pacific. Settlement and burial evidence from the Tapenkeng (TKP) or Dabengkeng culture demonstrates the development of the early Taiwanese Neolithic over a period of almost 2000 years, from its origin in the pre-TPK of the Pearl River Delta and south-eastern coastal China.

The first TPK communities of Taiwan pursued a mixed coastal foraging and horticultural lifestyle, but by the late TPK rice and millet farming were practised with extensive villages and large settlements. The broad-spectrum subsistence diversity of the Taiwanese Neolithic was an important factor in facilitating the subsequent expansion of Austronesian-speaking peoples to the Philippines and beyond.

¶1257: Archaeology, genetics and a population bottleneck in prehistoric Finland

¶1258: The long-term history of prehistoric populations is a challenging but important subject that can now be addressed through combined use of archaeological and genetic evidence. In this study a multidisciplinary team uses these approaches to document the existence of a major population bottleneck in Finland during the Late Neolithic period, the effects of which are still detectable in the genetic profile of the Finnish population today. 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.

¶1259: Archaeology, forensics and the death of a child in Late Neolithic Sweden

¶1260: The discovery of a child's skeleton in a Late Neolithic well in Sweden raises again the issue of watery rituals and human sacrifice in prehistoric societies. Analysis of diatoms from the right humerus and from the surrounding sediment indicated that the child died by drowning and had not simply been disposed of in the well after death. The scenarios of accidental drowning and murder are examined to account for this discovery. The preferred hypothesis, based on a comparative study of similar finds from north-western Europe, interprets this instead as a ritual sacrifice. The use of diatom analysis to establish drowning as the cause of death adds a new weapon into the armoury of forensic archaeology.

¶1261: Dating the Thera (Santorini) eruption: archaeological and scientific evidence supporting a high chronology

¶1262: The date of the Late Bronze Age Minoan eruption of the Thera volcano has provoked much debate among archaeologists, not least in a recent issue of *Antiquity* ('Bronze Age catastrophe and modern controversy: dating the Santorini eruption', March 2014). Here, 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. They reject the need to choose between alternative approaches to the problem and make a case for the synchronisation of eastern Mediterranean and Egyptian chronologies with agreement on a 'high' date in the late seventeenth century BC for the Thera eruption.

¶1263: Ceramics, trade, provenience and geology: Cyprus in the Late Bronze Age

¶1264: The island of Cyprus was a major producer of copper and stood at the heart of east Mediterranean trade networks during the Late Bronze Age. It may also have been the source of the Red Lustrous Wheelmade Ware that has been found in mortuary contexts in Egypt and the Levant, and in Hittite temple assemblages in Anatolia. 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. This discovery offers a new perspective on the spatial organisation of Cypriot economies in the production and exchange of elite goods around the eastern Mediterranean at this time.

¶1265: Crossing the boundary between humans and animals: the extinct fox *Dusicyon avus* from a hunter-gatherer mortuary context in Patagonia (Argentina)

¶1266: The discovery of a grave of the late second millennium BC containing an extinct South American fox, *Dusicyon avus*, at Loma de los Muertos raises intriguing questions about the relationship between wild canids and humans. This sub-adult individual appears to have been buried in a human mortuary context in a comparable manner to adjacent human burials. It may have been kept as a pet and been considered part of the human social group. The ability of pets, especially canids, to leave the animal world and enter into a special relationship with people may be related to the cosmology of South American hunter-gatherers.

¶1267: Shifting materials: variability, homogeneity and change in the beaded ornaments of the Western Zhou

¶1268: Academic interest in the elaborate bead assemblages recovered from graves of the Western Zhou elite has grown in recent years. Beads and beaded ornaments have been seen as both markers of external contact and evidence of change in the Zhou ritual system. 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.

¶1269: The Hepu Han tombs and the maritime Silk Road of the Han Dynasty

¶1270: The extensive cemetery at Hepu in southern China represents one of the best-preserved tomb complexes of the Han period. It contains many elaborate tombs with exotic luxury materials that testify to the status of Hepu as the home port of the maritime Silk Road. This trading network carried Chinese products (notably silks) by sea to kingdoms and communities of South and Southeast Asia, and was the southern counterpart to the more famous overland Silk Road through Central Asia. The materials found in the Hepu tombs demonstrate the range and geography of contacts, including semi-precious beads from India and ceramics from the Parthian empire. This far-flung trade network had major impacts both on southern China and on the other regions that it connected.

¶1271: Stone architecture, monumentality and the rise of the early Tongan chiefdom

¶1272: Monumental construction is commonly associated with the rise of complex societies and frequently supported the ceremonies and ideologies that were instrumental in the creation of the new social order. Recent fieldwork at Heketa in eastern Tongatapu recorded stone-built platforms for houses and seats, and a three-tiered tomb and trilithon. Tongan tradition and archaeology combine to show that these were the setting for new ceremonies instituted by the emergent Tu'i Tonga lineage in the fourteenth century AD as they laid the foundations of the early Tongan chiefdom. Key to their success were 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.

¶1273: Yavi-Chicha and the Inka expansion: a petrographic approach

¶1274: The social complexities underlying imperial control are manifest in the material culture of everyday life encountered at archaeological sites. The Yavi-Chicha pottery style of the south-central Andes illustrates how local identities continued to be expressed in practices of pottery manufacture during the process of Inka expansion. The Yavi-Chicha style itself masks a number of distinct production processes that can be traced through petrographic analysis and that relate to the different communities by whom it was produced and consumed. The dispersion of pottery fabric



types in this region may partly be attributable to the Inka practice of mitmaqkuna, the displacement and relocation of entire subject populations.

¶1275: Second World War conflict archaeology in the forests of north-west Europe

¶1276: Concrete fortifications have long served as battle-scarred memorials of the Second World War. The forests of north-west Europe, meanwhile, have concealed a preserved landscape of earthwork field fortifications, military support structures and bomb- and shell-craters that promise to enhance our understanding of the conflict landscapes of the 1944 Normandy Campaign and the subsequent battles in the Ardennes and Hürtgenwald forests. Recent survey has revealed that the archaeology surviving in wooded landscapes can significantly enhance our understanding of ground combat in areas covered by forest. In particular, this evidence sheds new light on the logistical support of field armies and the impact of Allied bombing on German installations.

¶1277: Regional variations in the European Neolithic dispersal: the role of the coastlines

¶1278: The mechanisms by which agriculture spread across Europe in the Neolithic, and the speed at which it happened, have long been debated. 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.

¶1279: Fact or fiction: the Middle Palaeolithic in China

¶1280: Context is everything: comments on Radivojević et al. (2013)

¶1281: Context is everything indeed: a response to Šljivar and Borić

¶1282: Palaeolithic Britain exhibition surprises

¶1283: Great monuments of the north and south -

¶1284: Cult, religion and pilgrimage: archaeological investigations at the Neolithic and Bronze Age monument complex of Thornborough, North Yorkshire

¶1285: Silbury Hill: the largest prehistoric mound in Europe.

¶1286: Diversifying Roman military archaeology - P

¶1287: People and spaces in Roman military bases.

¶1288: Blood of the provinces: the Roman auxilia and the making of provincial society from Augustus to the Severans.

¶1289: Archaeology, anthropology and community in Africa: lessons from Congo and Ghana -

¶1290: The archaeology and ethnography of Central Africa.

¶1291: Temporalising anthropology: archaeology in the Talensi Tong Hills, northern Ghana

¶1292: Wetland archaeology and beyond.

- ¶1293: Settling the Earth: the archaeology of deep human history.
- ¶1294: Tybrind Vig: submerged Mesolithic settlements in Denmark.
- ¶1295: Substantive technologies at Çatalhöyük: reports from the 2000–2008 seasons
- ¶1296: The manufacture of Minoan metal vessels: theory and practice
- ¶1297: The urbanisation of Rome and Latium Vetus from the Bronze Age to the Archaic era.
- ¶1298: Lyon, Saint-Georges: archéologie, environnement et histoire d'un espace fluvial en bord de Saône
- ¶1299: The economics of the Roman stone trade.
- ¶1300: Excavations at Zeugma, conducted by Oxford Archaeology.
- ¶1301: La Grava: the archaeology and history of a royal manor and alien priory of Fontevrault
- ¶1302: Ancestral encounters in highland Madagascar: material signs and traces of the dead.
- ¶1303:
- ¶1304: Early Mainland Southeast Asia. From first humans to Angkor.
- ¶1305: Warfare and shamanism in Amazonia.

## **Name:** Antiquity 2015 abstracts

¶1: Antiquity 2015 abstracts

¶2: ISSUE 1

¶3: EDITORIAL

¶4: The world is changing rapidly, and archaeology with it. Globalisation is rewiring the relationship that connects Europe and North America, with their long histories of archaeological research, to other regions, where archaeologists are throwing new light on prehistories and early histories that have hitherto been less intensively studied. The outcome is a shifting but more balanced picture of the human past at a global scale, and a better appreciation of the interactions that have shaped the modern world.

¶5: A future of archaeology

¶6: As archaeologists we look to the past, but where might archaeology be going in the future? In this issue of Antiquity we begin a new feature where we invite archaeologists from different parts of the world to consider how the subject may or should develop in the coming years. For the first of these, Koji Mizoguchi, President of the World Archaeological Congress and Professor at Kyushu University in Japan, offers a perspective on the regional traditions of archaeology within an increasingly globalised world.

¶7: Death by twins: a remarkable case of dystocic childbirth in Early Neolithic Siberia

¶8: Death during childbirth was a significant risk for women in prehistoric and pre-modern societies, but it has rarely been documented by archaeology. The evidence for twins in the archaeological record has likewise been largely circumstantial, with few confirmed cases. Maternal mortality in childbirth is often obscured by the special ritual practices associated with this type of death. In the case of twin births that difficulty is compounded by past social attitudes to twins. The earliest confirmed evidence for obstructed labour comes from the burial of a young woman who died attempting to deliver twins in the middle Holocene hunter-gatherer cemetery at Lokomotiv in southern Siberia some 7000 to 8000 years ago.

¶9: Cleaning the dead: Neolithic ritual processing of human bone at Scaloria Cave, Italy

¶10: Detailed taphonomic and skeletal analyses document the diverse and often unusual burial practices employed by European Neolithic populations. In the Upper Chamber at Scaloria Cave in southern Italy, the remains of some two dozen individuals had been subjected to careful and systematic defleshing and disarticulation involving cutting and scraping with stone tools, which had left their marks on the bones. In some cases these were not complete bodies but parts of bodies that had been brought to the cave from the surrounding area. The fragmented and commingled burial layer that resulted from these activities indicates complex secondary burial rites effecting the transition from entirely living to entirely dead individuals.

¶11: Natural and artificial colours: the megalithic monuments of Brittany

¶12: Megalithic art is a well-known feature of the Neolithic chambered tombs of Atlantic Europe. The surviving evidence consists largely of carved motifs, and, until recently, painted megalithic art was thought to be restricted to western Iberia. Recent discoveries have expanded that distribution, assisted by new methods of detection, recording and analysis. The discovery of painted motifs at

Barnenez in Brittany, reported here, marks a breakthrough and raises the possibility that many megalithic tombs in north-west Europe were once coloured as well as carved. Similarities in motifs and techniques also point to the likelihood of direct connections with Iberia.

¶13: Life and death in the Neolithic variscite mines at Gavà (Barcelona, Spain)

¶14: Mining has commonly been thought of as hard manual labour undertaken by the lower echelon of a hierarchical society, but was this always the case? Recent excavations of the variscite mines at Gavà have revealed burials contemporary with the peak of mining activity that represent a community of miners exploiting the subterranean resources for trade and manufacturing variscite beads with a nuanced symbolism. Skeletal evidence demonstrates the physicality of mining while grave goods reveal a community that worked collectively to mine, manufacture and trade goods, with miners themselves benefiting from the fruits of their labours.

¶15: Mursi ox modification in the Lower Omo Valley and the interpretation of cattle rock art in Ethiopia

¶16: Cattle are a key focus of traditional pastoralist societies in eastern Africa and also figure prominently in the rock art of the region. In both contexts, their cultural and social significance is underscored by colour and decoration. The contemporary Mursi of south-west Ethiopia transform favourite oxen in various ways, including horn alteration, ear cutting and decorative pattern branding. 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: From bodies to bones: death and mobility in the Lake Titicaca basin, Bolivia

¶18: Disposal of the dead in early societies frequently involved multiple stages of ritual and processing. At Khonkho Wankane in the Andes quicklime was used to reduce corpses to bones in a special circular structure at the centre of the site. The quicklime was obtained from solid white blocks of calcium oxide and was then mixed with water and applied to disarticulated body parts. A few plaster-covered bones were recovered from the structure but most had been removed from the site, possibly by itinerant llama caravans. Thus, Khonkho Wankane was a ritual centre to which the dead were brought for processing and then removed for final burial elsewhere.

¶19: To set before the king: residential mural painting at Xultun, Guatemala

¶20: Maya murals depicting scenes of courtly life are well known from sites such as Bonampak; far less common are scenes depicting life outside the royal sphere. Recent excavations at Xultun in Guatemala have revealed well-preserved murals in a domestic context that offer a fresh perspective on life in the Maya court, that of the priests, scribes and artists who attended the royal governor. Here, the authors decode the images to reveal the lives and activities of those who planned, performed and recorded official events in Classic-period Xultun. One of only two well-preserved examples of eastern Maya lowland wall painting from the Late Classic period, this rare display of master craftsmanship outside of the royal court sheds new light on the lives of those who produced it.

¶21: Ritualised craft production at the Hopewell periphery: new evidence from the Appalachian Summit

¶22: Ritual items made of thin mica sheet are among the most spectacular of the special objects from the Hopewell sites of the Ohio Valley. Hitherto it has generally been believed that the mica was

imported in raw material form from sources in the Appalachian Summit and cut into shape in the Hopewell core. Recent excavations at Garden Creek, a ritual enclosure on the margin of the source area, throws doubt on this model through extensive evidence for mica-working at this site. The Garden Creek community may have been drawn into the Hopewell sphere through its proximity to the mica sources, and the people of Garden Creek may have carried cut mica and crystal quartz as offerings to the major Hopewell centres in the course of pilgrimage.

¶123: Fragmenting times: interpreting a Bayesian chronology for the Late Neolithic occupation of Çatalhöyük East, Turkey

¶124: The repetitive and highly structured domestic architecture of Çatalhöyük is a distinctive feature of this important Neolithic settlement. At the very end of the sequence, however, excavations on the surface of the East Mound reveal changes in household construction and burial chambers. Bayesian analysis of 56 AMS radiocarbon dates from these layers allow the date and pace of these changes to be established in detail. Settlement activity on the East Mound ceased just after 6000 cal BC, and was followed by the cessation of Neolithic burial activity a few decades later.

¶125: Cooperative harvesting of aquatic resources and the beginning of pottery production in north-eastern North America

¶126: What benefits were derived from the invention of pottery, and why did ceramics remain marginal for so long? The increasing use of pottery has been seen as a response to large-scale harvesting in a model that favours economic advantage through increased efficiency. This paper 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. Its use can be seen as part of broader developments in hunter-gatherer society, featuring seasonal gatherings, collective feasting and a new articulation of social relations.

¶127: Representations of oxhide ingots in Scandinavian rock art: the sketchbook of a Bronze Age traveller?

¶128: Bronze Age trade networks across Europe and the Mediterranean are well documented; Baltic amber and bronze metalwork were particularly valued commodities. Here it is argued that demand for copper and tin led to changes in Scandinavian trade routes around 1600 BC, which can be linked to the appearance of figurative rock art images in southern Scandinavia. Images identified as oxhide ingots have been discovered in Sweden and suggest that people from Scandinavia were familiar with this characteristically Mediterranean trading commodity. Using trace element and lead isotope analysis, the authors argue that some bronze tools excavated in Sweden could have been made of Cypriot copper; these two discoveries suggest that Scandinavians were travelling to the Mediterranean, rather than acting through a middle man.

¶129: Opening the Bronze Age world

¶130: In the above paper by Johan Ling and Zofia Stos-Gale, an object seen in a number of Swedish rock paintings and carvings is understood to be a representation of the so-called oxhide shaped ingot of the eastern Mediterranean Minoan-Mycenaean Bronze Age culture.

¶131: Oxhide ingots in the European North?

¶132: The above paper by Ling and Stos-Gale raises interesting questions about the extent and effects of trans-continental trade and travel in the Bronze Age. Of course, there is nothing new in the suggestion that Scandinavia was closely linked to the eastern Mediterranean in this period: Kristian

Kristiansen, and before him Jan Bouzek, Klavs Randsborg and Peter Schauer have been saying just that for many years (e.g. Bouzek 1966; Randsborg 1967; Schauer 1985; Kristiansen 1994). What is new is the two-fold suggestion that metal was travelling from the Mediterranean to Scandinavia, as shown by metal analysis, and that this is reflected in the rock art by what are presented here as depictions of oxhide ingots.

¶133: Reflections on Bronze Age travels

¶134: In the above paper, Johan Ling and Zofia Stos-Gale present results from a project comparing isotopes from Bronze Age artefacts with signatures from known Bronze Age mining localities. The results showed that artefacts found in southern Sweden were made from bronze mined in Cyprus. 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. The number of possible oxhide ingots represented in Swedish rock art is low, but if the identification of these images is correct, we have evidence, for the first time, of direct connections between Scandinavia and the eastern Mediterranean, connections that have been supposed, but not evidenced, for more than a century (e.g. Hansen 1909). Here, I focus on some implications this article may have for future Scandinavian Bronze Age studies, with special emphasis on rock art.

¶135: Here, there and everywhere?

¶136: Ling and Stos-Gale (above) present some hitherto little-known rock art motifs from various locations in Sweden, and offer an intriguing interpretation for them that ties in with the recent realisation that some of the copper used in the earlier Bronze Age of southern Scandinavia may have originated from Cyprus.

¶137: Travellers' tales and science-based archaeology: ex oriente lux revisited

¶138: Ling and Stos-Gale (above, p. 206) end their study on a safe, if rather vague, note: "[w]e could, perhaps, consider the maritime-themed rock art depictions [of ships and copper oxide ingots] as records of travellers' tales, where representations of reality mingle with myths, magic and sailors' stories". Yes, perhaps we could, since at least two of the ingot depictions (Kville 156:1 at Torsbo, Norrköping) look strikingly similar—as the authors note—to the 'pillow ingots' (Kissenbarren) known from the Mediterranean world. Or, perhaps, we could remain more cautious before even broaching the idea of interconnectedness between Late Bronze Age Scandinavia and the eastern Mediterranean. Such a suggestion requires a lot more faith in the basic arguments of Kristiansen and Larsson (2005)—namely, that Europe and the Mediterranean formed a massive, open network through which warrior elites and others travelled at will—than I am able to muster. For Kristiansen and Larsson, cultural contact and cultural change ultimately still flow ex oriente—thus, they return whence Childe began. 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.

¶139: Final response and future directions

¶140: It is rare for authors to be able to read comments on their paper by leading colleagues and to have the chance to respond before its publication. We would like to thank the editor of *Antiquity* for providing this opportunity. The comments express both acceptance of, and doubts about, interconnectedness between the eastern Mediterranean and Scandinavia in the Bronze Age. Kaul's comments demonstrate a deep insight into how Nordic archaeology reveals this interconnectedness; that is clearly expressed in his latest publication on the topic in *Antiquity* (Kaul 2013). Moreover,

both Kaul and Sognnes, who accept these interconnections, have an excellent understanding of Scandinavian Bronze Age rock art. In fact, most of the reviewers' comments express a positive attitude to the interpretation of the rock art images as possible representations of oxhide ingots.

¶141: A Bohemian paradise

¶142: It is true that in Europe when it comes to writing broad-based surveys of their archaeology some countries have been more equal than others. The United Kingdom and Ireland probably hold the record, closely followed by the Low Countries. The Czechs also have a long tradition of publishing surveys in one or other of the major European languages, commencing with three slender but well-illustrated volumes with texts in French by the prehistorian Albín Stocký (1924, 1928, 1933). Then in 1961 appeared *Czechoslovakia before the Slavs* (Neustupný 1961), the English edition of the overview written by the father and son team of Evžen and Jiří Neustupný and published in the previous year (Neustupný & Neustupný 1960). In 1978 appeared a massive single-volume prehistory of Bohemia with a brief summary and captions to the illustrations in German (Pleiner & Rybová 1978). Most recently, from 2007 to 2008 the eight volumes of *Archeologie pravěkých Čech* appeared—and then disappeared; in a matter of months the entire print run had been sold.

¶143: Figurines, materiality and social life in ancient Mesoamerica

¶144: Reading these two books is like peering into a magnifying lens. One is able to focus in and reflect on small details, but is also made aware that these details are inextricably linked to, and informed by, other elements in the field of view. In *Material relations: the marriage figurines of Prehispanic Honduras* and *Maya figurines: intersections between state and household*, the authors carry out focused analyses of ceramic figurines from pre-Hispanic Mesoamerica. Through the theoretical lenses of materiality, practice and mimesis, they show how figurines, as individual objects or assemblages, created social life through their portability, transferability and biographies. Furthermore, because of their association with households, they show how figurines can speak to the lives of women, children and commoners, the dynamics of households, and the relationship between non-states or culturally peripheral areas and the state. These two books stand as nuanced exemplars of microscale approaches in archaeology and a concern with intimate practices to reveal larger social phenomena.

¶145: Andean exceptionalism and the new Inka scholarship

¶146: Grand theories of human social organisation have sometimes struggled to find a place for the Inka empire, which achieved an unprecedented degree of state power across the Andean region of western South America for a few generations in the late fifteenth and early sixteenth centuries AD. This is in part because the Inka realm looked so different from the ancient empires of Eurasia. The axis of Inka power ran north–south through some of the most diverse and difficult terrain on the planet, and Inka material culture and institutions lacked many of the Western hallmarks of civilisation. In *Ancient society* (1877), Lewis Henry Morgan relegated the Inkas to a status of 'middle barbarism' for possessing only Bronze Age metallurgy, placing a realm of perhaps 10 million inhabitants in the company of the Puebloan peoples of the American Southwest and the society that built Stonehenge. More than a century later, the sociologist Michael Mann (1986) offered the Inkas as an exception to his general model for wielding so much power without using writing, currency or low-cost forms of transportation.

¶147: South Asia, Australia and the search for human origins.

¶148: Communicating with the world of beings. The World Heritage rock art sites in Alta, Arctic Norway.

¶149: Explorations in salt archaeology in the Carpathian zone

¶150: In the desert margins. The settlement process in ancient South and East Arabia

¶151: The Nabataean temple at Khirbet et-Tannur, Jordan, volume 1. Architecture and religion. Final report on Nelson Glueck's 1937 excavation

¶152: The Nabataean temple at Khirbet et-Tannur, Jordan, volume 2. Cultic offerings, vessels, and other specialist reports. Final report on Nelson Glueck's 1937 excavation

¶153: Glass, alcohol and power in Roman Iron Age Scotland.

¶154: Viking archaeology in Iceland. Mosfell Archaeological Project

¶155: Early medieval art and archaeology in the northern world. Studies in honour of James Graham-Campbell.

¶156: The Hirsell excavations

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

¶158: The archaeology of Japan: from the earliest rice farming villages to the rise of the state.

¶159: The great Maya droughts in cultural context: case studies in resilience and vulnerability.

¶160: New Book Chronicle

¶161: The February issue of *Antiquity* heralds some significant changes: a new publisher, increased frequency of publication and developments to our website. NBC will continue as a regular feature, aiming to cover more or less the same number of books across six, rather than four, issues. That said, in this current issue, NBC adopts a slightly different form, one devoted not to the usual melange of new titles, but to a single—if massive—publication.

¶162: ISSUE 2

¶163: EDITORIAL

¶164: In December 2014 the International Monetary Fund announced that a long-anticipated milestone had been passed and that China had overtaken the USA to become the world's largest economy. Given the size of the Chinese population, numbering 1.4 billion people (or almost 20% of all those alive today) that is perhaps not a surprise, and in terms of individual living standards, China has some way to go before its citizens achieve the same average income level as those of western Europe or North America. The growth of the Chinese economy has been echoed in the expansion of its archaeology, and articles on the prehistory and early historic societies of China have featured regularly in recent issues of *Antiquity*. The current issue is no exception, and in particular includes an article about one of the rather puzzling episodes in the Chinese past: the overseas voyages of the Ming admiral Zheng He (see below pp. 417–32). Between 1403 and 1433, Zheng He led seven imperially sponsored missions, each of them on a massive scale, around the coasts of Southeast Asia and the Indian Ocean, reaching as far afield as Aden and East Africa.

¶165: Lijiagou and the earliest pottery in Henan Province, China



¶166: It has long been believed that the earliest ceramics in the central plain of China were produced by the Neolithic cultures of Jiahu 1 and Peiligang. Excavations at Lijiagou in Henan Province, dating to the ninth millennium BC, have, however, revealed evidence for the earlier production of pottery, probably on the eve of millet and wild rice cultivation in northern and southern China respectively. It is assumed that, as in other regions such as south-west Asia and South America, sedentism preceded incipient cultivation. Here evidence is presented that sedentary communities emerged among hunter-gatherer groups who were still producing microblades. Lijiagou demonstrates that the bearers of the microblade industry were producers of pottery, preceding the earliest Neolithic cultures in central China.

¶167: Shell tool technology in Island Southeast Asia: an early Middle Holocene Tridacna adze from Ilin Island, Mindoro, Philippines

¶168: Shell artefacts in Island Southeast Asia have often been considered local variants of ground-stone implements, introduced in the Late Pleistocene from Mainland Southeast Asia. The discovery of a well-preserved Tridacna shell adze from Ilin Island in the Philippines, suggests, however, a different interpretation. Using radiocarbon dating, X-ray diffraction and stratigraphic and chronological placement within the archaeological record, the authors place the 'old shell' effect into context, and suggest that shell technology was in fact a local innovation that emerged in the early Middle Holocene. The chronology and distribution of these artefacts has significant implications for the antiquity of early human interaction between the Philippines and Melanesia. It may have occurred long before the migrations of Austronesian-speaking peoples and the emergence of the Lapita Cultural Complex that are traditionally thought to mark the first contact.

¶169: Violence in Neolithic Iberia: new readings of Levantine rock art

¶170: How violent was life in Neolithic society, and was there anything resembling organised warfare? Recent research has largely overturned ideas of peaceful farming societies. 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. Combining this body of data with evidence from the archaeological record, a new way of understanding the imagery in rock art is here proposed. Ethnographic and anthropological methodologies allow the author to show how socio-cultural behaviours and individual social roles can be read from rock art.

¶171: Hubs and upstarts: pathways to urbanism in the northern Fertile Crescent

¶172: The origins of urbanism are a controversial subject, with neo-evolutionary progress through graduated stages of 'civilisation' still having significant influence despite criticism, while others in the field prefer more diverse, regionally based trajectories. Using data collected over 30 years and applying the full range of archaeological and historical sources, the authors offer an alternative reading of the evidence, identifying multiple pathways to urbanism within a single region—northern Mesopotamia. Here, early urbanism was a phased and pulsating phenomenon that could be sustained only within particular geographic parameters and for limited periods. Older urban hubs, growing slowly, were accompanied by rapidly expanding new sites, with the combination of the different forms demonstrating the complexities of urban growth.

¶173: Unveiling the hinterland: a new type of Hellenistic rural settlement in Crimea

¶174: Except for some excavated coastal sites, the rural hinterland of ancient Chersonesos on the Tarkhankut Peninsula in north-west Crimea has been understood only from pot scatters recorded during landscape survey and fieldwalking. The city's rural territory (chora) thrived from the fourth to

second century BC, but little is known of the identity of its inhabitants, especially those in the inland areas. This paper presents the results of the first systematic excavations in this part of the peninsula. The results challenge previous notions that the territory was occupied by nomadic indigenous communities and reveal that the site shared the fate of the entire Chersonesean chora, meeting a violent end in the early part of the third century BC.

¶175: The glass beads of Kaitshàa and early Indian Ocean trade into the far interior of southern Africa

¶176: The later African Iron Age saw a shift to centralised polities, as seen in the expansion of hegemonies such as Great Zimbabwe. During this period, trade with the interior of Africa became increasingly centrally controlled. Excavations at the site of Kaitshàa, on the edge of the Makgadikgadi salt pans in Botswana, have revealed how a small settlement based on prehistoric salt trading was able to take its place in the Indian Ocean trade network before such centralised polities arose. Using compositional analysis of glass beads, the authors argue that this site in the central Kalahari Desert exemplifies the role of heterarchy and indigenous agency in the evolving political economy of the subcontinent.

¶177: Sembiran and Pacung on the north coast of Bali: a strategic crossroads for early trans-Asiatic exchange

¶178: Studies of trade routes across Southeast Asia in prehistory have hitherto focused largely on archaeological evidence from Mainland Southeast Asia, particularly the Thai Peninsula and Vietnam. The role of Indonesia and Island Southeast Asia in these networks has been poorly understood, owing to the paucity of evidence from this region. Recent research has begun to fill this void. New excavations at Sembiran and Pacung on the northern coast of Bali have produced new, direct AMS dates from burials, and analytical data from cultural materials including pottery, glass, bronze, gold and semi-precious stone, as well as evidence of local bronze-casting. This suggests strong links with the Indian subcontinent and Mainland Southeast Asia from the late first millennium BC, some 200 years earlier than previously thought.

¶179: Archaeological evidence for ancient Maya water management: the case of Nakum, Petén, Guatemala

¶180: Maya cities are known to have managed water; their existence in areas prone to seasons of excessive rainfall and long dry spells demanded it, but have these systems of water channels, aqueducts and reservoirs been viewed simply as utilitarian civil engineering? Recent excavations at the Maya site of Nakum in north-east Guatemala have revealed that the Maya might have had a more nuanced and symbolic approach to water and its management, one that reflected their belief system, replicated their interpretation of the cosmos and facilitated the use of water in ritual architecture and the display of power.

¶181: Zheng He's voyages to Hormuz: the archaeological evidence

¶182: The imperially sponsored maritime expeditions led by Zheng He in the early fifteenth century AD projected Ming Chinese power as far as Java, Sri Lanka and the East African coast. The Indian Ocean voyages are well documented in Chinese and Islamic historical accounts and by the nautical charts of Zheng He's journeys. Less clear has been the exact location of ancient Hormuz, the destination of Zheng He's voyages in the Persian Gulf. Recent re-analysis of ceramics from coastal southern Iran provides a solution. Archaeological evidence for Ming ceramics on present-day Hormuz Island and jewellery and gemstones of Iranian origin in southern China suggest that ancient Hormuz and Hormuz Island are one and the same.

¶183: Revisiting reflexive archaeology at Çatalhöyük: integrating digital and 3D technologies at the trowel's edge

¶184: Excavations at Çatalhöyük have been ongoing for over 20 years and have involved multi-national teams, a diverse range of archaeological specialists and a vast archive of records. The task of marshalling this data so that it can be useful not only at the post-excavation stage, but also while making decisions in the field, is challenging. Here, members of the team reflect on the use of digital technology on-site to promote a reflexive engagement with the archaeology. They explore how digital data in a fieldwork context can break down communication barriers between specialists, foster an inclusive approach to the excavation process and facilitate reflexive engagement with recording and interpretation.

¶185: The archaeology of conflict-damaged sites: Hosn Niha in the Biqa' Valley, Lebanon

¶186: Archaeological and cultural heritage is always at risk of damage and destruction in areas of conflict. Despite legislation to protect sites and minimise the impact of war or civil unrest, much archaeological data is still being lost, not least in the Middle East. Careful research design and methodological recording strategies tailored to sites destroyed by conflict or looting can, however, provide much more information than previously imagined. This is illustrated by a case study focusing on the Roman settlement and temples at Hosn Niha in the Biqa' Valley, which were severely damaged in the 1980s during the Lebanese Civil War. Sufficient information was recovered to reconstruct many details, including the chronology and development of the site.

¶187: Flavouring food: the contribution of chimpanzee behaviour to the understanding of Neanderthal calculus composition and plant use in Neanderthal diets

¶188: In a recent study, Hardy et al. (2012) examined ten samples of dental calculus from five Neanderthal individuals from El Sidrón in northern Spain (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. In this paper, we do not reject the self-medication hypothesis, but our observations of wild chimpanzees in Uganda, at Sonso in the Budongo Forest Reserve and at Kanyawara and Sebitoli in Kibale National Park (separated by about 150km), as well as ethnological and palaeontological evidence, lead us to propose three other explanations for the presence of these compounds. In addition, data on Neanderthal behaviour suggest that their subsistence and technological strategies were complex.

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

¶190: In the autumn of 2013, a discovery was made in the Doganaccia necropolis close to the ancient Etruscan city of Tarquinia. A sepulchre was uncovered, mercifully and unusually unlooted. Inside were the remains of two individuals and a range of grave goods, allowing the tomb to be typologically dated to the late seventh or early sixth century BC. One of the individuals had been cremated, while the other was laid out in a supine position. Both were placed on funeral benches similar to those known from Etruscan tombs across the region (Steingräber 2009). This excavation was as unusual as it was spectacular—the equally vigorous efforts of nineteenth-century enthusiasts (Leighton 2004: 12) and twentieth-century tomb robbers (van Velzen 1999: 180) have left little of the Etruscan burial record undisturbed. Unsurprisingly, there was a great deal of media excitement over the burial, as its excavator, distinguished Etruscan scholar Alessandro Mandolesi, spoke with the press of his impressions of the remains and their relationship to the artefacts found in the tomb.

Little of his exact words remain in the public sphere, but the impression he provided to the press was clear in the flurry of media reports that followed his statement. The ensuing media interest and archaeological developments present a number of serious issues for the practice of archaeology in an age in which digital media can magnify the impact of any major discovery. 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. 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. This article unpicks both the media storm and interpretative paradigms that characterised this case study, and queries archaeological responsibility and visibility in an age of 24-hour news.

¶191: The new MOMU: meeting the family at Denmark's flagship Museum of Prehistory and Ethnography

¶192: I visited the new Moesgaard Museum in January 2015 on a grey and rainy day, and five hours later I left empowered with an unexpected feeling of optimism at human potential, reacquainted with what Larkin (1974: 19) called “the million-petalled flower of being here”, and not least, conscious again of the privilege of being an archaeologist, lucky enough to spend my professional life doing something so marvellous. Is the museum really that good? Yes.

¶193: Evolution, archaeology and the social brain

¶194: Making sense of the Greek past

¶195: La transition néolithique en Méditerranée.

¶196: The Neolithic settlement of Knossos in Crete: new evidence for the early occupation of Crete and the Aegean Islands

¶197: Die eisenzeitlichen Grabhügel von Vergina: Die Ausgrabungen von Photis Petsas 1960–1961

¶198: Iberia. Protohistory of the far west of Europe: from Neolithic to Roman conquest.

¶199: Identity and power. The transformation of Iron Age societies in northern Gaul

¶100: The stone of life: querns, mills and flour production in Europe up to c. AD 500

¶101: A corpus of Roman pottery from Lincoln

¶102: Early medieval dwellings and settlements in Ireland, AD 400–1100

¶103: The archaeology of Fazzān. Volume 4, survey and excavations at Old Jarma (ancient Garama) carried out by C.M. Daniels (1962–69) and the Fazzān Project (1997–2001)

¶104: Kua'āina kahiko: life and land in ancient Kahikinui, Maui.

¶105: From these honored dead: historical archaeology of the American Civil War.

¶106: ISSUE 3

¶107: EDITORIAL

¶108: Nimrud has been described as “not the largest of the ancient capitals of Assyria, but [. . .] undoubtedly one of the most beautiful archaeological sites in northern Iraq”. When Layard first visited it in 1840 “[t]he spring rains had clothed the mound with the richest verdure, and the fertile

meadows, which stretched around it, were covered with flowers of every hue [. . .] My curiosity had been greatly excited, and from that time I formed the design of thoroughly examining, whenever it might be in my power, these singular ruins” (Layard 1849). Five years later he began excavations, discovering two royal palaces and some of the famous Nimrud ivories. In his second season, the first of the famous colossal winged bulls and lions came to light, standing at the entrance to the temple of Ninurta. Thus was Nimrud brought back to public gaze, after more than two and a half thousand years of neglect.

¶1109: The future of archaeology in Africa

¶1110: In February's edition of *Antiquity* Koji Mizoguchi launched our new feature, ‘Archaeological Futures’, with his thoughts on the regional traditions of archaeology in a globalised world. In this issue, Innocent Pikirayi, Professor of Archaeology at the University of Pretoria, continues the series with his reflections on archaeology in Africa. In particular, 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.

¶1111: An alternative chronology for the art of Chauvet cave

¶1112: It is now 20 years since the discovery of the Grotte Chauvet with its impressive cave art, but controversy continues over the antiquity of the images. 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. Instead, the authors propose an alternative chronology for the art of Chauvet based on stylistic comparanda, palaeontological remains and stratigraphic evidence.

¶1113: Lithics and climate: technological responses to landscape change in Upper Palaeolithic northern Japan

¶1114: Studies of human behavioural responses to climate change have begun to address traditional archaeological questions in new ways. Hitherto, most of these studies have focused on western Eurasia, but the question of human response to rapid climatic changes in northern Japan during the Upper Palaeolithic period opens up new perspectives. Combining artefact studies and palaeoenvironmental evidence, Japan provides a case study for how quickly modern humans adapted to new environmental challenges, and how that adaptation can be charted through the lithic technologies employed in different geoclimatic circumstances.

¶1115: Tappeh Sang-e Chakhmaq and the beginning of the Neolithic in north-east Iran

¶1116: Attempts to understand the origins of domestication and sedentary settlement in the Near East have traditionally focused on the Fertile Crescent. Beyond this region, however, in the foothills of the Alborz Mountains of north-eastern Iran, evidence has emerged that charts the Neolithic transition over a period of 1500 years. Investigations at the twin mounds of Tappeh Sang-e Chakhmaq have revealed pre-pottery and pottery Neolithic occupation in a sequence long enough to document the evolving exploitation of plants and animals leading to the development of a permanent, agro-pastoral community during the eighth to sixth millennia BC. The continuous occupation of this settlement during this crucial transition allows significant changes in lifestyle to be mapped, and provides a new framework for the earliest Neolithic occupation of Iran.

¶1117: New tin mines and production sites near Kültepe in Turkey: a third-millennium BC highland production model

¶118: An unexpected new source of tin was recently located at Hisarcık, in the foothills of the Mount Erciyes volcano in the Kayseri Plain, close to the Bronze Age town of Kültepe, ancient Kanesh and home to a colony of Assyrian traders. Volcanoes in Turkey have always been associated with obsidian sources but were not known to be a major source of heavy metals, much less tin. 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. These findings revise our understanding of bronze production in Anatolia in the third millennium BC and demand a re-evaluation of Assyrian trade routes and the position of the Early Bronze Age societies of Anatolia within that network.

¶119: Travel and landscape: the Zuo River Valley rock art of Guangxi Zhuang Autonomous Region, China

¶120: Rock art, especially in China, has often been associated with the non-literate, non-Chinese periphery. It is often thought of very broadly as a universal phenomenon rooted in religion and sharing a widely recognised iconography. This paper challenges both of these assumptions. Its focus is the rock art of the Zuo River in the Guangxi Province of China and in particular its landscape location and visibility. 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. The content, location and visibility of images along this arterial waterway reveal how rock art played a significant role in life and death in Late Bronze Age and Iron Age Guangxi.

¶121: Feasting on fore-limbs: conspicuous consumption and identity in later prehistoric Britain

¶122: The discovery in Llanmaes, South Wales, of a large midden dating from the Early Iron Age provided an opportunity to deepen our understanding of feasting in late prehistoric Britain. But the dominance of right fore-limbs of pigs in the faunal assemblage has raised questions about the social processes represented by this activity. The evidence suggests a move away from conspicuous consumption by an Early Iron Age elite towards a more community-focused event designed to galvanise social relations at a time when the breakdown of bronze exchange networks was challenging the social order.

¶123: The Catacombs of Anubis at North Saqqara

¶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. Here the authors present a biography of the Catacombs of Anubis at North Saqqara in Egypt, from their peak activity in the Late Period to their exploitation in modern times for raw materials. This research highlights the hitherto unappreciated scale of burial practices associated with animal cults, and the industries they supported and were supported by. The evidence suggests that the animal cults played a significant economic role, both in ancient Egypt and in subsequent eras.

¶125: Use-wear, chaîne opératoire and labour organisation among Pacific Northwest Coast sedentary foragers

¶126: The pre-Contact foraging communities of the north-west coast of North America have long been recognised as exhibiting many of the features we associate with agricultural societies, including sedentism and social inequality. Evidence from the pre-Contact plank house communities of Meier and Cathlapotle throws new light on the spatial organisation of these societies. Detailed analysis of stone tools allows the spatial division of labour to be determined within these large, multi-family

households. This reveals that while some tasks were associated with particular social ranks, a hierarchical community can be identified in each plank house. Overall, the differences lie in the degree of engagement rather than the kind of activity, helping to characterise labour organisation among these unique, sedentary foragers. The results also provide insight into the potential of stone tool analysis for social reconstruction.

¶127: Tree memories of the Second World War: a case study of common beeches from Chycina, Poland

¶128: During the final stages of the Second World War, a trench was dug in woodland near a small Polish village, probably by prisoners of war. There are no eye witness accounts and very few artefacts survive. The only way the story of these prisoners can be told is through the material memory held by the woodland. This paper aims to broaden the concept of material culture by considering the archaeological record that is retained in the bark of living trees. The focus is on the beech trees of Chycina that may hold the only record of the construction of a small section of the Festungsfront Oder-Warthe-Bogen in western Poland in 1944.

¶129: Characterising copper-based metals in Britain in the first millennium AD: a preliminary quantification of metal flow and recycling

¶130: For many years, archaeologists and archaeometallurgists have suggested that recycled copper might have constituted a significant component of the metal in circulation in Britain during the first millennium AD. 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: Shuidonggou localities 1 and 2 in northern China: archaeology and chronology of the Initial Upper Palaeolithic in north-east Asia

¶132: Shuidonggou localities 1 and 2 provide key evidence for the Initial Upper Palaeolithic of north-east Asia. In a recent article in *Antiquity* (87 (2013), 368–383), Li et al. proposed a new chronology, building on the earlier results of Madsen et al. (*Antiquity* 75 (2001), 705–716). Here Susan Keates and Yaroslav Kuzmin take issue with the new chronology. The article is followed by a response from Li and Gao.

¶133: A response to Keates and Kuzmin

¶134: Susan Keates and Yaroslav Kuzmin have contributed valuable comments on our assessment of the chronology and technological characteristics of Shuidonggou localities 1 and 2. These comments have demonstrated some discordance in our publications that should be corrected here. Their rationale for abandoning the conclusions altogether is, however, weak at best. Most importantly, there is no reason to return to the chronology for the Initial Upper Palaeolithic (hereafter termed IUP) assemblages at the Shuidonggou site complex (SDG) proposed by Madsen et al. (2001). Keates and Kuzmin's critique focuses on two separate issues: the first is our characterisation of the assemblages from the lower part of SDG 2, and the second is our handling of the dates. We will address these in order.

¶135: Drift voyages across the mid-Atlantic

¶136: Pre-Columbian transoceanic contacts have long been controversial. The controversy stems from the fact that those supporting arguments for such crossings have often not evaluated the evidence as critically as was necessary. On the other hand, those dismissing these arguments have frequently ignored the inevitability of such events over long periods of time. One aspect of these debates that is seldom evaluated is the likelihood of vessels, with or without survivors, or floating artefacts, crossing oceans. As an example, a recent debate (Hristov & Genovés 1999, 2011; Shaaf & Wagner 1999; Smith 2011) centred on the head of a Roman figurine purportedly discovered in a pre-Columbian context at the site of Tecaxic-Calixtlahuaca in Mexico. Neither argument for or against the veracity of the pre-Columbian context of the artefact discusses how likely drift events are across the mid-Atlantic.

¶137: San rock art: evidence and argument

¶138: Whether or not a 'trance-dance' akin to that of today's Kalahari San (Bushmen) was performed by southern /Xam San in the nineteenth century has long been the subject of intense debate. Here the authors point to parallels between nineteenth-century records of San life and beliefs and twentieth-century San ethnography from the Kalahari Desert in order to argue that this cultural practice was shared by these two geographically and chronologically distant groups. More significantly, it is suggested that these ethnographic parallels allow a clearer understanding of the religious and ritual practices depicted in the southern San rock art images.

¶139: Arctic archaeologies: recent work on Beringia

¶140: This review considers three books on the archaeology of territories situated around the Bering Sea—a region often referred to as Beringia, adopting the term created for the Late Pleistocene landscape that extended from north-east Asia, across the Bering Land Bridge, to approximately the Yukon Territory of Canada. This region is critical to the archaeology of the Arctic for two fundamental reasons. First, it is the gateway to the Americas, and was certainly the route by which the territory was colonised at the end of the last glaciation. Second, it is the place where the entire Aleut-Eskimo (Unangan, Yupik, Alutiiq, Inupiat and Inuit) phenomenon began, and every coastal culture from the far north Pacific, to Chukotka, to north Alaska, and to arctic Canada and Greenland, has its foundation in the cultural developments that occurred around the Bering Sea.

¶141: Tikal Reports: the series continues

¶142: The University of Pennsylvania Museum's Tikal Project of 1958–1968 was one of the great Maya investigations of the twentieth century. It was the most ambitious study of a Maya city so far undertaken, with scores of staff, graduate students and local workers engaged in a range of activities from mapping the site core and its surrounding settlement, to stripping the tropical forest from the colossal temple-pyramids and restoring them, to establishing an occupation history that eventually showed an origin for Tikal in the mid-first millennium BC and abandonment more than sixteen centuries later at the end of the Classic period. The impact of the project's results, publications and cadre of trained Mayanists moving out into the academic world was substantial and led to several decades of a Tikal-centric view of ancient Maya civilisation.

¶143: The people of Sunghir: burials, bodies, and behavior in the Earlier Upper Paleolithic.

¶144: Two oxen ahead. Pre-mechanized farming in the Mediterranean.

¶145: Sais II: the prehistoric period at Sa el-Hagar



¶146: The archaeology of prehistoric Arabia: adaptation and social formation from the Neolithic to the Iron Age.

¶147: Aphrodite's Kephali: an Early Minoan I defensive site in eastern Crete.

¶148: Paths to complexity: centralisation and urbanisation in Iron Age Europe.

¶149: Excavations at Cill Donnain: a Bronze Age settlement and Iron Age wheelhouse in South Uist.

¶150: The Roman water pump: unique evidence for Roman mastery of mechanical engineering

¶151: Humayma Excavation Project 2: Nabatean campground and necropolis, Byzantine churches, and Early Islamic domestic structures.

¶152: Aggersborg. The Viking-age settlement and fortress.

¶153: New Book Chronicle

¶154: In the first issue of 2015 we devoted the whole of the NBC to a single publication, Springer's massive Encyclopedia of global archaeology, edited by Claire Smith. The appearance of another blockbusting set of volumes of global remit, authored by a cast of prominent scholars, demands similar attention. The three-volume Cambridge world prehistory, however, adopts a rather different format to the Encyclopedia and this has encouraged us to seek some specialist insight. This issue's NBC therefore takes the form of three parallel reviews—one dedicated to each regional volume—by reviewers invited on the basis of their regional expertise.

¶155: ISSUE 4

¶156: EDITORIAL

¶157: In a famous and oft-quoted passage, the Greek historian Herodotus tells us of a curious custom concerning the Scythians, the peoples inhabiting the steppe lands north of the Black Sea. After burying their dead, they purify themselves in a makeshift tent: “when they have set up three pieces of wood leaning against each other, they extend around them woollen cloths; and having joined them together as closely as possible, they throw red-hot stones into a vessel placed in the middle [ . . . ] They have a sort of hemp growing in this country, very like flax, except in thickness and height: [ . . . ] When therefore the Scythians have taken some seed of this hemp, they creep under the cloths, and then put the seed on the red-hot stones; but this being put on, smokes, and produces such a steam that no Greek vapour-bath would surpass it. The Scythians, transported with the vapour, shout aloud; and this serves them instead of washing, for they never bathe the body in water” (Herodotus 4.73–75).

¶158: Where are the ‘Asturian’ dwellings? An integrated survey programme on the Mesolithic of northern Spain

¶159: Mesolithic hunter-gatherer settlements generally leave ephemeral archaeological traces and are notoriously difficult to detect. Nowhere is this more so than on the northern coast of Spain, despite a long tradition of Mesolithic research. In this project, evidence of Mesolithic activity together with the geomorphological and topographical suitability of particular locations were used to select areas for large-scale geophysical survey. The results demonstrate the potential of the new methodology: magnetometry survey at El Alloru revealed the very first Asturian open-air settlement site to be discovered.

¶160: Another brick in the wall: fifth millennium BC earthen-walled architecture on the Channel shores

¶161: The west European Neolithic is famed for its funerary and ceremonial monuments, but the evidence for houses is sparse. Can this be explained by the materials of which they were built? On the northern coast of Brittany, the site of Lillemer rises from the surrounding marshes and presents abundant evidence of Middle Neolithic occupation, contemporary with the passage graves of the region. Surprisingly, their evidence includes the remains of collapsed earthen-walled structures, providing the northernmost example of this type of architecture in a Neolithic context and a possible explanation for the invisibility of much Neolithic domestic architecture.

¶162: The hidden Egyptian workshop: the lithic grave goods of King Khasekhemwy

¶163: The centuries from the Late Naqada period to the Second Dynasty saw significant changes in Egyptian society. Elite seizures of power and a shift towards a centralised economy changed the way that objects were traded and valued. It is over a century since the discovery of a large flint assemblage in the tomb of Khasekhemwy, the last Second Dynasty ruler, in 'Cemetery B' at Abydos. New analysis of these lithic artefacts has revealed that the presence of debitage among the grave goods was more than simply a by-product of manufacture. Such changes in funerary materiality demonstrate a move towards royal control of a prestige goods economy.

¶164: Rice in ancient Korea: status symbol or community food?

¶165: Rice has been an important cultivated crop in Korea since c. 1500 BC, but in historical times it was a luxury food too valuable for consumption by the farmers who produced it. It was widely used as a form of currency and for tax payments. Analysis of plant remains from Sangdong-dong and Songguk-ri, two Bronze Age settlements of the early first millennium BC, however, reveals that rice was not the preserve of elites in that period. The situation changed with the state formation during the first three centuries AD, when rice consumption became increasingly restricted. Thus in Korea rice was not initially cultivated as a luxury food, but became so through social and political change.

¶166: Equine cranial morphology and the identification of riding and chariotry in late Bronze Age Mongolia

¶167: The adoption of the horse for chariots, wagons and riding had a major impact on human societies, but it has proved difficult to reliably identify early domesticated horses in the archaeological record. 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. The results are applied to archaeological examples from the Deer Stone-Khirigsuur Complex of Bronze Age Mongolia (1300–700 BC) and show that those horses were probably bridled and used for transport.

¶168: The death of a pterodactyl

¶169: The pictograph discovered at Black Dragon Canyon, Utah, in the late 1920s, is a classic example of the Barrier Canyon style, dating probably to AD 1–1100. Creationists, however, have argued, from the incomplete preservation of the motifs, that it depicts a winged monster or pterosaur. 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. By removing interpretational bias, the new technology finally lays to rest the Black Dragon Canyon pterosaur.

¶170: Northern outpost of the Caliphate: maintaining military forces in a hostile environment (the Dariali Gorge in the Central Caucasus in Georgia)

¶171: The strategic significance of the Dariali Gorge, the main pass across the central Caucasus, has long been recognised. It forms a border today as it has done for much of the past 2000 years. But how was an effective military force sustained in an isolated Alpine environment? Excavations, osteoarchaeology and landscape survey have revealed that the Early Middle Ages saw as much investment in controlling this key route as there was in Antiquity. Guarded by the same Muslim-led garrison for at least a quarter of a millennium, its survival in a harsh environment was made possible through military effort and long-distance food supplies.

¶172: Smoke in the eyes? Archaeological evidence for medicinal henbane fumigation at Ottoman Kaman-Kalehöyük, Kırşehir Province, Turkey

¶173: The medicinal use of narcotics has a long history, extending back thousands of years, but installations for the ingestion of such substances are rarely preserved. One such installation was found in the Ottoman (fifteenth–seventeenth centuries) levels at Kaman-Kalehöyük, a multi-period settlement mound in central Turkey. Excavations of an Ottoman tandır or ventilated earth-oven have revealed a concentration of charred henbane seeds that suggest the hearth had been used for medicinal fumigation. Henbane smoke was a traditional treatment for relieving toothache and other maladies, but this is the first archaeological evidence for the practice in Asia.

¶174: The archaeology of Mauritius

¶175: The archaeology of Atlantic slavery has been widely studied in recent years, but less attention has been paid to the post-slavery system of indenture that transported contract labourers from South Asia, China and Africa to new lands. Colonial Mauritius has left abundant archaeological remains, not least the cemetery for slaves and freed slaves established at Le Morne in the nineteenth century. Analysis of aDNA has demonstrated that individuals buried at Le Morne were of Madagascan and East African (probably Mozambican) origin, testifying to the long-distance movement of slave labour.

¶176: Warfare and big game hunting: flaked-stone projectile points along the middle Gila River in Arizona

¶177: Ethnohistorical and ethnographic observations from around the world indicate that projectiles were often made differently for warfare and hunting. Using experiential archaeology and analysis of a thousand years' worth of data from the middle Gila River in Arizona, the authors argue that side-notched arrow points were produced for hunting large animals and were designed to be retrieved and reused, while unnotched points were intended for single use and for another purpose: to kill people. The data suggests furthermore that the region witnessed a steady increase in levels of violence during the period under study.

¶178: Microliths and maritime mobility: a continental European-style Late Mesolithic flint assemblage from the Isles of Scilly

¶179: Once Britain had become separated from the European mainland in the seventh millennium BC, Mesolithic stone tool traditions on opposite sides of the newly formed Channel embarked upon different directions of development. Patterns of cross-Channel contact have been difficult to decipher in this material, prior to the expansion of farming (and possibly farmers) from northern France at the beginning of the fourth millennium BC. Hence the discovery of Late Mesolithic microliths of apparently Belgian affinity at the western extremity of southern Britain—in the Isles of

Scilly—comes as something of a surprise. The find is described here in detail, along with alternative scenarios that might explain it. The article is followed by a series of comments, with a closing reply from the authors.

¶180: Looking at things anew

¶181: The paper by Anderson-Whymark, Garrow and Sturt raises very important questions about how we understand Later Mesolithic Britain, Ireland and continental Europe. National research traditions have, at times, obscured our understanding of contacts and connections between areas in the Mesolithic. A focus on the distribution of a small range of artefacts has created a situation where Mesolithic cultures begin to resemble nation-states (Marchand 2014: 11). Our terminology reflects and reifies these distinctions. If we wish to understand how social geographies within Britain and Ireland change over time, it is unhelpful, to say the least, that they should have such inconsistent period terminology: the British Early Mesolithic is absent from Ireland; the British Later Mesolithic is the Irish Early Mesolithic; and the Irish Later Mesolithic does not exist in Britain. The continental terminology is different again, and linguistic barriers remain a problem to regional-level synthesis. Anderson-Whymark et al.'s engagement with the loving detail of French lithic typology is hence to be welcomed.

¶182: The end of 'splendid isolation': a continental perspective on the Old Quay discovery

¶183: The discovery of Mesolithic arrowheads on the Isles of Scilly with clearly continental European roots challenges the most deeply embedded ideas of Mesolithic specialists. While the disturbed stratigraphic context prevents a full understanding of the complete technical system, we must draw some conclusions regarding the Neolithic transition, and the ways and means of prehistoric navigation. At a more methodological level, this important discovery raises questions about our reading of features of technology, such as the nature of the transfers and whether they were exchanges or copies.

¶184: Frightful neighbourhood

¶185: Hugo Anderson-Whymark, Duncan Garrow and Fraser Sturt are to be congratulated on an important find and a robust evaluation of its significance. As they point out, it was Roger Jacobi who first introduced the notion that Britain had been culturally isolated from the continent following the flooding of the English Channel; this was on the basis of stylistic differences between the microlithic assemblages found in the two areas in the later Mesolithic. Equally, although Villeneuve-Saint-Germain communities were established in Normandy early in the fifth millennium BC, and Chassey/Michelsberg groups in the Pas-de-Calais perhaps six hundred years later, the material evidence of their cross-Channel relations with British and Irish hunter-gatherers is limited. On this basis, the view has developed that indigenous people in Britain would have been unaware of the developing Neolithic in France and Belgium. Consequently, they would have had no familiarity with domesticated plants and animals, polished stone tools, ceramics, large timber buildings and mortuary monuments until such innovations were brought to these islands by migrating agriculturalists at the end of the millennium. If Mesolithic people played any part at all in the Neolithic transition, it would only have been after the arrival of settlers on these shores.

¶186: The 'microliths' from the Isles of Scilly and the continental Mesolithic: similar yet still so different

¶187: There is little doubt that the small lithic assemblage from the Isles of Scilly is totally different to that from any other Mesolithic site in Britain. As the authors correctly state, the general

resemblances to trapeze-dominated assemblages from the continent, in particular to the Late and Final Mesolithic industries from northern France, Belgium and the southern Netherlands, are very obvious. Typologically, the majority of armatures relate to continental rhombic trapezes, called 'trapezes à bases décalées'. Upon closer examination, however, several armatures display morphological or technical features that deviate from continental trapezes, making the Scilly assemblage both unique and enigmatic within north-west Europe. In particular, the presence of a dorsally or ventrally retouched base between both truncations on at least 20 of the armatures (p. 962, fig. 5) is remarkable. This is a feature that does not occur on continental trapezes, not even on the evolved rhombic trapezes known as flèches de Dreuil. The latter are particularly numerous in assemblages from the Somme valley (Ducrocq 1991), near the coast where the Channel crossing is narrowest. The combination of a length-width ratio typically <1 and the general use of flakes as blanks prompts us to interpret these implements as transverse arrowheads rather than standard trapezes. Pursuing this interpretation, the basal retouch might have been applied in order to facilitate their hafting, while the irregular small 'splinters' on the unretouched opposite end, visible on several of the drawings, might correspond to damage resulting from use.

¶188: The tip of the iceberg? Reply to responses

¶189: We would like to thank all four authors for their thoughtful responses to our paper and the assemblage it describes. In some cases those comments confirmed things we had thought already, but in others they surprised us, confronting us with ideas that we had never previously considered. Collectively this has made us think hard about future research possibilities.

¶190: Historical archaeologies of spatial practices and power

¶191: Archaeologists who employ regional landscapes as an organising principle tend to be more concerned about how landscapes—natural, built and imagined—reflect cultural values than how landscapes shape human relations and community perspectives. As the authors of these two volumes skilfully demonstrate, 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. Together, J. Cameron Monroe and James Delle advance the inherent possibilities of space and scale in historical archaeology.

¶192: Sources and semiotics: obsidian studies in North-east Asia and Mesoamerica

¶193: Heritage crime matters

¶194: Thin on the ground: Neandertal biology, archeology, and ecology.

¶195: Rainforest foraging and farming in Island Southeast Asia. (The archaeology of the Niah Caves, Sarawak 1).

¶196: Nomadism in Iran: from antiquity to the modern era.

¶197: L'habitat du néolithique ancien de Colombelles 'Le Lazzaro'

¶198: The West Bank Survey from Faras to Gemai I: sites of Early Nubian, Middle Nubian and Pharaonic Age

¶199: Forum Iulium: L'area del Foro di Cesare alla luce delle campagne di scavo 2005–2008. Le fasi arcaica, repubblicana e cesariano-augustea.

¶200: The origin of Roman London.

¶1201: The inner lives of ancient houses: an archaeology of Dura-Europos.

¶1202: Early Cornish sculpture (Corpus of Anglo-Saxon Stone Sculpture volume XI).

¶1203: Excavations at Gilund: the artifacts and other studies.

¶1204: The maritime archaeology of a modern conflict. Comparing the archaeology of German submarine wrecks to the historical text.

¶1205: New Book Chronicle

¶1206: Where has archaeology come from and where is it going? In this instalment of NBC, we survey 'modern-world' and post-colonial archaeologies, focusing on the eighteenth and nineteenth centuries. We move on to consider the role of cultural heritage and its colonial baggage in the process of nation-building in Jordan and Singapore—and we conclude by taking leave of this planet altogether and heading into outer space.

¶1207: ISSUE 5

¶1208: The summer of 2015 marks the seventieth anniversary of one of the tragic turning points in recent human history: the detonation of the two atomic bombs at Hiroshima and Nagasaki on 6 and 9 August 1945. Those events were soon followed by the Cold War and the build-up of nuclear arsenals capable of obliterating the world population several times over.

¶1209: Light in a Neolithic dwelling: Building 1 at Koutroulou Magoula (Greece)

¶1210: Light has been considered in various archaeological contexts from the Bronze Age to post-Classical periods, but largely in association with religion and ritual. The importance of light in the daily routines of a Neolithic dwelling is the context for this investigation, 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. Light may have operated not simply in a functional sense but also to divide domestic space and provide a distinction between public and private areas.

¶1211: Phytoliths and rice: from wet to dry and back again in the Neolithic Lower Yangtze

¶1212: The cultivation of rice has had a major impact on both societies and their environments in Asia, and in China in particular. 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. It was only in the later third millennium BC that the strategy changed and irrigated paddies came into use. The results demonstrate that plant remains, including weed assemblages, can reveal wetter or drier growing conditions, showing changes in rice cultivation from flooded and drained fields to large, intensively irrigated paddies.

¶1213: The end of the affair: formal chronological modelling for the top of the Neolithic tell of Vinča-Belo Brdo

¶1214: 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 to the Neolithic tell of Vinča-Belo Brdo in order to answer long-standing questions about the timing and circumstances of its demise. Modelled date estimates place the end of the site in the second half of the forty-sixth century cal BC. Two successive horizons of closely spaced houses each suffered extensive burning; the interval between them was placed at a

maximum of 25 years, with the last house probably used for less than 15 years. The evidence suggests that these house burnings were deliberate, and opens new considerations for the causes of the end of the tell-based system in south-east Europe.

¶1215: Digital imaging and prehistoric imagery: a new analysis of the Folkton Drums

¶1216: The Folkton 'Drums' constitute three of the most remarkable decorated objects from Neolithic Britain. New analysis using Reflectance Transformation Imaging and photogrammetry has revealed evidence for previously unrecorded motifs, erasure and reworking. Hence these chalk drums were not decorated according to a single, pre-ordained scheme, but were successively carved and recarved over time. Such practices may have been widespread in the making of artefacts in Neolithic Britain. The study of these drums also demonstrates the ability of these new techniques not only to record visible motifs, but to document erased and reworked motifs clearly.

¶1217: Feeding Stonehenge: cuisine and consumption at the Late Neolithic site of Durrington Walls

¶1218: The discovery of Neolithic houses at Durrington Walls that are contemporary with the main construction phase of Stonehenge raised questions as to their interrelationship. Was Durrington Walls the residence of the builders of Stonehenge? Were the activities there more significant than simply domestic subsistence? 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.

¶1219: Wearing environment and making islands: Britain's Bronze Age inland north sea

¶1220: Dramatic environmental changes have had an enormous impact on human populations in the past, sometimes expressed through objects that might easily be overlooked. The later prehistory marine inundations within the fenland of East Anglia—and the eventual creation of its islanded marsh-landscape—demanded a social response open to investigation. Did they alter the ways that communities expressed their identity? Did larger communities develop to exploit the new economic potential of things such as salt? Behind these major shifts, smaller signifiers such as shell necklaces may offer clues about use of resources and the identity of those who lived through these changes.

¶1221: Rainfall and circular moated sites in north-east Thailand

¶1222: The existence of moated mounds in the archaeological record of north-east Thailand has long been known, the majority constructed during the earlier first millennium AD. Despite considerable research, the purpose of the substantial and sometimes multiple moats surrounding raised occupation mounds has remained a mystery. 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.

¶1223: From 'collapse' to urban diaspora: the transformation of low-density, dispersed agrarian urbanism

¶1224: In the tropical regions of southern Asia, Southeast Asia and the southern Maya lowlands, the management of water was crucial to the maintenance of political power and the distribution of communities in the landscape. Between the ninth and sixteenth centuries AD, however, this diverse range of medieval socio-political systems were destabilised by climatic change. Comparative study

reveals that despite their diversity, the outcome for each society was the same: the breakdown of low-density urban centres in favour of compact communities in peripheral regions. The result of this, an 'urban diaspora', highlights the relationship between the control of water and power, but also reveals that the collapse of urban centres was a political phenomenon with society-wide repercussions.

¶1225: Mummification in Bronze Age Britain

¶1226: Intentional mummification is a practice usually associated with early Egyptian or Peruvian societies, but new evidence suggests that it may also have been widespread in prehistoric Britain, and possibly in Europe more generally. Following the discovery of mummified Bronze Age skeletons at the site of Cladh Hallan in the Western Isles of Scotland, a method of analysis has been developed that can consistently identify previously mummified skeletons. The results demonstrate that Bronze Age populations throughout Britain practised mummification on a proportion of their dead, although the criteria for selection are not yet certain.

¶1227: Using experimental archaeology and micromorphology to reconstruct timber-framed buildings from Roman Silchester: a new approach

¶1228: Determining the internal layout of archaeological structures and their uses has always been challenging, particularly in timber-framed or earthen-walled buildings where doorways and divisions are difficult to trace. In temperate conditions, soil-formation processes may hold the key to understanding how buildings were used. The abandoned Roman town of Silchester, UK, provides a case study for testing a new approach that combines experimental archaeology and micromorphology. The results show that this technique can provide clarity to previously uncertain features of urban architecture.

¶1229: 'Visual competence' in archaeology: a problem hiding in plain sight

¶1230: This paper is dedicated to the memory of Peter Connolly FSA (1935–2012), illustrator, author, experimental archaeologist and inspiration.

¶1231: On the relevance of the European Neolithic

¶1232: Sustainability, culture change, 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? We think there is much to learn, be it Malthusian pressures and ancient societal collapse, the devastating effects of European diseases on indigenous New World populations or endemic violence in pre-state societies (e.g. Pinker 2012). By affording a simpler, 'slow motion' view of processes that are greatly accelerated in this century, the detailed, long-term record of the European Neolithic can offer insight into many of these fundamental issues. These include: human adaptations to environmental change (Palmer & Smith 2014), agro-pastoral innovation, human population dynamics, biological and cultural development, hereditary inequality, specialised occupations and private ownership.

¶1233: Debating a great site: Ban Non Wat and the wider prehistory of Southeast Asia

¶1234: Almost half a century has elapsed since the first area excavation of a prehistoric site in north-east Thailand at Non Nok Tha (Bayard & Solheim 2010) (Figure 1). A long and still unresolved debate



has ensued, centred on the chronology of the establishment of rice farming and bronze casting, that has dovetailed with further controversies on the pace and nature of social change. Results obtained during the past 20 years of fieldwork focused on the upper Mun Valley of north-east Thailand, together with a new series of AMS radiocarbon determinations from key sites, have thrown into sharp relief contrasting interpretations of two issues: one centres on the timing and origin of the Neolithic settlement; the other on the date and impact of copper-base metallurgy. A consensus through debate would bring us to a tipping point that would see Southeast Asian prehistory turn to more interesting issues of cultural change.

¶1235: Mainland Southeast Asia: towards a new theoretical approach

¶1236: Higham's paper calls for a consensus on the chronology of the Neolithic through to the Bronze period in mainland Southeast Asia (MSEA), articulating a series of questions relating to human mobility, subsistence and socio-cultural organisation within this timeframe. Having worked in Vietnam for 20 years, and being very familiar with the 'Vietnamese' Neolithic, I must admit to having paid little attention to the so-called LCM (long chronology); this is because the chronology suggested by its (limited number of) proponents is simply inconsistent with what is known of the development of the Neolithic in Vietnam and the later emergence of bronze technology. In terms of the broader chronology of MSEA, my colleagues and I (e.g. Oxenham et al. 2015) have stressed the observation of a virtual eruption of Neolithic sites across the region c. 4000 BP, overlapping with the terminal phase of the southern Chinese Neolithic, which no doubt fuelled (in terms of genes and technology) the major transformations observed among its more southerly neighbours.

¶1237: Ban Non Wat: crucial research, but is it too soon for certainty?

¶1238: As Charles Higham so rightly states, chronology is a major key to unlocking the prehistoric past, perhaps even the master key. Most readers nowadays will agree that the chronologies for the inceptions of farming and bronze working in north-east Thailand, as put forward in the 1970s, were in error, 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. I am sure I have been guilty of similar lapses, so apportioning blame is not on my mind and would indeed be pointless.

¶1239: Ban Non Wat: mainland Southeast Asian chronological anchor and waypoint for future prehistoric research

¶1240: The timing and nature of Southeast Asia's Neolithic and Bronze Ages have been the source of global archaeological intrigue, scepticism (on occasion) and even notoriety for some five decades (e.g. Muhly 1981). Being asked to review an account of what has been an emotive topic provoked a personal response, which I hope may contribute to highlighting the impact of Charles Higham's work and that of his many colleagues.

¶1241: Comment on 'Debating a great site: Ban Non Wat and the wider prehistory of Southeast Asia'

¶1242: Many of the components of this argument can be seen as a matter of debate; for example, the occurrence at sites in north-east Thailand of indisputably Bronze Age flexed burials contradicts Higham's contention that flexed graves represent earlier indigenous hunter-gatherer populations. The occurrence of tin-bronze artefacts in ordinary graves at other sites in north-east Thailand belies the proposed scenario that bronze was necessarily a 'prestige valuable' that generated a competitive milieu, particularly as the early metal artefacts at Ban Non Wat are unalloyed copper. It is my view

that although the argument may initially appear convincing, it is based on selected, simplified and flawed data chosen to fit pre-determined social and chronological models.

¶243: Reply to responses

¶244: The principal point of my debate paper was to stress the importance of anchoring the chronology of the Neolithic to the Iron Age cultural sequence in north-east Thailand by 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.

¶245: Rarity and rank in Neolithic France

¶246: The pursuit of higher social rank by possessing artefacts of rare skill or distant origin is a familiar principle (Binford 1962; Helms 1993). *Signes de richesse* ('Signs of wealth') is an exhibition of evidence for this practice during the Neolithic period in France. It opened in June 2015 at the French National Museum of Prehistory, Les Eyzies, where the usual fare is Palaeolithic archaeology (Chancerel et al. 2015: 13). The exhibition's main concepts and some of its data spring from the great 'Jade Project' on the acquisition, manufacture and distribution of 'big axes' (Pétrequin et al. 2012). The display is alluring, but the underlying argument is flimsy because the conceptual principles remain implicit. For whom, then, was *Signes* designed?

¶247: Recent developments in later prehistoric Iberia

¶248: In contrast to the well-known Palaeolithic archaeology of Iberia and its contribution to scholarly debates on the earliest Europeans, the later prehistory (c. 5600–400 BC) of the peninsula remains a relatively unknown subject for the wider world. The three recent volumes under review therefore provide the opportunity to outline current trends in research on the first farmers at the westernmost end of Europe and to assess what these contribute to wider understanding of the past. A common thread among the three volumes is that they are predominantly authored by local (Spanish and Portuguese) scholars but aimed at an international readership, addressing questions of global interest. They tackle essentially Iberian research issues, but some of these (e.g. monumental ditched enclosures, the emergence of unequal socio-political structures) are to be understood as pan-European phenomena.

¶249: The aspirations of Albanian archaeology

¶250: These words, published in the pages of *Antiquity* more than 20 years ago, belie the dark depths into which Albanian archaeologists were plunged with the transition to democracy during 1991–1992. Despite the long bread queues that characterised Albanian life before the Iron Curtain fell, Albanian archaeologists engaged in missions across the country—nearly 50 in 1988. 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. 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. And yet the Institute of Archaeology has tenaciously held its place in Albanian society, and, under the leadership of the adroit Muzafer Korkuti (Hodges &

Bejko 2006), and now Luan Përzhita, there has been a steady direction that can be readily detected in this encyclopaedic volume arising from a conference held during the centenary celebrations of the Republic of Albania.

¶251: Forgotten and ephemeral? The Palace of the Kings of Majorca, Perpignan

¶252: The titles of these weighty tomes invite questions: the palace of whom? The kings of where? A palace when? Olivier Poisson, concluding the first volume, writes of the restoration programme of 1943–1960 that “le palais est resté, malgré le pari des restaurateurs de la décennie 1950, le souvenir un peu vide et abstrait d’une ‘monarchie oubliée et éphémère’” (p. 539). This ‘forgotten and ephemeral monarchy’ of Majorca, a scion of the kings of Aragon, ruled from 1270–1344. In 1276, the monarchy had made Perpignan the capital of the Kingdom of Majorca and began work on the ‘Palais des Rois de Majorque’. To posterity’s good fortune, the final Majorcan monarch, James III (‘the Unfortunate’), left the ‘Lois palatines’ (Palatine Laws) of 1337 that provide key insights into the etiquette and even the significance of colour in the early fourteenth-century palace. Following the dispossession of James III in 1344, Perpignan came into the hands of the Aragonese monarchy until 1462. The Palace then passed into French ownership and was used as a barracks for three decades in the late fifteenth century. Following return to Spanish ownership in 1493, Emperor Charles V, Philip II and their successors made further modifications. The Palace finally came back into French hands in 1659 and was henceforth a barracks, graced by significant extension of the fortifications by Vauban. Under French military control, benign neglect preserved early architectural phases, a signal advantage for those subsequently involved in the restoration of the Palace. Following the fall of France in 1942 (and with Spain in fascist hands), the buildings were largely released from military use and handed to the local authorities of the Pyrénées Orientales. A programme of repair and restoration was established, and brought to fruition by the local socialist mayor, a former member of the Resistance, towards the end of the 1940s. The restored buildings were opened to the public in 1958.

¶253:

¶254: Prehistoric copper mining in Europe: 5500–500 BC.

¶255: Elevated rock art: towards a maritime understanding of Bronze Age rock art in northern Bohuslän, Sweden

¶256: Les Trois Bergers. Du conte perdu au mythe retrouvé. Pour une anthropologie de l’art rupestre saharien.

¶257: Pyla-Kokkinokremos: a late 13th century BC fortified settlement in Cyprus. Excavations 2010–2011

¶258: Pyla-Koutsopetria I: archaeological survey of an ancient coastal town

¶259: Nok: African sculpture in archaeological context.

¶260: Romano-British round houses to medieval parish: excavations at 10 Gresham Street, City of London, 1999–2002

¶261: The evolution and exploration of the Avon flood plain at Bath and the development of the southern suburb. Excavations at Southgate, Bath, 2006–9

¶262: Spong Hill IX: chronology and synthesis.

¶263: Woodstown: a Viking-age settlement in Co. Waterford.

¶1264: Constructing community: the archaeology of early villages in central New Mexico.

¶1265: New Book Chronicle

¶1266: If you are reading this instalment of NBC while eating a sandwich at your keyboard, you may conclude that we have lost touch with the ways in which people produced and consumed food in the past. The books under review here—on palaeoethnobotany and feasting—might encourage you to enjoy tomorrow's lunch in the more convivial atmosphere of the common room or canteen. Meanwhile, desk-diners who read on, be warned that we finish with a volume concerning the inevitable bodily by-products of all this eating and drinking, and some of the unpleasant organisms therein. Caveat cenator!

¶1267: ISSUE 6

¶1268: EDITORIAL

¶1269: Readers of *Antiquity* will, I hope, excuse me for opening this editorial with yet another reference to Stonehenge. From the very first issue back in March 1927, a Stonehenge vignette has been the *Antiquity* logo, and Stonehenge also featured in the original editorial and within the contents of the journal itself. Colonel Hawley had completed his extensive excavations only the year before, new work was under way at neighbouring Woodhenge (*Antiquity* 1: 92–95) and attention was turning to its neglected but much larger neighbour, Durrington Walls (*Antiquity* 3: 49–59). *Antiquity* was founded four years too late, however, to report the news that the sources of the famous bluestones had at last been found.

¶1270: Archaeological Futures

¶1271: The future of archaeological theory

¶1272: In this latest contribution to our 'Archaeological Futures' series, Julian Thomas reflects on the current state of Western archaeological theory and how it is probably going to develop over the next few years. Archaeological theory has not ossified in the period since the processual/post-processual exchanges. The closer integration of archaeological thought with philosophical debate in the human sciences has gradually given rise to a theoretical landscape that would have been unrecognisable 30 years ago, wherein 'new materialisms' figure significantly.

¶1273: Hunter-gatherers on the eve of agriculture: investigations at Soro Mik'aya Patjxa, Lake Titicaca Basin, Peru, 8000–6700 BP

¶1274: Recent excavations at the site of Soro Mik'aya Patjxa in the south-central Andes have revealed the earliest securely dated cultural features in the Lake Titicaca Basin. Radiocarbon assays show that the site was occupied across the Middle to Late Archaic period transition between 8000 and 6700 cal BP. The rich material assemblage makes it possible to identify behavioural patterns among these last hunter-gatherers of the Titicaca Basin, which anticipate later developments in the trajectory to socioeconomic complexity. Mobile hunter-gatherers appear to have occupied the site repeatedly for more than a millennium. Evidence for intensive subsistence practices and interpersonal violence foreshadow the emergence of incipient sedentism, food production and land tenure in subsequent periods.

¶1275: A farewell to arms: a deposit of human limbs and bodies at Bergheim, France, c. 4000 BC

¶1276: Between c. 4500 and 3500 BC, the deposition of human remains within circular pits was widespread throughout Central and Western Europe. Attempts at forming explanatory models for

this practice have proven difficult due to the highly variable nature of these deposits. Recent excavations at Bergheim in Alsace have revealed a particularly unusual variant of this phenomenon featuring a number of amputated upper limbs. The evidence from this site challenges the simplicity of existing interpretations, and demands a more critical focus on the archaeological evidence for acts of systematic violence during this period.

¶1277: Craig Rhos-y-felin: a Welsh bluestone megalith quarry for Stonehenge

¶1278: The long-distance transport of the bluestones from south Wales to Stonehenge is one of the most remarkable achievements of Neolithic societies in north-west Europe. Where precisely these stones were quarried, when they were extracted and how they were transported has long been a subject of speculation, experiment and controversy. The discovery of a megalithic bluestone quarry at Craig Rhos-y-felin in 2011 marked a turning point in this research. Subsequent excavations have provided details of the quarrying process along with direct dating evidence for the extraction of bluestone monoliths at this location, demonstrating both Neolithic and Early Bronze Age activity.

¶1279: Plankboat skeuomorphs in Bronze Age logboats: a Scandinavian perspective

¶1280: Logboats are widely known as the earliest form of water transport and continue to be used today. How then can such a ubiquitous phenomenon be useful in demonstrating maritime networks between distant places? A reassessment of the European, and especially Scandinavian, examples of logboats has revealed that technological and decorative aspects of their design demonstrate a connection between Western Europe, Scandinavia and Britain and Ireland. Here the details of this skeuomorphism are used to argue for a North Atlantic, European maritime network in the Bronze Age.

¶1281: Buried with sickles: early modern interments from Drawsko, Poland

¶1282: In Central Europe, medieval and early modern burials sometimes contain iron sickles placed on the body or in direct contact with the deceased. Previous interpretations have considered them as markers of social status or occupation, or as magical and apotropaic. Detailed analysis of sickle burials from a cemetery at Drawsko in Poland leads to a discussion of demonology beliefs, dual faith and a resurgence in paganism following the Counter-Reformation. The results illustrate how the sickle might have served as an indicator of social identity, the nature of the individual's death and the way the deceased was perceived within their community.

¶1283:

¶1284: Special Section: new discoveries at Angkor Wat, Angkor

¶1285: Angkor Wat: an introduction

¶1286: The temple of Angkor Wat, visited annually by tens of thousands of tourists, is without question one of the great archaeological sites of mainland Southeast Asia. Less obvious to the casual visitor is that it was but a single element in a large dispersed city. The papers in this special section demonstrate how recent research using LiDAR, ground-penetrating radar and targeted excavation have transformed our understanding of Angkor Wat and its surroundings.

¶1287: The landscape of Angkor Wat redefined

¶1288: For over a century, the landscape of Angkor Wat and its surrounding area have been the focus of archaeological study. These studies have been constrained substantially, however, by a lack of chronological resolution in the features of the landscape and the difficulty of dating elements of the

cultural assemblage. Recently obtained LiDAR data have transformed understanding of the Angkor Wat complex, enabling archaeologists to map terrain usually obscured by dense and protected vegetation. The results have informed targeted ground-based research, demonstrated previously unknown relationships between elements of the site, shown that the complex is much more extensive than previously thought and revealed a massive, unique and unknown structure.

¶1289: The buried 'towers' of Angkor Wat

¶1290: The impressive architecture of Angkor Wat conveys a sense of harmonious design, but recent survey using ground-penetrating radar (GPR), coupled with targeted excavation, reveals a more complex picture. Fragmentary traces of a quincunx of earlier towers have been detected, which were partially demolished when the outer enclosure and western gateway were completed. Are these the remains of a shrine used during the construction period? If so, they throw new light on associated ritual activity during the building of Angkor Wat.

¶1291: Residential patterning at Angkor Wat

¶1292: Considerable attention has been devoted to the architecture and art history of Cambodia's Angkor Wat temple in the last century. There has, however, been little research on the functions and internal organisation of the large rectangular enclosure surrounding the temple. Such enclosures have long been assumed to have been sacred precincts, or perhaps 'temple-cities': work exploring the archaeological patterning for habitation within them has been limited. The results of LiDAR survey and excavation have now revealed evidence for low-density residential occupation in these areas, possibly for those servicing the temple. Recent excavations within the enclosure challenge our traditional understanding of the social hierarchy of the Angkor Wat community and show that the temple precinct, bounded by moat and wall, may not have been exclusively the preserve of the wealthy or the priestly elite.

¶1293: The fortification of Angkor Wat

¶1294: Famous for its role as a Vishnuite temple during the twelfth and thirteenth centuries, Angkor Wat's subsequent fate has attracted less interest. Traces of modifications to the outer walls of the complex may, however, hold the key to understanding its role during its later phases. Here, holes in the masonry and structural changes to the substantial walls are investigated to demonstrate how wooden structures with a defensive role were built to protect the site sometime between the late thirteenth and early seventeenth centuries. The results reveal how Angkor Wat may have made its last attempt at defence.

¶1295: The data deluge

¶1296: Archaeology has wandered into exciting but daunting territory. It faces floods of new evidence about the human past that are largely digital, frequently spatial, increasingly open and often remotely sensed. The resulting terrain is littered, both with data that are wholly new and data that were long known about but previously considered junk. 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.

¶1297: Kennewick Man: coming to closure

¶1298: Few human remains from the distant past have achieved the public visibility and notoriety of Kennewick Man (the Ancient One). Since his discovery in July 1996 in the state of Washington, he has appeared on one of America's best-known television news programmes, 60 Minutes. He has been on the cover of Time magazine and in the pages of People, Newsweek and The New York Times. He has been the subject of popular press books (Downey 2000; Thomas 2000; Chatters 2001), and for many years running there were almost annual updates on his whereabouts and status in Science (some 30 in the decade following his discovery). That is saying nothing of the scholarly notice and debate he has drawn (e.g. Swedlund & Anderson 1999; Owsley & Jantz 2001; Steele & Powell 2002; Watkins 2004; Burke et al. 2008), including a recently issued tome marking the culmination of almost a decade of study (Owsley & Jantz 2014a).

¶1299: Animals and humans in complex societies

¶1300: Zooarchaeology, once largely confined to questions of subsistence and production strategies, has recently devoted much more attention to the social roles of animals in the past. Responding (belatedly) to trends in archaeological theory, on the one hand, and the growth of interdisciplinary animal studies, on the other, zooarchaeologists are now using animal remains to address a broader range of questions that are of interest to archaeologists and others (e.g. Gifford-Gonzalez 2007; Oms 2010; Hill 2013). The three books here exemplify this development, all using zooarchaeological data to explore the varied roles of animals in (mainly) complex societies. Each ranges widely and demonstrates the centrality of animals in the human world, and, therefore, their great potential to illuminate the workings of ancient societies. Each also integrates zooarchaeological data with many other sources of information to create a whole much greater than any of the parts. There is a little overlap in authorship, with a chapter by Sykes in Animals and inequality in the ancient world and contributions by Michael MacKinnon in both edited volumes. These common threads aside, they are quite different books, with different goals and audiences.

¶1301: Near Eastern archaeology and global history

¶1302: 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. The volumes under review here continue this tradition. But, more significantly, they also demonstrate the current efforts by these researchers to bring archaeology out of its provincial past in the heartland of biblical archaeology and towards an engagement with contemporary issues in anthropological archaeology and, less explicitly perhaps, global history. One volume, New insights into the Iron Age archaeology of Edom, reports on the results of a single major research initiative, the Edom Lowlands Regional Archaeology Project (ELRAP); the other, Southern Transjordan Edomite Plateau and the Dead Sea Rift Valley to the west, synthesises a number of smaller survey projects directed by Burton MacDonald over the past three decades.

¶1303: More than just pretty pictures: red-figure pottery production beyond Athens

¶1304: Red-figure pottery first achieved prominence in the modern world through antiquarianism and the collection of souvenirs on the Grand Tour. 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. Famous private collections were formed, many of which subsequently entered the world's great museums. Less value was placed upon the vessels as archaeological objects. The contexts in which they were found, their associations with other objects and their roles in ancient society were given little consideration.

The pursuit of intact vases led to a focus on cemeteries, and many discoveries were, and indeed continue to be, the result of looting. Thus, most museum collections are dominated by vessels without proper provenance. Moreover, collections are skewed towards funerary and, to a lesser extent, sanctuary evidence, and away from material used in domestic contexts. The importance of iconography and aesthetics means that museums tend to display the most varied and beautiful vessels, ignoring much of the output of ancient workshops.

¶305: Maya: revelation and re-evaluation

¶306: Maya archaeology is flourishing; across three millennia, four countries and an impressive range of intellectual and practical approaches, the eight books under review here make that point well. One is the ninth edition of a deservedly successful book for a general readership, one the catalogue of the first Maya exhibition to be held in Britain in nearly half a century. A further volume deals with sites in the northern Maya lowlands of the Yucatan Peninsula, another with those in the eastern lowlands, the former British colony of Belize. Two are site-specific: the major city of El Perú-Waka' in the southern lowland Maya heartland of El Petén, Guatemala, and the idiosyncratic élite centre of Cacaxtla in central highland Mexico where Maya influence on the famous murals is both striking and puzzling. Finally, two have a scientific bent: collections of papers on bioarchaeology/population studies and archaeoastronomy respectively. All draw their evidence, and their illustrations, largely from the Classic Period (AD 250–900), although there are forays into both the Preclassic (1200 BC–AD 250) and Postclassic (AD 900–1500+).

¶307:

¶308: Archaeology of salt: approaching an invisible past.

¶309: Lithic technological systems and evolutionary theory.

¶310: Technology as human social tradition: cultural transmission among hunter-gatherers

¶311: Wonderful things. A history of Egyptology 1: from Antiquity to 1881.

¶312: The Old Kingdom town at Buhen

¶313: Social networks and regional identity in Bronze Age Italy.

¶314: Italo-Mycenaean pottery: the archaeological and archaeometric dimensions

¶315: The Punic Mediterranean: identities and identification from Phoenician settlement to Roman rule.

¶316: A Roman-British settlement in the Waveney Valley: excavations at Scole 1993–4

¶317: Objects and identities: Roman Britain and the north-western provinces.

¶318: The afterlife of the Roman city: architecture and ceremony in Late Antiquity and the Early Middle Ages.

¶319: Evolution of a community: the colonization of a clay inland landscape.

¶320: Staunch Meadow, Brandon, Suffolk. A high-status Middle Saxon settlement on the fen edge

¶321: The cruciform brooch and Anglo-Saxon England

¶322: Books Received



¶323: This list includes all books received between 1 July 2015 and 31 August 2015.

## Name: Antiquity 2016 abstracts

¶1: Antiquity 2016 abstracts

¶2: ISSUE 1

¶3: EDITORIAL

¶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?

¶5: Migrations and interactions in prehistoric Beringia: the evolution of Yakutian lithic technology

¶6: Flaked-tool technology can provide insights into social and cultural changes and interregional connections. This study of changing tool production covers the Upper Palaeolithic to the Late Neolithic in the Yakutia region of eastern Siberia. This region is home to the Palaeolithic Dyuktai complex, the Mesolithic Sumnagin complex and Neolithic traditions; it thus enables a better understanding of the material culture of these societies in Siberia and improves our knowledge of the complex migration processes towards the New World.

¶7: First Palaeolithic rock art in Germany: engravings on Hunsrück slate

¶8: The engravings discovered on a slate rock face near the village of Gondershausen in the Hunsrück Mountains in 2010 represent the northernmost example of open-air Palaeolithic rock art in Europe, and the first in Germany. 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. The survival of these Palaeolithic engravings through the Last Glacial Maximum is testimony to the unusual circumstances of their preservation.

¶9: Trade me an axe? Interpretive challenges of the distribution and provenance of Neolithic basaltic bifacial tools in Israel

¶10: The discovery of a Neolithic quarry and production site for basanite bifacial tools at Giv'at Kipod in Israel has provided new insights into these socially significant artefacts. 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. Results suggest that Giv'at Kipod was an important production centre for over several millennia. It operated primarily on a local, regional level and independently of the parallel manufacture-and-distribution mechanisms of flint bifacials. While flint tools developed in response to the practical requirements of the transition to agriculture in the region, ground-stone bifacials appear to have been a product of economic changes and evolving social structures.

¶11: Scalar differences: temporal rhythms and spatial patterns at Monjukli Depe, southern Turkmenistan

¶12: New investigations at the site of Monjukli Depe in southern Turkmenistan challenge traditional ideas regarding the distinction between the Neolithic and the Aeneolithic in this region. It had previously been argued that the former (the 'Jeitun' culture) represented an expansion of agricultural villages from Mesopotamia, while the latter (best known from the site of Anau) marked the incorporation of local Iranian elements. By integrating multi-scalar analyses of the layout, architectural design and patterning of different household activities at Monjukli Depe, a more nuanced interpretation of temporal and spatial variability of the site's successive occupations becomes possible. The new insights afforded by this approach show that the contrast between the Neolithic and Aeneolithic may not have been as clear-cut as has traditionally been believed.

¶13: Diet, dispersal and social differentiation during the Copper Age in eastern Hungary

¶14: Why did the early farming societies of south-east Europe 'collapse' and become apparently less complex at the end of the Neolithic? 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. The changes of this period appear to indicate a reorganisation of society, perhaps based around extended families, with greater dispersal across the landscape, but without reliance on dairying or the emergence of powerful leaders.

¶15: Cultivation of choice: new insights into farming practices at Neolithic lakeshore sites

¶16: The high-quality organic preservation at Alpine lakeshore settlement sites allows us to go beyond simplistic reconstructions of farming in the Neolithic. The rich archaeological datasets from these sites may be further complemented by methods such as nitrogen isotope ( $\delta^{15}\text{N}$ ) analysis of charred crop remains. At Hornstaad-Hörnle IA and Sipplingen, on the shore of Lake Constance in south-west Germany, 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: Buried with turtles: the symbolic role of the Euphrates soft-shelled turtle (*Rafetus euphraticus*) in Mesopotamia

¶18: Excavations at Kavuşan Höyük (south-eastern Turkey) have revealed evidence of the use of turtles, tortoises and terrapins in post-Assyrian funerary practices. Of particular significance are the remains of the Euphrates soft-shelled turtle (*Rafetus euphraticus*), distinguished from other species of turtle by their quantity and treatment in the burial pit under investigation here. The unique finds from Kavuşan Höyük, coupled with archaeological and textual records, underline the economic and symbolic significance of these animals for communities in prehistoric and early historical Mesopotamia.

¶19: Communal eating and drinking in early Roman Mediterranean France: a possible tavern at Lattara, c. 125–75 BC

¶20: Despite being institutions of major social importance throughout the Roman world, taverns remain poorly understood archaeologically. The identification of one such possible tavern at the Iron Age and Roman site of Lattara in Mediterranean France is hence a discovery of special significance. Not only is the tavern the earliest of its kind in the region, it also serves as an invaluable indicator of

the changing social and economic infrastructure of the settlement and its inhabitants following the Roman conquest of Mediterranean Gaul in the late second century BC.

¶121: The Kayuko Mound Group: a festival site in southern Belize

¶122: The cave of Kayuko Naj Tunich is believed to have been the location of the accession ceremonies for the royal dynasty of the ancient Maya Uxbenká polity in southern Belize. Little is known, however, about the structures referred to as the Kayuko Mound Group that lie close to the cave. Excavations have now provided evidence for the date of this complex, and experimental research has estimated the labour costs involved in its construction. The results suggest that while both the mound group and the cave were involved in the celebration of royal accession, the former acted as a short-lived festival site in contrast to the enduring significance of Kayuko Naj Tunich.

¶123: Anaemia (thalassaemia) in the Middle Euphrates Valley of Syria in the second–fourth centuries AD?

¶124: The migration of individuals and populations was a powerful factor in the spread of diseases among early human societies. Analysis of human remains from Tell Masaikh in the Middle Euphrates Valley provides a striking example in what is probably the earliest case of hereditary anaemia. Skeletal changes were consistent with thalassaemia, an uncommon disease in the steppe areas of Syria. Genetic analyses of the remains confirmed the pathological assessment and also suggested that the individual was of Asian descent, from the Indian Peninsula. Such an ancestry could then explain this unusual occurrence of thalassaemia.

¶125: Weapons of war? Rapa Nui mata'a morphometric analyses

¶126: Traditional explanations of Rapa Nui history invoke environmental degradation and warfare to explain the 'collapse' of the island's social and economic structure. One element in these reconstructions are the stemmed obsidian points known as mata'a, which some have envisaged as spearheads produced in the context of endemic warfare. 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 such as ritual scarification. This discovery provides further evidence against the theory of the violent collapse of Rapa Nui society.

¶127: Satellite evidence of archaeological site looting in Egypt: 2002–2013

¶128: Analysis of satellite imagery covering Egypt between 2002 and 2013 indicates a significant increase in looting and other damage to archaeological sites. Looting escalated dramatically from 2009 with the onset of the global economic crisis, and intensified still further with the Arab Spring in 2011. This was mirrored by an increased volume of Egyptian artefacts sold at auction, suggesting that looting is driven by external demand as well as by internal economic pressures. Satellite analysis can be used to predict the type and period of antiquities entering the market, thereby providing valuable intelligence for international policing of the illicit antiquities trade.

¶129: A fragmented past: (re)constructing antiquity through 3D artefact modelling and customised structured light scanning at Athienou-Malloura, Cyprus

¶130: 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 based on a sample from a large assemblage of terracotta and limestone sculptural fragments from the Cypro-Archaic period (c. 750–475 BC) at Athienou-Malloura, Cyprus.

¶131: Bridging theory and bow hunting: human cognitive evolution and archaeology

¶132: Recognising elements of a ‘modern’ mind or complex cognition in Stone Age archaeology is difficult and often disputed. A key question is whether, and in what way, the thinking of *Homo sapiens* differs from that of other species/sub-species of hominins. We argue that if the question of whether the modern mind is different from that of our ancestors or other members of the hominin family is to be fully explored, some focus should fall on technologies and behaviours unique to *H. sapiens*.

¶133: Conflict antiquities and conflicted antiquities: addressing commercial sales of legally excavated artefacts

¶134: When the antiquities trade is discussed in archaeology it is often prefixed with the pejorative adjective ‘illicit’. ‘Archaeology without context’ is a rallying cry for the archaeological profession to mobilise its collective voice in order to petition against the sale of heritage where an object's history is opaque and very probably a result of destructive looting (Chippindale et al. 2001; Brodie 2006). The vocal campaign of the last decade to ensure that high-profile sales and museum acquisitions of material without documented collection histories do not encourage or sanction looting (e.g. Renfrew 2000; Brodie et al. 2006) has had some success, although objects without findspots continue to surface on the market (e.g.

¶135: ‘Celts: art and identity’ exhibition: ‘New Celticism’ at the British Museum

¶136: Controversies about the ‘Celts’ have constituted an ongoing debate over the last few decades, with postures ranging from blank scepticism and denial, to critical revisions, but also to the maintenance of more traditional approaches. After a lively and overall useful debate in the pages of *Antiquity* between 1996–1998 (principally with articles by Vincent and Ruth Megaw vs Simon James and John Collis), Simon James's controversial volume *The Atlantic Celts. Ancient people or modern invention?* (1999) attracted considerable attention, both among scholars and the wider public, 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*). From a rather different perspective, new approaches based mostly on linguistics emphasise the crucial role of the Atlantic façade in the development of Celtic languages (Cunliffe & Koch 2010).

¶137: Identifying Celts

¶138: The Council of Europe declared 1992 to be the ‘Year of the Ancient Celts’, yet books dealing with the Celts—Celts in the past, Celts today, Celts who never existed—continue to appear unabated. The titles reviewed here are characteristic of three of the main categories of such fare: exhibition catalogues, general introductions and just nice books to look at.

¶139: Mortuary practices and living-dead interactions: recent research in the ancient Andes

¶140: LBK realpolitik: an archaeometric study of conflict and social structure in the Belgian Early Neolithic.

¶141: Cross-roads: Early and Late Iron Age south-eastern Arabia

¶142: Knossos: a Middle Minoan III building in Bougadha Metochi

¶143: Vravron: the Mycenaean cemetery

¶144: Communities of style: portable luxury arts, identity, and collective memory in the Iron Age Levant.

¶145: Mochlos III: the Late Hellenistic settlement: the beam-press complex

¶146: Diana Umbronensis a Scoglietto: santuario, territorio e cultura materiale (200 a.C.–550 d.C.)

¶147: Roman sculpture from London and the South-east

¶148: The restoration of the Roman Forum in Late Antiquity: transforming public space.

¶149: Anglo-Saxon farms and farming.

¶150: Anglo-Norman parks in medieval Ireland.

¶151: The Inka Empire: a multidisciplinary approach.

¶152: New Book Chronicle

¶153: With over half of the world's population living in cities, urbanism is one of the defining characteristics of the contemporary age. In the past, by contrast, most people lived scattered in villages and rural settlements. Yet pre-industrial cities still exerted a disproportionate influence on society, economy and culture. In *Cities that shaped the ancient world*, John Julius Norwich collects 40 of the most influential. Taking inspiration from this urban super league, this instalment of *New Book Chronicle* tackles a selection of new volumes, each concerned with one of the cities identified by Norwich, taking us 5000 years and 13 000 km from Ur to Tikal. Each book also presents a different publication format, offering the opportunity to think not only about the individual cities, but also how we write about them.

¶154: ISSUE 2

¶155: EDITORIAL

¶156: Few of those with any understanding of the scientific evidence have any doubt that the Earth's climate is warming at an accelerating pace. A recent study of European climate since Roman times has underlined how exceptional the last 30 years have been, with average summer temperatures significantly higher than at any time in the previous two millennia. The cause, too, seems now (at last) to be generally agreed: that human activity, and sheer human numbers, are so great that they are affecting the planet's climate system. For some, that is, of course, an inconvenient truth, obliging us to change behaviours in ways that might be costly and troublesome. For archaeologists, versed in the effects of previous climate shifts both large and small, it should provide a golden opportunity to demonstrate the relevance of our discipline, and to cast present problems in the perspective of past events. The Maya drought, the Moche floods, and the low Niles, which may have put an end to the Egyptian Old Kingdom, all offer examples of what can happen to human societies. And of course, at the larger scale, there are the successive 'Ice Ages' that characterised the Pleistocene. There is an argument that we are all, in a sense, a product of the Ice Ages, and it is certainly remarkable how

successful our ancestors became at exploiting sub-Arctic habitats. A 45 000-year-old butchered mammoth in Siberia, 72°N, provides the most vivid recent testimony.

¶157: Neanderthals, trees and dental calculus: new evidence from El Sidrón

¶158: 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 from the 49 000-year-old site of El Sidrón, Spain, 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.

¶159: Farming and foraging in Neolithic Ireland: an archaeobotanical perspective

¶160: Ireland has often been seen as marginal in the spread of the Neolithic and of early farming throughout Europe, in part due to the paucity of available data. By integrating and analysing a wealth of evidence from unpublished reports, a much more detailed picture of early arable agriculture has emerged. The improved chronological resolution reveals changing patterns in the exploitation of different plant species during the course of the Neolithic that belie simplistic notions of a steady intensification in farming, juxtaposed with a concomitant decline in foraging. It is possible that here, as in other areas of Europe, cereal cultivation became less important in the later Neolithic.

¶161: Was the Iceman really a herdsman? The development of a prehistoric pastoral economy in the Schnals Valley

¶162: The discovery of the Iceman in 1991 led to considerable speculation about the reason for his presence at such a remote location in the high Alps. One theory suggested that he was engaged in transhumant pastoralism when he met his death. Recent archaeological and palynological studies, however, have found no evidence of pastoral activities in this region during the Chalcolithic period. Regular exploitation of this upland landscape appears to have begun no earlier than the Middle Bronze Age. The theory that the Iceman was a high-altitude herdsman therefore appears to be untenable.

¶163: The dead of Stonehenge

¶164: The assemblage of Neolithic cremated human remains from Stonehenge is the largest in Britain, and demonstrates that the monument was closely associated with the dead. New radiocarbon dates and Bayesian analysis indicate that cremated remains were deposited over a period of around five centuries from c. 3000–2500 BC. Earlier cremations were placed within or beside the Aubrey Holes that had held small bluestone standing stones during the first phase of the monument; later cremations were placed in the peripheral ditch, perhaps signifying the transition from a link between specific dead individuals and particular stones, to a more diffuse collectivity of increasingly long-dead ancestors.

¶165: Tracing the flows of copper and copper alloys in the Early Iron Age societies of the eastern Eurasian steppe

¶166: Early Iron Age pastoralists of the Eurasian steppes relied heavily on copper for weapons and ornaments, 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.

¶167: Finding history: the locational geography of Ashokan inscriptions in the Indian subcontinent

¶168: The Mauryan dynasty of the third century BC was the first to unite the greater part of the Indian subcontinent under a single ruler, yet its demographic geography remains largely uncertain. 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, which are the first stone inscriptions known from the subcontinent and which constitute the first durable statement of Buddhist-inspired beliefs. 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.

¶169: Roman bazaar or market economy? Explaining tableware distributions through computational modelling

¶170: How closely integrated were the commercial centres of the Roman world? Were traders aware of supply and demand for goods in other cities, or were communities of traders in cities protectionist and working opportunistically? Widely traded commodities such as terra sigillata tablewares in the Eastern Mediterranean provide an ideal opportunity to explore the economic processes that underlie the archaeological evidence. Agent-based computational modelling allows various such processes to be explored, and also identifies areas for further investigation.

¶171: Year 5 at Fukushima: a 'disaster-led' archaeology of the contemporary future

¶172: The triple disaster that hit eastern Japan on 11 March 2011—earthquake, tsunami and nuclear meltdown—was a momentous event with long-term implications for archaeology and heritage. The sheer scale of the damage experienced generated a form of 'disaster-led' preventive archaeology, in line with the reconstruction efforts. As radioactive contamination continues to affect cultural assets including museums and monuments in the exclusion zone, the massive decontamination efforts under way bring about further heritage complications. Alongside its immediate applications, archaeology also has a wider critical role to play: with its mastery of materiality and temporality, it can help envisage the 'contemporary future' at Fukushima, a defining landmark of the feats and failures of late modernity.

¶173: SPECIAL SECTION: NEW DIALOGUES ABOUT ANCIENT MAYA

¶174: 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. In the recent past, others might have grown anxious about the portentous significance of the year 2012. Maya glyphs, so the hucksters affirmed, predicted a cascade of dire events, not one of which (predictably) has come to pass. Then there are those living in Mayaland itself, an area embracing parts of Guatemala, Mexico, Honduras, El Salvador and all of Belize. Their personal identities stem in part from a sense of direct inheritance, extending to rights of ownership and interpretation.

¶175: Sky-earth, lake-sea: climate and water in Maya history and landscape



¶176: In recent years, a growing body of research has focused on the importance of water management for ancient Maya societies, and more generally on the cultural and economic significance of water as a resource. But how did this change across the centuries as cycles of drought and sea level rise, together with the growing Maya footprint on the landscape, presented new challenges? As the resolution of climatic records improves, the authors can begin to show in detail how Maya water management responded and adapted to such shifts. This included the manipulation of aguadas and the development of wetland field systems, in the process transforming large areas of the Maya landscape.

¶177: Through seeing stones: Maya epigraphy as a mature discipline

¶178: Maya script—the most elaborate and extensive system of native writing in the New World—was in active use across the Yucatán Peninsula from 300 BC–AD 1700. Maya epigraphy began in the late nineteenth century, developing through the efforts of key figures, often with oblique approaches from other disciplines. Today, the research landscape is increasingly virtual; new discoveries have been combined with greater precision in translation, providing unique access to the complex interactions of Maya society, where the elite shared a language across political boundaries that was incomprehensible to most of their subjects.

¶179: Time tested: re-thinking chronology and sculptural traditions in Preclassic southern Mesoamerica

¶180: Recent reassessment of the sequence at the highland Maya centre of Kaminaljuyu has led to a substantial chronological revision for Preclassic southern Mesoamerica. The new chronology suggests that various centres on the Gulf Coast, in Chiapas and in the Southern Maya Region experienced political disruption or reorganisation at the end of the Middle Preclassic period around 350 BC. It also shifts the initial rise and height of Kaminaljuyu forward 300 years. These shifts dramatically alter our understanding of sculptural developments in the Southern Maya Region, and emphasise the role of inter-regional interaction in the development of Maya civilisation.

¶181: The perduring Maya: new archaeology on early Colonial transitions

¶182: The impact of the Spanish conquest and colonisation of Maya territories between 1520 and the 1700s is often regarded as a homogeneous process. Archaeological research conducted over the last 16 years shows this to be far from true. A much more nuanced understanding of the complexities and relationships between Indigenous peoples and the new colonial forces can be achieved by comparing colonised, semi-conquered and unconquered zones within the Maya area. Such an understanding allows Maya archaeology to transcend the simplistic and limiting framework of conquest and collapse that has traditionally typified the narrative of colonial interaction.

¶183: Perceptions of the past within Tz'utujil ontologies and Yucatec hybridities

¶184: 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. These studies demonstrate how collaborative archaeology and ethnoarchaeology highlight the perspectives of Indigenous communities and contribute towards greater multi-vocality.

¶185: Debating the Anthropocene

¶186: Evaluating the Anthropocene: is there something useful about a geological epoch of humans?

¶187: The concept of the Anthropocene has become increasingly prominent in recent years, but is it best defined as a geological period or as part of a longer-term pattern of human actions? And when did it begin? Todd Braje launches this Debate feature by arguing for a shift away from definitions and toward an emphasis on the human causes and consequences. This piece is followed by a series of reactions from geologists and anthropologists, with a concluding reply from the author.

¶188: Geology and the Anthropocene

¶189: It is useful to have Todd Braje's perspective on the Anthropocene. As he states, it is a concept that has spread widely and that has had various interpretations (within not just the sciences, but the arts and humanities too) in the 15 years since Paul Crutzen and Eugene Stoermer proposed the term (Crutzen & Stoermer 2000). Various suggestions are made in Braje's paper: 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. 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.

¶190: Re-evaluating the Anthropocene

¶191: Perhaps the most obvious point about the Anthropocene debate is the one that gets lost most frequently, precisely because it is the most obvious. Paul Crutzen's now famous outburst in 2000 (see Crutzen & Stoermer 2000) stating that we do not live in the Holocene anymore was made in part because he was grappling with the question of the enormity of the anthropogenic transformations of the Earth system. It matters that he formulated the term to indicate the scale of transformation in geological language.

¶192: Time, agency and the Anthropocene

¶193: The Anthropocene is here, but do we need the Anthropocene, and if so, when do we want it to start? My responses are 'no' and 'never' if the answers to those questions require a discrete definition of the Anthropocene and a specific start date. In that regard, I agree generally with Braje's arguments. Particularly unsettling in Anthropocene discourse (in archaeology or geology) has been the search for discernable origins in the form of golden spikes, and I am suspicious of even setting the Holocene as an Anthropocene equivalent. That stated, archaeology can and should continue to contribute to interdisciplinary Anthropocene dialogues.

¶194: A mid-twentieth-century Anthropocene makes the Holocene more important than ever

¶195: I thank all the authors for their thoughtful responses to my paper. I believe they effectively highlight some of the diverse opinions about the concept of the Anthropocene and underscore the challenges faced by the ICS subcommission.

¶196: Replication for Chauvet Cave

¶197: As radiocarbon dates were announced, the wall paintings and engravings in Chauvet Cave, France, were hailed as fine art far earlier than any recognised before: here was the 'Dawn of art' (Figure 1; Chauvet et al. 1996). Soon after discovery, in 1994, the cave was closed to protect the images from chemical and microbial damage. In 2014, it was added to the World Heritage List. Then, in April 2015, replicas of the most striking imagery were opened at a purpose-built site, the Caverne du Pont d'Arc.

¶198: More (and more) on Clovis

¶199: Transforming cremation?

¶100: On the edge of the secular and the sacred: Hopewell mound-builder archaeology in context

¶101: Indian archaeology in the shadow of the Babri Masjid

¶102:

¶103: Excavations at Tell Nebi Mend, Syria: volume 1

¶104: Antiquity imagined: the remarkable legacy of Egypt and the ancient Near East.

¶105: Ritual in Early Bronze Age grave goods: an examination of ritual and dress equipment from Chalcolithic and Early Bronze Age graves in England.

¶106: The excavation of the prehistoric burial tumulus at Lofkënd, Albania. Volume 1: text. Volume 2: illustrations

¶107: I Vestini e il loro territorio dalla Preistoria al Medioevo

¶108: The chora of Metaponto 5: a Greek farmhouse at Ponte Fabrizio.

¶109: The Roman villa of Hoogeloon and the archaeology of the periphery

¶110: Megalithic traditions in India: archaeology and ethnography

¶111: An archaeological history of Indian Buddhism.

¶112: Picture Cave: unravelling the mysteries of the Mississippian cosmos.

¶113: The fate of earthly things: Aztec gods and god-bodies.

¶114: New Book Chronicle

¶115: The books considered in this instalment of NBC raise questions about how we represent the past through words and images. In particular, five of the seven are either explicitly or implicitly biographical, exploring a diverse spectrum of lives from twentieth-century archaeologists to a governor of Roman Britain. Further, with the exception of the first book presented here, all of these titles are written and packaged for a readership extending beyond the professional archaeologist, and they provide the opportunity to consider not only how archaeological narratives are constructed but also how these are communicated

¶116: ISSUE 3

¶117: Combustion at the late Early Pleistocene site of Cueva Negra del Estrecho del Río Quípar (Murcia, Spain)

¶118: Control of fire was a hallmark of developing human cognition and an essential technology for the colonisation of cooler latitudes. In Europe, the earliest evidence comes from recent work at the site of Cueva Negra del Estrecho del Río Quípar in south-eastern Spain. Charred and calcined bone and thermally altered chert were recovered from a deep, 0.8-million-year-old sedimentary deposit. 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.

¶119: Modelling the diffusion of pottery technologies across Afro-Eurasia: emerging insights and future research

¶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). The North African tradition may have later influenced the emergence of Near Eastern pottery, which then flowed west into Mediterranean Europe as part of a Western Neolithic, closely associated with the uptake of farming.

¶121: The transition to agriculture in south-western Europe: new isotopic insights from Portugal's Atlantic coast

¶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. Portugal, with its Late Mesolithic shell middens and burials apparently coexisting with the earliest Neolithic, further illustrates the nature of that transition. Individuals from Neolithic contexts there had significantly different diets to their Mesolithic counterparts. No evidence was found for a transitional phase between the marine-oriented Mesolithic subsistence regimes and the domesticated, terrestrial Neolithic diet. Two later Neolithic individuals, however, showed evidence for partial reliance on marine or aquatic foods. This raises questions about the possible persistence of marine dietary regimes beyond the Mesolithic period. This article is followed by a brief note by Mary Jackes and David Lubell.

¶123: New information on Melides stable isotopes

¶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, was from one of two caves at the site of Melides, near the Atlantic coast of Portugal between Sines and Setúbal. A sample from the second cave at Melides, Cerca do Zambujal, 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 Cabeço da Arruda N, a Late Mesolithic individual from the Muge Valley to the north-east of Melides.

¶125: Beaker people in Britain: migration, mobility and diet

¶126: The appearance of the distinctive 'Beaker package' marks an important horizon in British prehistory, but was it associated with immigrants to Britain or with indigenous converts? Analysis of the skeletal remains of 264 individuals from the British Chalcolithic–Early Bronze Age is revealing new information about the diet, migration and mobility of those buried with Beaker pottery and related material. Results indicate a considerable degree of mobility between childhood and death, but mostly within Britain rather than from Europe. Both migration and emulation appear to have had an important role in the adoption and spread of the Beaker package.

¶127: El Niño and second-millennium BC monument building at Huaca Cortada (Moche Valley, Peru)

¶128: The El Niño phenomenon can cause devastating inundation with catastrophic social and economic impacts. Evidence for multiple second-millennium BC El Niño events is present as laminated sediment layers at Huaca Cortada, a large Initial Period monument of the Caballo Muerto Complex in the Moche Valley, Peru. These indicate that one response to this period of climatic flux was the renewal and expansion of temple architecture, perhaps in an effort to demonstrate control

over nature, and to maintain a symbol of community permanence. The final abandonment of Huaca Cortada is also associated with an El Niño event around 1000–900 BC.

¶129: Rome in the Bronze Age: late second-millennium BC radiocarbon dates from the Forum Boarium

¶130: Evidence of Bronze Age settlement in Rome has, for the most part, been conspicuous by its absence. The later development of the city has precluded most excavations from reaching a depth sufficient to encounter any such deposits, and early finds have been mostly recovered from secondary deposits. A series of boreholes below the church of Sant'Omobono have revealed in situ deposits of anthropic activity, which date to the late second millennium BC, interspersed with thick alluvial deposits. This new data from the Forum Boarium demonstrates that early settlement activity in Rome was not restricted to the summits or slopes of the Palatine and Capitoline Hills, but also included activity on the banks of the Tiber.

¶131: Indigenous production and interregional exchange: late second-millennium BC bronzes from the Hanzhong basin, China

¶132: Traditional studies of early bronze metallurgy in China have focused on typology, decoration and production methods. 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.

¶133: Pastoralists and mobility in the Oglakhty cemetery of southern Siberia: new evidence from stable isotopes

¶134: Mobility has long been recognised as a key feature of later prehistoric communities in eastern Eurasia. Isotope analysis of human hair offers new potential for studying individual mobility patterns within these communities. Hair samples from individuals of the Tashtyk culture buried in the Oglakhty cemetery in southern Siberia (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.

¶135: The settlement mound of Birnin Lafiya: new evidence from the eastern arc of the Niger River

¶136: The development of complex social organisation and trade networks during the first and second millennia AD in the Sahel region of West Africa has long been hampered by a paucity of reliable data. Investigations at Birnin Lafiya, a large settlement mound of this period on the eastern arc of the Niger River, help to fill this gap. The site can now be placed within its broader landscape, and discoveries of early mud architecture, circular structures, human burial remains, personal ornamentation and striking potsherd pavements can be contrasted with contemporary sites both within the inland Niger region and as far to the south.

¶137: Multispectral imaging of an Early Classic Maya codex fragment from Uaxactun, Guatemala

¶138: Multispectral visual analysis has revealed new information from scarce fragments of a pre-Columbian document excavated in 1932 from a burial at Uaxactun, in Guatemala. The plaster coating from decomposed bark-paper pages of an Early Classic (c. AD 400–600) Maya codex bear figural painting and possibly writing. Direct investigation of these thin flakes of painted stucco identified two distinct layers of plaster painted with different designs, indicating that the pages had been resurfaced and repainted in antiquity. Such erasure and re-inscription has not previously been attested for early Maya manuscripts, and it sheds light on Early Classic Maya scribal practices.

¶139: (Re)discovering the Gaulcross hoard

¶140: Modern excavations can sometimes provide surprising new insights on antiquarian finds of metalwork. The Pictish silver hoard from Gaulcross in north-eastern Scotland provides an excellent example. Recent fieldwork, including metal-detecting, has clarified the size and composition of the hoard, and uncovered 100 new silver items, including coins, fragments of brooches and bracelets, ingots and parcels of cut, bent and broken silver known as Hacksilber. Comparisons with other hoards and with Pictish symbol stones illustrate the circumstances and date of deposition, the origin of the silver and the forms of society emerging in Scotland in the post-Roman period.

¶141: Technology, ritual and Anglo-Saxon agriculture: the biography of a plough coulter from Lyminge, Kent

¶142: The discovery of an unusual early medieval plough coulter in a well-dated Anglo-Saxon settlement context in Kent suggests that continentally derived technology was in use in this powerful kingdom centuries before heavy ploughs were first depicted in Late Saxon manuscripts. The substantial investment required to manufacture the coulter, the significant damage and wear that it sustained during use and the circumstances of its ultimate ritual deposition are explored. Investigative conservation, high-resolution recording and metallographic analysis illuminate the form, function and use-life of the coulter. An examination of the deposition contexts of plough-irons in early medieval northern Europe sheds important new light on the ritual actions of plough symbolism in an age of religious hybridity and transformation.

¶143: The archaeology of early medieval violence: the mass grave at Budeč, Czech Republic

¶144: Widespread violence and military conflicts dominate many historical accounts of the Early Middle Ages in Europe, but archaeological evidence to corroborate such a picture has hitherto been scarce. Analysis of human remains from the Bohemian stronghold of Budeč offers a unique insight into one such event: a wave of violence that probably followed the removal of Duke Wenceslas from power by his brother Boleslav I in AD 935. A mass grave near the hillfort holds mainly male burials that show numerous injuries sustained from sword blows, testifying to the human cost of this disturbance and demonstrating the structure and reality of early medieval violence.

¶145: Disaster recovery: new archaeological evidence for the long-term impact of the ‘calamitous’ fourteenth century

¶146: The Black Death swept across Europe and Asia in the fourteenth century, killing millions and devastating communities. Recent re-evaluations of source data, the discovery of new plague cemeteries and advances in genotyping have caused scholars to reconsider the extent of the devastation and to revise estimated mortality rates upwards. But what was the true impact of this catastrophic episode? Systematic test-pitting can reveal changes in medieval demography that can be both quantified and mapped at a range of scales. Comparing the relative amounts of high medieval (copious) to late medieval (much scarcer) pottery suggests that the pottery-using

population across eastern England was around 45% lower in the centuries after the Black Death than before, and such comparison identifies exactly where this contraction was the most and least severely felt.

¶147: The provenance of export porcelain from the Nan'ao One shipwreck in the South China Sea

¶148: The discovery of the Nan'ao One shipwreck off the southern coast of China throws new light onto Chinese maritime trade during the late Ming period. The primary cargo was a massive consignment of blue-and-white export porcelain, most probably destined for markets in Southeast Asia or Europe. Compositional analysis was performed on 11 fragments of blue-and-white export porcelain from the wreck site and on 64 samples from 3 Chinese porcelain production centres. The results indicate that the blue-and-white export porcelain recovered from the Nan'ao One came from two sources: the Jingdezhen and Zhangzhou kilns. Given the location of the shipwreck, the most probable destinations were the Portuguese trading centre at Macau or the Dutch at Batavia.

¶149: Archaeologies of colonialism and enslavement in Spanish, Portuguese and French America

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

¶151: Tall al-Fukhār. Results from excavations in 1990–93 and 2002. V

¶152: The political machine: assembling sovereignty in the Bronze Age Caucasus.

¶153: 2200 BC—Ein Klimasturz als Ursache für den Zerfall der Alten Welt? 2200 BC—A climatic breakdown as a cause for the collapse of the Old World? 7. Mitteldeutscher Archäologentag vom 23. bis 26. Oktober 2014 in Halle (Saale). 7th Archaeological Conference of Central Germany October 23–26, 2014 in Halle (Saale) (2 volumes).

¶154: Ancient Samnium: settlement, culture, and identity between history and archaeology.

¶155: The city of New Halos and its Southeast Gate

¶156: Maritime studies in the wake of the Byzantine shipwreck at Yassiada, Turkey.

¶157: The fields of Britannia.

¶158: Ancient Teotihuacan: early urbanism in Central Mexico.

¶159: Constructing histories: Archaic freshwater shell mounds and social landscapes of the St Johns River, Florida.

¶160: An Archaic Mexican shellmound and its entombed floors.

¶161: Historical archaeologies of capitalism.

¶162: New Book Chronicle

¶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: a cross fashioned from wood salvaged from a migrant ship wrecked on the island of Lampedusa.

¶164: ISSUE 4

¶165: Of mammoths and other monsters: historic approaches to the submerged Palaeolithic

¶166: Recent research on the submerged central and southern North Sea basin has focused on the end of the story: the last few millennia before the final inundation. Much older deposits do survive, however, and are documented by collections of Pleistocene fauna recovered by fishing fleets operating from Dutch and British ports during the nineteenth and early twentieth centuries. Analysis of the British collections allows them to be assigned to specific areas of seabed and to broad stages of the Pleistocene climatic sequence. The results provide evidence of more complex and fragmentary undersea landscapes than can be detected using geophysical approaches alone, and indicate targeted areas for future work.

¶167: Longquan Cave: an early Upper Palaeolithic site in Henan Province, China

¶168: The Palaeolithic sequence of East Asia differs from that of western Eurasia in that it is characterised by core-and-flake tools. Blade industries only appear late in the sequence, long after the first appearance of modern humans; bone tools and personal ornaments may therefore function as a better marker of modern human presence. Longquan Cave provides vital new evidence to this effect, with dated hearths indicating an initial occupation around 40 kya cal BP, followed by a second period of activity around 35–31 kya cal BP. They are associated with a polished bone awl and a structured division of settlement space, features typically associated with modern humans.

¶169: Affad 23: settlement structures and palaeoenvironments in the Terminal Pleistocene of the Middle Nile Valley, Sudan

¶170: The Epipalaeolithic of the Levant witnessed important changes in subsistence behaviour, foreshadowing the transition to sedentism and cultivation, but much less is known of contemporary developments in the Middle Nile Valley. Here, Affad 23, a 16000-year-old settlement, on the margins of a resource-rich, multi-channel floodplain, offers exceptional insights. Unusually good preservation has left the remains of pits and postholes, indicating the construction of temporary shelters and specialised functional zones. The Affad 23 community successfully exploited a wide range of riverine resources, and created a highly organised seasonal camp adjacent to convenient, resource-rich hunting grounds. Surprisingly, they continued to exploit Levallois-like tools, rather than adopting the new technologies (e.g. microliths) that were then evolving in Upper Egypt.

¶171: Ancient whale exploitation in the Mediterranean: the archaeological record

¶172: Despite a general paucity of archaeological, archaeozoological and iconographic evidence from the Upper Palaeolithic through to Late Antiquity, the corpus of whalebone finds in the Mediterranean region indicates that some level of interaction between humans and whales did indeed occur. A concentration of finds from Roman contexts suggests more active interventions in this period, especially around the Western Mediterranean and the Strait of Gibraltar—a ‘cetacean hotspot’. Whale vertebrae or scapulae were sometimes fashioned into portable chopping boards, identified from cut-marks made by fishermen or craftsmen, but whale meat and blubber may have been less important owing to abundant alternative food and fuel sources.

¶173: Ancient whale exploitation in the Mediterranean: species matters

¶174: How did ancient communities around the Mediterranean exploit the presence of whales in their seas? Given that the whales currently present in the region are seldom found near the coast, it seems probable that ancient whale exploitation would have been restricted to stranded animals. The authors explore, however, the possibility that additional species migrated seasonally through the Strait of Gibraltar to visit coastal calving grounds, which could have supported an organised whaling



industry. Classical literature provides a number of descriptions suggestive of coastal encounters with whales. 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. This article is one of two on ancient whaling in the current issue, and should be read in conjunction with that by Darío Bernal-Casasola and colleagues.

¶175: First chronometric results for ‘works of the old men’: late prehistoric ‘wheels’ near Wisad Pools, Black Desert, Jordan

¶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. These sub-circular enclosures are one form of a series of enigmatic structures known as ‘works of the old men’. Over 1000 ‘wheels’ have been identified in the basalt fields of eastern Jordan and Syria, but their original purpose is unclear. They are divided into irregular sections, and often contain a number of burial cairns. OSL analysis has been carried out on samples from two wheels in the Wisad region: one dated broadly to the Late Neolithic period, and the second to the Late Chalcolithic–Early Bronze Age transition.

¶177: Dog molars as personal ornaments in a Kura-Araxes child burial (Kalavan-1, Armenia)

¶178: Two perforated dog molars were found directly associated with a Kura-Araxes child burial from the third millennium BC in Armenia. Both teeth show trimming of the root ends and boring of a biconical hole through the lingual root with a hand-held stone tool. Expedient manufacture, the anatomical location of the hole and use-wear suggest that the molars were suspended in order to display their crowns as part of a necklace that also included two stone beads. This is an unusual type of personal ornament and the first of its kind reported in the South Caucasus. Its use in a Kura-Araxes burial is interpreted as an active modification of the funerary symbolism during this period.

¶179: The earliest Near Eastern wooden spinning implements

¶180: A unique set of circumstances has preserved a group of rare wooden artefacts deep within burial caves in the southern Levant. Identified as spindles and distaffs, they are fashioned from tamarisk wood and date to the Late Chalcolithic period. Analysis suggests that these implements were used to spin flax fibres, and they provide the earliest evidence for two distinct spinning techniques, drop spinning and supported spinning (with rolling on the thigh). One wooden spindle with the whorl still in place is the oldest such tool to survive intact in the Near East. The lead forming the whorl may have originated in Anatolia, and it is evidence, perhaps, of early long-distance trade.

¶181: Stonehenge's Avenue and ‘Bluestonehenge’

¶182: Stonehenge is a site that continues to yield surprises. Excavation in 2009 added a new and unexpected feature: a smaller, dismantled stone circle on the banks of the River Avon, connected to Stonehenge itself by the Avenue. This new structure has been labelled ‘Bluestonehenge’ from the evidence that it once held a circle of bluestones that were later removed to Stonehenge. Investigation of the Avenue closer to Stonehenge revealed deep periglacial fissures within it. Their alignment on Stonehenge's solstitial axis (midwinter sunset–midsummer sunrise) raises questions about the early origins of this ritual landscape.

¶183: Tracing copper in the Cypro-Minoan script

¶184: The Cypro-Minoan script was in regular use on the island of Cyprus, and by Cypriot merchants overseas, during the Late Bronze Age. Although still undeciphered, sign-sequences inscribed on

miniature copper 'oxide' ingots and on associated clay labels may hold a clue to their purpose. The ingots were previously interpreted as votive offerings inscribed with dedications. Here, it is suggested instead that these extremely pure copper miniatures were produced as commercial samples, and were marked with a brand denoting their high quality and provenance, such as 'pure Cypriot copper'.

¶185: Isotopic provenancing of the Salme ship burials in Pre-Viking Age Estonia

¶186: Ship burials are a well-known feature of Scandinavian Viking Age archaeology, but the discovery of 41 individuals buried in two ships in Estonia belongs to the Pre-Viking period and is the first of its kind in Europe. The two crews met a violent end around AD 750, and were buried with a variety of richly decorated weapons, tools, gaming pieces and animal bones. The rich grave goods suggest that this was a diplomatic delegation protected by a cohort of elite warriors. They were armed with swords of Scandinavian design, possibly from the Stockholm-Mälaren region, and stable isotope analysis is consistent with that being the probable homeland of the crew.

¶187: The rapid emergence of the archaic Tongan state: the royal tomb of Paepaeotelea

¶188: New research indicates that the royal tomb Paepaeotelea was built c. AD 1300–1400, more than 200 years earlier than its traditional association with Uluakimata I, who ruled when the Tongan polity was at its greatest extent. The large and stylistically complex tomb marks a dramatic increase in the scale of mortuary structures. It represents a substantial mobilisation of labour by this early archaic state, while the geochemical signatures of stone tools associated with the tomb indicate long-distance voyaging. The evidence suggests that the early Tongan state was a powerful and geographically expansive entity, able to rapidly organise and command the resources of the scattered archipelago.

¶189: 'The Mona Chronicle': the archaeology of early religious encounter in the New World

¶190: The Caribbean island of Mona, on a key Atlantic route from Europe to the Americas, 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 and by the first generations of Europeans to arrive in the New World. This account of spiritual encounters provides a rare, personalised insight into intercultural religious dynamics in the early Americas.

¶191: Primordialism and the 'Pleistocene San' of southern Africa

¶192: Analogies are an important tool of archaeological reasoning. The Kalahari San are frequently depicted in introductory texts as archetypal, mobile hunter-gatherers, and they have influenced approaches to archaeological, genetic and linguistic research. But is this analogy fundamentally flawed? Recent arguments have linked the San populations of southern Africa with the late Pleistocene Later Stone Age (c. 44 kya) at Border Cave, South Africa. The authors argue that these and other claims for the Pleistocene antiquity of modern-day cultures arise from a fundamental misunderstanding of the nature of cultural and archaeological taxonomies, and that they are a misuse of analogical reasoning.

¶193: The 'to be or not to be' of archaeological enquiry

¶194: Pargeter and colleagues do not escape the dangers inherent in the exercise they embark on. The first is that of creating a straw man argument in which one exaggerates and misinterprets what

was said in the article being criticised. The second is that of using your time to look at the speck of dust in your brother's eye instead of paying attention to the plank in your own. The third, if you are lucky enough to find a sympathetic journal, is to rehash the same criticism over and over in multiple articles, changing the tone from very moderate (Mitchell 2012) to more aggressive (Pargeter 2014), which inevitably pushes your opponents and any sensible reader to wonder about your motivations.

¶195: The analogy generation game

¶196: I have grown increasingly allergic to arguments about analogies and origins in archaeology. Analogies are simply devices to stimulate the invention of ideas. The source of intuition is fairly irrelevant for the power of the ideas thus generated. The history of science is full of exciting hypotheses that had amusing sources, often far removed from the actual contexts to which the idea ultimately applied.

¶197: Nothing wrong with reasoned speculation

¶198: In essence, Pargeter et al. argue that claims for the antiquity of modern San 'cultures' involve a misuse of analogical reasoning. In general, I agree. But, let me take issue with a few of the specifics they discuss, and argue instead that things may be more complicated than they seem.

¶199: Analogy and the danger of over-simplifying the past

¶200: This is an excellent and tightly written argument against the indiscriminate and essentialist extension of invented anthropological typologies, such as 'the San', back into the Pleistocene. While analogical arguments that relate similarities in excavated tools, poisons and so on to the repertoire of items used by extant peoples in order to interpret their function is a common approach in archaeology, as the authors rightly point out, the extension of these analogies to include particular cultural and linguistic forms is 'a theoretically flawed exercise'.

¶201: 'Primordialism and the 'Pleistocene San' of southern Africa': final reply

¶202: We thank our colleagues for their insightful comments. The weight of modern evidence is against the notion that contemporary human cultures can be tracked backwards into the Pleistocene (e.g. Lee & DeVore 1976; Kuper 1988; Wilmsen 1989; Solway & Lee 1990; MacEachern 2000). Modern-day hunter-gatherers are not our Stone Age ancestors. Current protestations notwithstanding, the provocative title that d'Errico and colleagues (2012) chose for their paper, 'Early evidence of San material culture represented by organic artifacts from Border Cave, South Africa', unambiguously asserts the opposite. Our critique of that paper's content does not question the robusticity of the methods employed at Border Cave (for this, see Evans 2012). Rather, our comments focus on the theoretically flawed search for a specifically 'San' "cultural adaptation" (d'Errico et al. 2012: 13214) at any Pleistocene archaeological site.

¶203: Back in business: history and evolution at the new Musée de l'Homme

¶204: The public will not allow us to deal exclusively with things that are facile, amusing, curious, bizarre, passé, things that present no danger, because they concern societies which are either extinct or remote from our own. The public wants studies with conclusions relevant for the present [ . . . ] let us not be weary of bringing [scientific] facts into the debate. And if our practical conclusions will turn out to be meagre and hardly topical? All the more reason for us to propagate them liberally and energetically. (Marcel Mauss 1927, cited in Schlanger 2006: 15)

¶205: 'Hot interpretation' of battle

¶206: Tilted for us to see them straight on, 45 human skeletons were stacked in tight rows, with two more, arms out-stretched, on top of them (Figure 1). Below lay artillery and musket shot set out with equal neatness. Owing, perhaps, to such clinical arrangement, or to the unfamiliar angle, or perhaps to the sturdy frame marked 'lützen, 6. november 1632', or else to the gallery's classical formality, 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. It was the first display in Krieg: eine archäologische Spurensuche ('War: an archaeological search for traces'), an exhibition at the Prehistory Museum in Halle shown from November 2015 to May 2016.

¶207: Castelliere on the Karst: the Bronze Age hillfort of Monkodonja

¶208: Death, burial and ritual in Iron Age Britain and the Netherlands

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

¶210:

¶211: By steppe, desert, and ocean: the birth of Eurasia.

¶212: The Great Paleolithic War: how science forged an understanding of America's ice age past.

¶213: Ireland's first settlers: time and the Mesolithic.

¶214: Flint daggers in prehistoric Europe.

¶215: Les hypogées protohistoriques de la Méditerranée.

¶216: Tell Jerablus Tahtani, Syria, I. Mortuary practices at an Early Bronze Age fort on the Euphrates River

¶217: Micromorphological analysis of activity areas sealed by Vesuvius' Avellino eruption: the Early Bronze Age village of Afragola in southern Italy.

¶218: Celtic art in Europe: making connections. Essays in honour of Vincent Megaw on his 80th birthday.

¶219: Thonis-Heracleion in context

¶220: Du Mont Liban aux Sierras d'Espagne. Sols, eau et sociétés en montagne: autour du projet franco-libanais CEDRE 'Nahr Ibrahim' 2015.

¶221: Sharma. Un entrepôt de commerce medieval sur la côte du Ḥaḍramawt

¶222: New Book Chronicle

¶223: It is understandable, perhaps inevitable, that archaeologists should be attracted to ideas of memory and of the 'past in the past'. But other disciplines—anthropology, history, philosophy, sociology and beyond—also demonstrate a similar fascination. This wider attention has been diagnosed as symptomatic of late modernity. If so, what is the relevance and utility of memory for studies of the pre-modern past? In this NBC, we consider books that directly or indirectly explore this theme.

¶224: ISSUE 5

¶225: The eastern Asian 'Middle Palaeolithic' revisited: a view from Korea

¶1226: Is the Middle Palaeolithic an appropriate concept in eastern Asia? The issue has been debated for China in two recent papers in *Antiquity* (Yee 2012; Li 2014), which in turn responded to an earlier argument set out by Gao and Norton (2002). But does the Korean record offer a different perspective? Here, the authors argue that Korean archaeology, as with the Chinese record, provides no support for a distinct Middle Palaeolithic. Rather than seeking to validate an inappropriate chronological framework derived from European Palaeolithic research, emphasis should instead be placed on developing a regionally specific model of prehistory for eastern Asia. They conclude, akin to Gao and Norton (2002), that the East Asian Palaeolithic should be divided into two major cultural periods: Early and Late.

¶1227: Hunting dogs as environmental adaptations in Jōmon Japan

¶1228: Was the use of hunting dogs an adaptation to the post-glacial deciduous forest environment in the northern temperate zone? Dog burials in Jōmon Japan appear closely associated with a specific environment and with a related subsistence economy involving the hunting of forest ungulates such as sika deer and wild boar. Dogs were valued as important hunting technology, able to track and retrieve wounded animals in difficult, forested environments, or holding them until the hunter made the final kill. Greater numbers of dog burials during the later Jōmon phases may reflect a growing dependence on hunting dogs to extract ungulate prey from forests in an increasingly resource-strained seasonal environment.

¶1229: The Desert Fayum at 80: revisiting a Neolithic farming community in Egypt

¶1230: Since the seminal research by Caton-Thompson and Gardner over 80 years ago, the archaeology of the Desert Fayum has attracted significant interest as the earliest known centre of agriculture in Egypt. Traditional interpretations of subsistence behaviour and residential mobility have drawn heavily on the studies of lithic assemblages and faunal remains. These interpretations must now be reconsidered in light of lithic material, both from the original excavations and from more recent fieldwork. It emerges that Kom W, the type site for the Neolithic Fayum, was probably a permanent settlement occupied by a community cultivating cereals, in addition to having long-standing practices of hunting and fishing.

¶1231: Settlement layout and social organisation in the earliest European Neolithic

¶1232: The internal layout of early settlements can provide insight into social organisation and the processes of Neolithic expansion into Europe. 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.

¶1233: How long does it take to burn down an ancient Near Eastern city? The study of experimentally heated mud-bricks

¶1234: Many famous archaeological sites have been subjected to destructive fires, whether hostile or accidental, including Near Eastern cities constructed largely of mud-brick. But how long did it take to burn down a city? The mud-bricks themselves provide a valuable record. 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.

¶1235: Early pottery in the North American Upper Great Lakes: exploring traces of use

¶1236: 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, and contradict previous indications that pottery was created for the ritual processing of fish oil. Samples from two sites showed evidence of both plant and animal remains, but no fish oils were detected, even for the site believed to be a fishing camp. Nut oils dominated for the third site, being present on both fire-cracked rocks and pottery, and were suggestive of an acorn-rendering process. All of the vessels were ideally suited to slow simmering, but it seems that their applications were diverse.

¶1237: The early history of the Greek alphabet: new evidence from Eretria and Methone

¶1238: Inscriptions on new archaeological finds in the Aegean, examined alongside linguistic evidence relating to Greek and Phrygian vowels, are here used to explore the origins and spread of the Greek alphabet. The 'invention' of vowels happened just once, with all of the various Greek, Phrygian and Italic alphabets ultimately deriving from this single moment. The idea spread rapidly, from an absence of writing in the ninth century BC to casual usage, including jokes, by 725 BC. The port of Methone in the northern Aegean emerges as a probable candidate for the site of origin. A place where Greeks and Phoenicians did business together, with international networks; was this where Semitic, Greek and Phrygian letters first coalesced?

¶1239: Rice, beans and trade crops on the early maritime Silk Route in Southeast Asia

¶1240: Plant macrofossils from the sites of Khao Sam Kaeo and Phu Khao Thong on the Thai-Malay Peninsula show evidence of cross-cultural interactions, particularly between India to the west and Southeast Asia to the east. 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. The plant remains illustrate a variety of influences and networks of contact across South and Southeast Asia during the late first millennium BC.

¶1241: The anthropology and history of rock art in the Lower Congo in perspective

¶1242: The rock art of the Lovo Massif region in the Lower Congo offers a fascinating and understudied example of artistic traditions, some of which predate the period of European contact. The first extensive, systematic survey of the region has identified key aspects of these rock art traditions, and has obtained radiocarbon dates that facilitate new interpretations of the relationship between the rock art and the historical kingdom of Kongo. Multiple perspectives are used to integrate anthropological, historical and archaeological data with stories from local mythology to show how the significance of this art has evolved over time. 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.

¶1243: Pottery technology, settlement and landscape in Antofagasta de la Sierra (Catamarca, Argentina)

¶1244: The transition from the Formative to the Late period (c. 1000 BP) on the volcanic plateau of Antofagasta de la Sierra in northern Argentina saw various changes in landscape use and settlement pattern. New power structures and social identities appear in the archaeological record in the wake

of an increasing emphasis on cultivation and herding, coincident with a regional shift to greater aridity. The novel analysis reported here reveals that these changes also had an impact on pottery technology, notably vessel thickness, and considers the role of technological innovation as both cause and consequence of the changing world experienced by the inhabitants of Antofagasta de la Sierra.

¶1245: A GIS-based viewshed analysis of Chacoan tower kivas in the US Southwest: were they for seeing or to be seen?

¶1246: For years it has been assumed that tower kivas were observation points, using their high vantage to relay communications across the landscape, or acting as defensive outposts among the local population. Few of these enigmatic structures have been excavated, and archaeologists have consequently turned to landscape survey methods to understand their role and function. Here, the authors contrast visibility and intervisibility within the surrounding viewshed of two tower kivas, Kin Ya'a and Haystack, providing an alternative perspective to traditional interpretations by suggesting that rather than acting as lookout points, they were instead central places built to be looked upon by the surrounding community.

¶1247: The death of Kaakutja: a case of peri-mortem weapon trauma in an Aboriginal man from north-western New South Wales, Australia

¶1248: Skeletal remains from a burial in New South Wales exhibit evidence of fatal trauma, of a kind normally indicative of sharp metal weapons, yet the burial dates to the mid thirteenth century—600 years before European settlers reached the area. Could sharp-edged wooden weapons from traditional Aboriginal culture inflict injuries similar to those resulting from later, metal blades? Analysis indicates that the wooden weapons known as 'Lil-lils' and the fighting boomerangs ('Wonna') both have blades that could fit within the dimensions of the major trauma and are capable of having caused the fatal wounds.

¶1249: Firewood of the Napoleonic Wars: the first application of archaeological charcoal analysis to a military camp in the north of France (1803–1805)

¶1250: This paper focuses on evidence from firewood remains from a Napoleonic camp located at Étaples (in the north of France), inhabited between 1803 and 1805. The combination of archaeological and relevant historical records indicates that wood resources, stockpiled for lighting and heating by the soldiers, may have originated from two distinct areas: the army's official forest and also the area around the camp, indicating possible difficulties in wood supply at the end of its occupation. This study, therefore, uses archaeological charcoal to reinforce military historical sources in understanding firewood economy and the harsh everyday life of the Napoleonic soldier at the beginning of the nineteenth century.

¶1251: The archaeology of Anthropocene rivers: water management and landscape change in 'Gold Rush' Australia

¶1252: Future scientists seeking evidence of the Anthropocene on a planetary scale will find a series of structurally similar deposits dating to within the same few thousand years at multiple locations around the world. It will be evident that they were produced by a global human drive to exploit the Earth's mineral wealth. The impact and the evidence left by this phenomenon in the 'Gold Rush' region of Victoria, Australia are particularly clear. Using a multi-scalar approach, the authors examine the extent and significance of changes resulting from water management and mining

processes, which, in some cases, resulted in the creation of new landscapes far beyond the mining district.

¶1253: The application of quick response (QR) codes in archaeology: a case study at Telperion Shelter, South Africa

¶1254: Accurate, efficient and clear recording is a key aim of archaeological field studies, but one not always achieved. Errors occur and information is not always properly recorded. Left unresolved, these errors create confusion, delay analysis and result in the loss of data, thereby causing misinterpretation of the past. To mitigate these outcomes, quick response (QR) codes were used to record the rock art of Telperion Shelter in Mpumalanga Province, eastern South Africa. The QR codes were used to store important contextual information. This increased the rate of field recording, reduced the amount of field errors, provided a cost effective alternative to conventional field records and enhanced data presentation. Such a tool is useful to archaeologists working in the field, and for those presenting heritage-based information to a specialist, student or amateur audience in a variety of formats, including scientific publications. We demonstrate the tool's potential by presenting an overview and critique of our use of QR codes at Telperion Shelter.

¶1255: Doctors, chefs or hominin animals? Non-edible plants and Neanderthals

¶1256: In 2013, Hardy et al. offered a broad behavioural context for the hypothesis that the ingestion of non-nutritional plants (yarrow and camomile) by Neanderthals was for the purpose of self-medication. Chemical traces of these plants had been detected in samples of dental calculus from Neanderthals at the site of El Sidrón, Spain, 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 (Radini et al. 2016). Although not rejecting our interpretation for the presence of these two non-edible plants as evidence of medicinal plant use, two recent articles offer alternative scenarios for why and how those plants may have reached the mouth and, eventually, the dental calculus of the individual concerned. Buck and Stringer (2014) suggest that the plants were not deliberately ingested, and that the traces of yarrow and camomile were in fact embedded in the chyme, or stomach contents, of herbivore prey. Krief et al. (2015) propose two hypotheses: first, they suggest that the plants could have been used to flavour meat; second, while not ruling out the possibility that they could be medicinal, they argue on a technical point that the plants were not self-administered but were provided by a caregiver. Here, we examine these suggestions and consider their probability and feasibility as alternatives to our original proposal of self-medication.

¶1257: 'Egypt': legitimation at the museum

¶1258: Heracleion and Canopus were towns recorded in Classical sources about the Nile delta. Surveys near Alexandria in 1996 found ruins poking through the sands under four or five fathoms of murky water. Revealing complexes of temples, excavation then confirmed that these were the remains of Heracleion and the eastern part of Canopus, dating from the Late Dynastic era. The discoveries show how Greek traders had settled, and how the towns then thrived, after Alexander the Great's conquest (332 BC), during the Hellenistic or Ptolemaic period. Following a somewhat smaller display in Paris in 2015–2016, many of the finds can now be admired at the British Museum until 27 November 2016 in the exhibition 'Sunken cities: Egypt's lost worlds'.

¶1259: Neo-Prehistory—Exist. Regenerate. Repeat?



¶1260: As archaeologists we try hard to communicate our insights to a wider public, whether through lucid writing, as exemplified by Brian Fagan's many books, or increasingly through technology such as a 60-second YouTube video. But our subject runs away from us, and our audience, as it gets ever more technical. 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 (Parker Pearson et al. 2007). How many practising archaeologists understand that well enough to explain it lucidly in 60 seconds? Or really understand it at all?

¶1261: Gods and scholars: archaeologies of religion in the Near East

¶1262: These two edited volumes 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 on the Bronze Age Phylakopi sanctuary on Melos, Greece, 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.

¶1263: The Vikings in Ireland: longphuilt and legacy

¶1264: Part of The Vikings

¶1265: Viking graves and grave-goods in Ireland is the long-awaited outcome of the Irish Viking Graves Project, which ran from 1999–2005. The project originated at a conference held in Dublin in 1995, at which the limited understanding of Viking burials was identified as a significant shortcoming of the Irish archaeological record. Stephen Harrison was appointed as Research Assistant, and began the major task of making sense of the antiquarian records of the Royal Irish Academy. The primary aim of this work was the creation of the first accurate and comprehensive catalogue of all Viking graves and grave-goods in Ireland. With this volume, that aim has been handsomely achieved.

¶1266: In search of mound-builder histories

¶1267: There are insights to be gained from comparing three very different books on the mounds, mound-builders and moundvilles of later pre-Columbian and early historic-period eastern North America. These insights stem from the range of perspectives embodied by the trio of hardbacks here, written by authors with diverse backgrounds using very different kinds of case material. In one book, historian Terry Barnhart gives us a rich reading of the historical relationship of American archaeology to 'The Mound Builders', identified by many Euro-Americans in the late eighteenth and nineteenth centuries as an actual lost race or civilisation that pre-dated the American Indian occupation of the continent. 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. In a third volume, editor-archaeologists C. Margaret Scarry and Vincas Steponaitis, and 12 other authors, present the latest archaeological synthesis on Moundville, a great town in Alabama often cited as the civic-ceremonial core of a stereotypical Mississippian-era chiefdom (c. AD

1120–1650). Tacking between the three texts, we might come to appreciate more clearly how we know, or might know, the mound-builder past by contextualising and theorising that past better than we are currently doing.

¶1268: Roundhouses and railways: developer-funded archaeology in England

¶1269: These two volumes result from extensive developer-funded fieldwork in north-western Northamptonshire, in the English midlands. Under the system introduced in 1990, local authority curatorial archaeologists assess the impact upon archaeological remains of planning applications, and make recommendations for any further investigative work. Developers are normally responsible for the costs of any archaeological evaluation or excavation work necessary, and they award the contracts to commercial field units who bid for this work in a competitive tendering process. Since 1990, there has been an enormous increase in the volume of such archaeological work in Britain and other European countries (Bradley et al. 2016), and these two volumes are representative of many of the best and worst aspects of this system.

¶1270:

¶1271: Le dolmen de l'Ubac à Goult (Vaucluse). Archéologie, environnement et évolution des gestes funéraires dans un contexte stratifié

¶1272: Rural archaeology in early urban northern Mesopotamia: excavations at Tell al-Raqa'i

¶1273: Früher Bergbau und Metallurgie auf der Iberischen Halbinsel 1: Zambujal und die Anfänge der Metallurgie in der Estremadura (Portugal). Technologie der Kupfergewinnung, Herkunft des Metalls und soziokulturelle Bedeutung der Innovation

¶1274: The Late Bronze Age spearheads of Britain

¶1275: Der Abu Ballas-Weg. Eine pharaonische Karawanenroute durch die Libysche Wüste

¶1276: The Roman Forum: a reconstruction and architectural guide.

¶1277: Hayton, East Yorkshire: archaeological studies of the Iron Age and Roman landscapes.

¶1278: Ankara: Die bauarchäologischen Hinterlassenschaften aus römischer und byzantinischer Zeit.

¶1279: Glastonbury Abbey: archaeological investigations 1904–79.

¶1280: Westminster I: the art, architecture and archaeology of the royal abbey

¶1281: Westminster II: the art, architecture and archaeology of the royal palace

¶1282: The survival of Easter Island: dwindling resources and cultural resilience.

¶1283: New Book Chronicle

¶1284: New Palaeolithic and Mesolithic sites in the eastern Aegean: the Karaburun Archaeological Survey Project

¶1285: Despite ongoing fieldwork focusing on the Palaeolithic and Mesolithic periods of the Aegean, the eastern part of this region, especially western Turkey, remains almost entirely unexplored in terms of early prehistory. There is virtually no evidence from this area that can contribute to broader research themes such as the dispersal of early hominins, the distribution of Early Holocene foragers and early forager-farmer interactions. The primary aim of the Karaburun Archaeological Survey Project is to address this situation by collecting data from the eastern side of the Aegean Sea,

thereby contributing to the currently debated issues of Aegean and Eastern Mediterranean prehistory.

¶1286: New investigations at the Middle Stone Age site of Pockenbank Rockshelter, Namibia

¶1287: In southern Africa, Middle Stone Age sites with long sequences have been the focus of intense international and interdisciplinary research over the past decade (cf. Wadley 2015). Two techno-complexes of the Middle Stone Age—the Still Bay and Howiesons Poort—have been associated with many technological and behavioural innovations of *Homo sapiens*. The classic model argues that these two techno-complexes are temporally separated ‘horizons’ with homogenous material culture (Jacobs et al. 2008), reflecting demographic pulses and supporting large subcontinental networks. This model was developed on the basis of evidence from southern African sites regarded as centres of subcontinental developments.

¶1288: A fifth-millennium BC cemetery in the north Persian Gulf: the Zohreh Prehistoric Project

¶1289: The Zohreh Prehistoric Project (ZPP), a long-term archaeological research programme focused on the river valley south of the modern city of Behbahan in Khuzestan Province, was launched in April 2015 (Figure 1). The valley, which lies in close proximity to the northern coast of the Persian Gulf, was surveyed extensively during the early 1970s by Hans Nissen from the Oriental Institute of the University of Chicago (Nissen & Redman 1971; Dittmann 1984, 1986). The ZPP aims to develop full-coverage archaeological survey of the valley, focusing on the human landscape over time, mostly in relation to settlement hierarchy and dynamics, modes of production and the emergence of regional centres at the end of the fifth and beginning of the fourth millennia BC. The focal point for the project is the principal site of the Zohreh Valley, known as Tol-e Chega Sofla (39RN1Q22108; the site was previously registered as Chogha Sofla, BZ.71 (Dittmann 1984: 110). We have changed this to reflect its local name. The digital reference is the unique Iranian archaeology map registration number.

¶1290: Re-survey and spatial analysis of landscape developments during the first millennium BC on Cyprus

¶1291: The narrative of socio-political development on the semi-arid island of Cyprus during the early first millennium BC (c. 1100–500) has focused largely on the institutions, practices and material culture of major centres and their interrelationships with growing maritime networks. Less studied are the landscapes surrounding these coastal and inland towns, which helped condition the increasing wealth and power of authorities through the management of agropastoral and metal goods, and through the creation of new mortuary, ritual and community spaces (Iacovou 2014). These regional contexts, whose settlements and land-use practices have now been recorded through several survey projects, provide a rich yet under-used source of material for investigating social transformations during this period. Ongoing interdisciplinary work in the Vasilikos and Maroni Valleys of south-central Cyprus has begun systematic analysis of these landscape changes and their long-term contexts. The project is focused on a 150km<sup>2</sup> research area situated 20km east of the ancient polity of Amathus, extending from the central Troodos massif down to the coast (Figure 1).

¶1292: Seeds of collapse? Reconstructing the ancient agricultural economy at Shivta in the Negev

¶1293: Lessons from history on sustainability, collapse and resilience are the ultimate goal of the Byzantine Bio-Archaeology Research Program of the Negev (BYBAN) (Tepper et al. 2015). Addressing the unprecedented flourishing and collapse of the Byzantine Negev agricultural settlements (fourth–seventh centuries AD), the BYBAN project offers a unique and original approach. It focuses on

ancient middens and domestic contexts, which provide an exceptional focus on the materiality of daily life. Archaeobotanical research is central to this project because the copious plant remains retrieved are a reflection of the region's agricultural economy and its environmental sustainability. This approach will enable us to answer important research questions about the Byzantine–Islamic transition in the Negev: what were the major cash and subsistence crops? Which were grown locally, and which, if any, were imported? How, if at all, did the agricultural economy change during the Byzantine–Islamic transition? Were there any major changes in climatic conditions, and, if so, can they be implicated as a cause for agricultural collapse?

#### ¶1294: ISSUE 6

¶1295: The archaeology of persistent places: the Palaeolithic case of La Cotte de St Brelade, Jersey

¶1296: Excavations at the Middle Pleistocene site of La Cotte de St Brelade, on the island of Jersey in the English Channel, have revealed a long sequence of occupation. The continued use of the site by Neanderthals throughout an extended period of changing climate and environment reveals how, despite changes in the types of behaviour recorded at the site, La Cotte emerged as a persistent place in the memory and landscape of its early hominin inhabitants. The site's status as a persistent place for these people suggests a level of social and cognitive development permitting reference to and knowledge of places distant in time and space as long ago as at least MIS 7.

¶1297: Early Holocene ritual complexity in South America: the archaeological record of Lapa do Santo (east-central Brazil)

¶1298: Early Archaic human skeletal remains found in a burial context in Lapa do Santo in east-central Brazil provide a rare glimpse into the lives of hunter-gatherer communities in South America, including their rituals for dealing with the dead. These included the reduction of the body by means of mutilation, defleshing, tooth removal, exposure to fire and possibly cannibalism, followed by the secondary burial of the remains according to strict rules. In a later period, pits were filled with disarticulated bones of a single individual without signs of body manipulation, demonstrating that the region was inhabited by dynamic groups in constant transformation over a period of centuries.

¶1299: From refuse to rebirth: repositioning the pot burial in the Egyptian archaeological record

¶1300: The interment of bodies in ceramic vessels, or 'pot burial', was a widespread practice across the ancient world. Commonly associated with poverty, and with child and infant burials, the reuse of domestic vessels for burial has been taken to indicate that low value was assigned to the containers and their contents. New analysis urges a more holistic and culturally situated understanding. Contradictory evidence reveals that this burial practice was also used for adults and is represented in high-status tombs. 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.

¶1301: Feeding ancient cities in South Asia: dating the adoption of rice, millet and tropical pulses in the Indus civilisation

¶1302: The first direct absolute dates for the exploitation of several summer crops by Indus populations are presented here. These include rice, millets and three tropical pulse species at two settlements in the hinterland of the urban site of Rakhigarhi. The dates confirm the role of native summer domesticates in the rise of Indus cities. They demonstrate that, from their earliest phases, a range of crops and variable strategies, including multi-cropping, were used to feed different urban

centres. This has important implications for understanding the development of the earliest cities in South Asia, particularly the organisation of labour and provisioning throughout the year.

¶1303: The Pain Haka burial ground on Flores: Indonesian evidence for a shared Neolithic belief system in Southeast Asia

¶1304: Recent excavations at the coastal cemetery of Pain Haka on Flores have revealed evidence of burial practices similar to those documented in other parts of Southeast Asia. Chief among these is the use of pottery jars alongside other forms of container for the interment of the dead. The dating of the site combined with the fact that this burial practice is present over such a wide geographic area suggests a widespread belief system during the Neolithic period across much of Southeast Asia.

¶1305: Sharks in the jungle: real and imagined sea monsters of the Maya

¶1306: Representations and remains of sharks are found in Mesoamerican art and archaeology from the first millennium BC onwards. They appear at coastal sites, but also remarkably far inland, hundreds of kilometres from the waters where they were sighted or hunted. For the Maya of the interior of the Yucatán Peninsula, encounters with live sharks would have been an exceedingly rare occurrence. Yet the animals arrived inland in piecemeal fashion—as chunks of meat and sets of teeth—and via stories. By following the procurement, transportation, representation and ritual use of sharks from the sea to the jungle, the author shows how the ancient Maya drew on both evidence and myth to imagine and explain these unfamiliar marine creatures.

¶1307: Taiwan's Early Metal Age and Southeast Asian trading systems

¶1308: Taiwan presents a puzzling anomaly in the development and expansion of South and Southeast Asian trade routes. The lack of historical records from the island emphasises the value of archaeology for understanding the establishment of trade and the transmission of people, ideas and knowledge. Recent research focusing on newly excavated sites such as Jiuxianglan shows that the Metal Age in Taiwan began around 400 BC, much earlier than was previously thought. Furthermore, it seems that early trade predominantly prioritised links to the south, and not, curiously, with Mainland China to the immediate west as had traditionally been supposed.

¶1309: Opium or oil? Late Bronze Age Cypriot Base Ring juglets and international trade revisited

¶1310: The Base Ring juglets of Late Bronze Age Cyprus have long been associated with opium due to their hypothetical resemblance to inverted poppy heads. Analysis of organic residues on Base Ring juglets from Cyprus and Israel, however, showed no trace of opium; instead, the vessels had contained a variety of perfumed oils. The analytical results are supported by textual evidence attesting to a lively trade across the eastern Mediterranean in aromatic substances and compounds, rather than in opium. The poppy-head shape of the Base Ring juglets was not a reference to their contents.

¶1311: A Roman miliarium from a private bath house in northern Gaul: from water technology to ritual offering

¶1312: The rare discovery of a well-preserved miliarium—a water boiler—in a rural bath house in Gaul suggests that the technology of water supply had penetrated the remoter parts of the Roman world. Such boilers were frequently recycled for their valuable metal content. This example, by contrast, was buried close to where it once stood—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. The near-complete state of the boiler also provides new insight into the processes used in its manufacture from lead and copper alloys.

¶1313: Dynamic places, durable structures: Early Formative agropastoral settlements of the southern Andes, Argentina

¶1314: The settlement of high-altitude uplands by early agropastoralists demanded specific kinds of social and economic adaptation. Upland valley systems in north-west Argentina were used extensively during the Formative period (200 BC to AD 850). New investigations of the alluvial fans of the Tafi Valley show how the occupation history of the region developed across time and space, demonstrating remarkable stability over 1000 years of agropastoral exploitation. The dense but scattered distribution of early farmers across this landscape highlights household continuity through a period of regional population growth.

¶1315: Social and economic complexity in early medieval England: a central place complex of the East Anglian kingdom at Rendlesham, Suffolk

¶1316: Fieldwork at Rendlesham in Suffolk has identified a major central place complex of the early–middle Anglo-Saxon periods. This has particular significance in the light of Bede's eighth-century reference to a 'royal settlement' at Rendlesham and the princely burial site at nearby Sutton Hoo. This interim report summarises the archaeology, and considers the wider interpretative issues relating to economic complexity and social diversity.

¶1317: Beswick Creek Cave six decades later: change and continuity in the rock art of Doria Gudaluk

¶1318: The rock art of Doria Gudaluk (Beswick Creek Cave) in the Northern Territory of Australia has previously provided a valuable lesson in the difficulties of definitive interpretation without local knowledge. 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. 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.

¶1319: 'The most awkward building in England'? The 'Rotten' heritage of 'Tin Pan Alley' revisited

¶1320: How should we identify, protect and preserve contemporary heritage? 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. Less contentious was the recent listing of the building, bringing its punk artworks under statutory protection. In this follow-up to their earlier article, the authors review the initial reaction from the media, the public and the artist himself, and consider how attitudes may have shifted. They also offer a novel, 'punk'-informed approach to the management of cultural heritage.

¶1321: Exploring morphological bias in metal-detected finds

¶1322: Since the establishment of the Portable Antiquities Scheme, the systematic reporting of metal-detected finds in England and Wales has increased our knowledge of distribution patterns and complemented the evidence from assemblages uncovered by conventional excavation. The large number of Roman metal small finds documented, particularly brooches, now allows for a quantitative comparison between those recovered through excavation and those discovered by metal-detecting. This study shows that certain artefact morphologies are more easily detected than

others, resulting in differential rates of representation in the archaeological record. It is suggested that similar biases can be seen in artefacts from other periods. This has important consequences for anyone wishing to use metal-detected material in synthetic studies.

¶1323: Closing the seams: resolving frequently encountered issues in photogrammetric modelling

¶1324: 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.

¶1325: The 'People of the British Isles' project and Viking settlement in England

¶1326: 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 (Leslie et al. 2015: 313). Here, we consider the details of certain assumptions that were made in the study, and offer an alternative interpretation to the above conclusion. We also comment on the substantial archaeological and linguistic evidence for a large-scale Danish Viking presence in England.

¶1327: The new antiquarianism?

¶1328: Christopher Witmore (2014: 215) recently observed that "things go on perturbing one another when humans cease to be part of the picture. A former house may be transformed through relations with bacteria, hedgehogs, water, compaction"; and if the materials that archaeologists confront are material memories (cf. Olivier 2011) from which a past is to be recalled in the future, then

¶1329: The kind of memory that things hold often tells us little of whether materials strewn across an abandonment level resulted from the reuse of a structure as a sheepfold, a series of exceptional snow storms, the collapse of a roof made of olive wood after many years of exposure to the weather (rapports between microbes, fungi, water and wood), the cumulative labors of generations of badgers, children playing a game in a ruin, or the probing roots of oak trees (Witmore 2014: 215).

¶1330: In other words, the things that archaeologists confront bear the memories of their own formation without the necessity of a human presence, and the traditional and often exclusive priority given to a human agency in the making of those things and in giving them meaning is simply misplaced. Things get on "just fine" without the benefit of human intervention and interpretation (Witmore 2014: 217). Should archaeology therefore allow that it is not a discipline concerned with excavating the indications of the various past human labours that once acted upon things, and should it eschew the demand to "look beyond the pot, the awl or a stone enclosure for explanations concerning the reasons for their existence" (Witmore 2014: 204)? Consequently, is archaeology now

a matter of following the things themselves to wherever they might lead—what Witmore characterises as the New Materialisms—and if so, are we now to practise archaeology “not as the study of the human past through its material remains, but as the discipline of things” (Witmore 2014: 203)?

¶1331: On show from Sicilian deeps

¶1332: Travelling Europe at present is an exhibition about archaeological finds from the seas around Sicily. The island's most striking recent discovery (2004–2005) is the site of the Battle of the Egadi Islands, where Rome wrested control of the Tyrrhenian Sea from Carthage in 241 BC. Several of the exhibits are from that site.

¶1333: Breaking away: identity and society in Scotland's Neolithics

¶1334: Characterising the Neolithic in Britain and Ireland has always been a lively pursuit. Following the referendums on Scottish independence and Brexit, and the consequent shifts in modern cultural and political identities, research into the first farming communities of these islands and their tangled traditions assumes particular resonance. The two volumes under review explore Neolithic identities in Scotland: the first, a festschrift for Gordon Barclay, focused around the theme of mainland Scotland; the second, a monograph pulling together more than two decades of fieldwork led by Colin Richards and colleagues around the Bay of Firth in Orkney.

¶1335: Improving our understanding of Londinium

¶1336: Our extensive knowledge of Roman London is the result of over four decades of large-scale excavation. In the UK, the establishment and growth of professional archaeology since the 1970s, coupled with the funding provided by property developers since 1990 (Fulford & Holbrook 2015), has transformed our understanding of both urban and rural sites—and nowhere more so than London. A combination of intensive building development in the City of London and the world-leading technical quality of many of the excavations means that Londinium is now probably both the most extensively and best-excavated major town of the Roman world. Knowledge generated by these excavations, however, has not always been made available through publications as it should have been. Although there is an important archive in which the records of past projects are curated, how and where to publish results has been a long-running problem, especially for the excavations of the 1970s and 1980s where post-excavation work was often not properly funded or supported. One major project to publish a synthesis of work on such sites in Southwark, south of the Thames, did result in a series of important volumes (Sidell et al. 2002; Cowan 2003; Hammer 2003; Yule 2005; Cowan et al. 2009), but a programme designed to provide systematic coverage of such projects in the City of London, to the north of the river (Maloney 1990; Perring & Roskams 1991; Williams 1993; Davis et al. 1994), failed to produce one of the five volumes promised—that concerning the archaeology of the key eastern hill. We also lack any up-to-date synthesis, a problem only partly compensated for by Dominic Perring's (1991) popular overview and Wallace's (2014) in-depth analysis of the evidence for the period down to the Boudiccan revolt in AD 60/61.

¶1337: The Routledge handbook of bioarchaeology in Southeast Asia and the Pacific Islands.

¶1338: Le village de Jerf el Ahmar (Syrie, 9500–8700 av. J.-C.). L'architecture, miroir d'une société néolithique complexe.

¶1339: Lerna VII: the Neolithic settlement.

¶1340: Trypillia mega-sites and European prehistory 4100–3400 BCE



¶1341: Carchemish in context: The Land of Carchemish Project, 2006–2010

¶1342: Cliffs End Farm, Isle of Thanet, Kent

¶1343: Living with floods: archaeology of a settlement in the Lower Ganga Plains, c. 600–1800 CE.

¶1344: the Dodecanese and the eastern Aegean Islands in Late Antiquity, AD 300–700.

¶1345: Zénobia-Halabiya, habitat urbain et nécropoles. Cinq années de recherches de la mission syro-française (2006–2010)

¶1346: Living and dying at Auldham: the excavation of an Anglian monastic settlement and medieval parish church.

¶1347: The science of a lost medieval Gaelic graveyard: the Ballyhanna Research Project (TII Heritage 2).

¶1348: Victims of Ireland's Great Famine: the bioarchaeology of mass burials at Kilkenny Union Workhouse.

¶1349: New Book Chronicle

¶1350: Between mountain and plain: new evidence for the Middle Palaeolithic in the northern Susiana Plain, Khuzestan, Iran

¶1351: Shubayqa 6: a new Late Natufian and Pre-Pottery Neolithic A settlement in north-east Jordan

¶1352: Al-Ashoosh: a third-millennium BC desert settlement in the United Arab Emirates

¶1353: Delphi4Delphi: first results of the digital archaeology initiative for ancient Delphi, Greece

¶1354: Pet cats at the Early Roman Red Sea port of Berenike, Egypt

¶1355: The archaeological potential of Durham University's Sudan Archive

¶1356: Durham University's Sudan Archive was founded in 1957 by former members of the Sudan Government under the Anglo-Egyptian Condominium, and by staff from Durham University, including the first director of the Oriental Museum, T.W. Thacker (Cory & Forbes 1983). Since the initial call for donations, the Sudan Archive has now collected 800 boxes of documents and photographs, mainly from former Sudan Government officials. This material now forms an integral part of Durham University Library's special collections (Sudan Archive Catalogue). The archive holds a wide variety of documents, from personal communications and photographs, to official reports mainly pertaining to political and social issues from early twentieth-century Sudan and neighbouring countries. It also includes a wealth of material relevant to the archaeology of both the Sudan and neighbouring countries (e.g. Egypt, Israel, Syria) (Figure 1), yet only a limited amount of the potentially relevant material has been used by archaeologists. The Sudan Archive remains a largely untapped resource for archaeological research. This situation is probably to be explained partly by the description of the archive as a historical and political collection; moreover, a search of the existing catalogue for the term 'archaeology' returns only four results, whereas about 700 documents are directly relevant to the subject. An additional problem is that the spellings of both archaeological sites and locations are inconsistent; for example, Meroë also appears as Meroe, Merowe and Bakarwiyyeh. To remedy these issues and to make the material more accessible, a recent project has identified over 1000 individual references to archaeological sites or themes and catalogued them in a database (Figure 2).

¶1357: A field archaeological perspective on the Anthropocene

¶1358: In a recent *Antiquity* debate, Todd Braje and respondents discuss the merits or otherwise of the recently proposed and hotly contested geological ‘Age of Man’—the Anthropocene. These papers make a useful contribution to the rapidly growing literature on this epoch-in-the-making (cf. Swanson et al. 2015). Recent publications by members of the Anthropocene Working Group (AWG; <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>) suggest a start date for this epoch of c. 1950 (Zalasiewicz et al. 2015; Waters et al. 2016; Zalasiewicz & Waters 2016), the adoption of which would challenge archaeology as a discipline concerned with deep-time socio-ecological dynamics.

**Name:** Antiquity 2017 abstracts

¶1: Antiquity 2017 abstracts

¶2: ISSUE 1

¶3: Climate, styles and archaeology: an integral approach towards an absolute chronology of the rock art in the Libyan Desert (Eastern Sahara)

¶4: Archaeology and palaeoclimatology have provided a strong chronological framework for the Holocene settlement of the central Libyan Desert (Eastern Sahara), but this does not integrate the abundant rock art that is present. Using an interdisciplinary approach, this article amalgamates primary environmental and climatic evidence, 14C dates, stratigraphy and other chronologically relevant archaeological indicators with a systematic analysis of the relative sequence of local rock art styles derived from superimpositions and weathering. Evidence from each discipline corroborates that of the others, enabling the establishment of an absolute chronological framework for the Holocene rock art in the region.

¶5: The successful 'recipe' for a long-lasting tradition: Nubian ceramic assemblages from Sai Island (northern Sudan) from prehistory to the New Kingdom

¶6: Sai Island, in the Nile in northern Sudan, has a series of settlement sites spanning the entire period from the eighth millennium BC through to the Eighteenth Dynasty of the Egyptian New Kingdom. This long sequence provides an excellent opportunity to study continuity and discontinuity in long-term pottery traditions. Ceramics from the varying cultural phases of the occupation reflect changing dynamics between broader regional social identities, notably Kerma to the south and Egypt to the north. 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, highlighting the varying manifestations of change and continuity.

¶7: A place of pilgrimage? Niuheiliang and its role in Hongshan society

¶8: The complex of Niuheiliang, in north-eastern China, with its concentration of ceremonial architecture and unusual art, has been considered the most highly developed polity of the Hongshan period, representing the integration of a large territory. In contrast, the supposed absence of residential remains has been advanced to suggest that it was a vacant ceremonial centre. Systematic survey of the area is now helping to clarify relationships between ceremonial sites and occupation patterns. Densities of utilitarian pottery sherds were used to map settlement and estimate population levels in relation to the locations of ceremonial architecture and concentrations of ritual pottery. This reveals that despite unproductive soils, the area had a relatively high, although scattered, population, focused in part on ritual locations. The results support a role for Niuheiliang as a place of pilgrimage, but within a nexus of settled communities that sustained its ceremonial activities.

¶9: From one ritual to another: the long-term sequence of the Bury gallery grave (northern France, fourth–second millennia BC)

¶10: Megalithic or earth-cut chambered tombs containing large numbers of buried individuals are a key feature of the Late Neolithic of northern France. The discovery and analysis of one such tomb at Bury offers an exceptional opportunity to investigate changing burial practices during the fourth and

third millennia BC. This was not a static monument: funerary practice changed significantly over time, and several different episodes of mortuary use have been identified. Comparing and contrasting these episodes suggests that there was no substantial change in the local population using the grave, but changes in burial practice reveal a shift towards more selective inclusion. These may reflect broader changes in contemporary society during the third millennium BC.

¶11: An archaeoacoustic study of the Ғal Saflieni Hypogeum on Malta

¶12: The remarkable subterranean architecture of the Ғal Saflieni Hypogeum on Malta has generated many claims about its dramatic acoustic effects, but previous studies have lacked rigour. 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. It is argued that for the people who created the Hypogeum, the acoustics must have had particular significance and ritual power.

¶13: Exploring the lower settlements of Iron Age capitals in Anatolia and Syria

¶14: The capital cities of early Iron Age Syria and Anatolia have been extensively excavated, but their lower towns—where most of the populace actually lived—remain under-explored. In 2014, an intensive surface survey was undertaken across the 16ha lower town of Tell Tayinat, capital city of the Iron Age kingdom of Patina, in what is now southern Turkey. Results indicate clear spatial distinction between dense and sparsely occupied zones, an uneven distribution of wealth and localised craft production. The lower town seems to have been occupied by a diverse array of people and interest groups, with varying degrees of social status, including some elite households, but predominantly less wealthy and powerful than their neighbours on the acropolis.

¶15: The ‘Keltenblock’ project: discovery and excavation of a rich Hallstatt grave at the Heuneburg, Germany

¶16: A richly furnished grave of an elite woman from the Hallstatt period was discovered close to the Heuneburg, the earliest proto-urban settlement north of the Alps. Dendrochronological analysis of timbers from the grave chamber dates the burial to 583 BC, the earliest of a series of such burials north of the Alps and a key anchor in the absolute chronology of the Early Iron Age in Europe. The woman was adorned with gold, bronze, jet and amber jewellery; gold filigree objects, amber fibulae and items of horse-head armour suggest close connections south of the Alps. An infant female burial close to the main grave included gold jewellery made for a child but similar to that of the woman.

¶17: Archaeological science and object biography: a Roman bronze lamp from Kavastu bog (Estonia)

¶18: Objects imported over long distances often have rich biographies, not least a collection of bronze objects found in a peat bog in Estonia that included an elaborate lamp of Roman origin. Combining new scientific approaches with earlier observations and traditional archaeological analysis, the authors reconstruct the provenance, possible itinerary and changing use of the lamp over half a millennium, and across thousands of kilometres. They highlight its variable roles, from luxurious illumination to valuable raw material. The results demonstrate the importance of looking beyond the original time and place of manufacture, and beyond the primary function when constructing the biographies of imported objects.

¶19: Polychromy in Africa Proconsularis: investigating Roman statues using X-ray fluorescence spectroscopy

¶120: Colour was a key feature of Greek and Roman sculpture, but due to the current bare-marble appearance of many such statues, it is now frequently overlooked. This is illustrated here by the first study of polychromy in Roman statues from the province of Africa Proconsularis. Five sculptural fragments dating to the second and third centuries AD were examined using techniques including XRF analysis, and a variety of pigments were detected. The differing colour schemes presented by each of the pieces are here assessed, and consideration is given to the technical process by which they were coloured, the significance of their decoration and the potential for applying similar approaches in future studies of ancient statuary.

¶121: Destruction and abandonment practices at La Rinconada, Ambato Valley (Catamarca, Argentina)

¶122: Occupation of the Ambato Valley in north-western Argentina ended abruptly in around AD 1200, with destructive abandonment resulting in burnt and collapsed buildings. Analysis of broken pottery sherds from La Rinconada suggests that this may have been the outcome of a deliberate 'closing' activity. Re-fitted vessels were found to be largely complete despite extensive fragmentation; two portions of one vessel were 10m apart with a wall in between. Conjoining fragments of other vessels exhibited contrasting effects of thermal alteration, or were associated with lithic objects that may have been used to destroy them, or appeared to have been deliberately arranged. The evidence is altogether indicative of the intentional destruction and deposition of this material immediately prior to the burning of the site.

¶123: An early medieval dual-currency economy: bullion and coin in the Danelaw

¶124: Metal detecting in England has recovered a large number of Viking Age single finds that have been reported to the Portable Antiquities Scheme. These reveal that silver bullion of Scandinavian origin was used as currency throughout the Danelaw between AD 865 and 940. Standardised weights of copper alloy were an integral part of this metal-weight economy. Bullion was not the sole means of silver payment during this period: coinage had long been used in the occupied Anglo-Saxon territories and continued to be minted under the Vikings. The resulting dual-currency economy may have facilitated trade with neighbouring Scandinavian territories, but the two currencies also served as markers of cultural identity, offering a choice of monetary media.

¶125: Assembling places and persons: a tenth-century Viking boat burial from Swordle Bay on the Ardnamurchan peninsula, western Scotland

¶126: A rare, intact Viking boat burial in western Scotland contained a rich assemblage of grave goods, providing clues to the identity and origins of both the interred individual and the people who gathered to create the site. The burial evokes the mundane and the exotic, past and present, as well as local, national and international identities. Isotopic analysis of the teeth hints at a possible Scandinavian origin for the deceased, while Scottish, Irish and Scandinavian connections are attested by the grave goods. Weapons indicate a warrior of high status; other objects imply connections to daily life, cooking and work, farming and food production. 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.

¶127:

¶128: The Emerald Acropolis: elevating the moon and water in the rise of Cahokia

¶129: In the mid eleventh century AD, Cahokia emerged as a substantial Mississippian urban centre. To the east, a shrine-complex known as the Emerald Acropolis, marking the beginning of a processional route to the city, also flourished. Excavations and geophysical survey of the monumental landscape

around this site 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. The contemporary development of these sites suggests an intrinsic connection between them, and provides early evidence of the importance that the moon and water came to assume in Mississippian culture.

¶130: The provenance, date and significance of a Cook-voyage Polynesian sculpture

¶131: A unique wooden sculpture collected by James Cook during his first voyage to the Pacific is widely considered to be a masterpiece of Oceanic art, but its exact provenance has been unclear. New analysis of shavings from the object now indicate that a) the tree from which it was carved was felled between 1690 and 1728, and that the carving was therefore up to 80 years old when obtained, and b) it originated in Tahiti, despite its stylistic affinities with art from the Austral Islands. Motifs and forms clearly travelled within regions, and populations interacted in ways that blur presumed tribal boundaries. It is perhaps time to reconsider the association between region and style upon which the cataloguing and identification of objects routinely depends.

¶132: The Ypres Salient 1914–1918: historical aerial photography and the landscape of war

¶133: As the centenary commemorations of the Battle of Passchendaele approach, this article is a timely demonstration of how archaeology can provide new insights into the landscape of the Western Front. Assessment of over 9000 aerial photographs taken during the First World War, integrated with other approaches to landscape archaeology, offers a new perspective on the shifting nature of the historic struggle around the town of Ypres in Belgium. The results not only illustrate the changing face of the landscape over that four-year period, but also highlight the potential of aerial photographic records to illuminate hitherto overlooked aspects of landscape heritage.

¶134: Interactions and -isations in the Aegean and beyond

¶135: Connectivity in the ancient world has become a subject of such consuming interest in recent years that new publications on various aspects of the issue, pertaining to some area or period, appear with great regularity. Just in later European prehistory we have Continental connections: exploring cross-channel relationships (Anderson-Whymark et al. 2015), Exchange networks and local transformations (Alberti & Sabatini 2013) and Enclosed space—open society (Jaeger et al. 2012), to name but a few. One can hardly believe otherwise than that every part of the later prehistoric world was intimately involved, not only with its immediate neighbours but also with other areas near and far. 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 (e.g. Stockhammer 2012). The question of ‘-isations’, such as ‘Romanisation’, has been a concern of archaeologists for many years; here it is ‘-isations’ of the prehistoric Aegean world that are the focus of attention.

¶136: Revolutionary discoveries from Bronze Age Iberia: recent work on the Argaric world

¶137: In the Mediterranean region there are relatively few integrated, specialist research teams engaged in long-term and ongoing field- work. One of these rare and productive scientific collaborations is the ASOME (Arqueoecología Social Mediterránea, or Mediterranean Social Archaeoecology) group from the Autonomous University of Barcelona, Spain. The three volumes under review are authored by this team's lead researchers, and represent the first book-length publications from a long-term research project (2009–) on the Earlier Bronze Age El Argar culture (2200–1550 BC). They report the results of several excavations in the province of Murcia, Spain, supported by a combination of public

and private funding. This ambitious initiative addresses ground-breaking research questions and offers solid and sustainable solutions for the conservation and preservation of these formerly neglected sites. Its aims, as summarised on the project's website, are: to create a systematic archive of information on the dispersed collections from earlier investigations; to undertake large-scale fieldwork on a series of key sites and to develop their public presentation; and to lay the foundations for an interdisciplinary research centre on prehistoric and Mediterranean archaeology (<http://www.la-bastida.com>).

¶138: Geoarchaeology and radiocarbon chronology of Stone Age Northeast Asia.

¶139: Le gisement de Crévéchamps (Lorraine). Du néolithique à l'époque romaine dans la vallée de la Moselle (Documents d'archéologie française 110).

¶140: Kavos and the special deposits: the sanctuary on Keros and the origins of Aegean ritual.

¶141: Dakhleh Oasis and the Western Desert of Egypt under the Ptolemies (Dakhleh Oasis Project Monograph 17).

¶142: Le qşar, type d'implantation humaine au Sahara: architecture du Sud Algérien (Cambridge Monographs in African Archaeology 91).

¶143: 'A mersshy contree called Holderness': excavations on the route of a national grid pipeline in Holderness, East Yorkshire.

¶144: Lives in land—Mucking excavations by Margaret and Tom Jones 1965–78. Prehistory context and summary.

¶145: Offa's Dyke: landscape & hegemony in eighth-century Britain.

¶146: Landscapes of the Islamic world: archaeology, history, and ethnography.

¶147: Numismatic archaeology of North America: a field guide.

¶148: New Book Chronicle

¶149: It is no surprise that archaeologists should be drawn to the study of ancient urbanism. As markers of social complexity, cities are key to understanding the organisation and development of human societies. But why were people attracted to cities in the past? Presumably they perceived the political and economic significance of these urban centres. Yet there was also disease, crime and inequality. In this NBC, we sample recent volumes that explore the possibilities and problems of urban living. We travel from medieval Europe, through the ancient Mediterranean, to Mesoamerica; we visit royal palaces and Greek brothels; and we witness industrious city folk buying, selling, making and baking.

¶150: The first evidence for Late Pleistocene hominin populations on the southern Caspian Sea coast

¶151: The southern shore of the Caspian Sea is well known for its great potential in relation to sites of Mesolithic date (e.g. Coon 1951; Jayez & Vahdati Nasab 2016). Situated between two major geographic barriers—the Alborz Mountains to the south, and the Caspian Sea to the north—this area has been considered one of the major hominin dispersal corridors during the Pleistocene–Holocene transition (Vahdati Nasab et al. 2013). Furthermore, the relatively stable and mild climatic conditions, vast and lush temperate forests, and abundance of fauna and water resources have all made this region an attractive niche for human settlement.

¶152: The MUP Zagros Project: tracking the Middle–Upper Palaeolithic transition in the Kermanshah region, west-central Zagros, Iran

¶153: In recent decades, the Eurasian Middle–Upper Palaeolithic (M–UP) transition has been a topic of major interest among palaeoanthropologists. Great progress has been made in several domains, particularly palaeogenetics, which have revealed the complex ancestry of early Eurasians. This progress—including the identification of a ghost lineage of Eurasians in the Middle East—is providing important new biogeographical hypotheses. A key region for such topics is the Iranian Plateau—an area that has so far not been subject to intensive research.

¶154: Novel survey methods shed light on prehistoric exploration in Cyprus

¶155: Evidence for the earliest occupation of Cyprus (c. 11000–8500 cal BC) has been elusive as it often consists of small, diffuse and unobtrusive scatters of debris from stone tool manufacture. Yet tracing these sites is crucial if we are to understand how humans first explored the island, learned to exploit its resources and introduced useful flora and fauna from elsewhere. Our approach to this problem is to employ new methods of pedestrian survey and predictive modelling so as to investigate a route that could have linked the coast and the interior.

¶156: Human motifs at Neolithic Tepe Baluch, north-east Iran

¶157: The start of sedentary farming and herding in the Middle East transformed social and economic organisation and reshaped ideological structures and artistic representations. Tepe Baluch is a Neolithic settlement on the Neyshabur Plain in north-east Iran. Amongst the ceramic material excavated at the site, one particular sherd is of great interest. 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.

¶158: Shimao and Erlitou: new perspectives on the origins of the bronze industry in central China

¶159: Over the last five years, excavation of a large, stone, fortified site at Shimao, on the northern edge of the Loess Plateau in Shaanxi Province, China, has radically changed our understanding of the events that precipitated the development of the first bronze casting in central China at Erlitou (Figure 1). An international conference on the Shimao site, held at Shenmu in August 2016, explored many aspects of this major discovery.

¶160: Boxing Day: a Maya polychrome pot from southern Belize

¶161: The notion of ancient Maya ritual combat, beyond the well-known rubber-ball game played across Mesoamerica, was proposed 40 years ago on the basis of a polychrome vase from southern Belize and a series of Late Classic (AD 700–850) pottery figurines depicting similarly accoutred individuals, found at the site of Lubaantun (Hammond 1976: figs 4–6).

¶162: Excavations at the Jahānnamā complex: urban archaeology at Isfahan, Iran

¶163: Isfahan in central Iran was selected as a capital city by both the Seljuk (AD 1040–1157) and the Safavid (AD 1501–1722) dynasties. During the Safavid period, and under Shah Abbas I (AD 1571–1629) in particular, the city was greatly expanded with important new quarters including Naqsh-e Jahan Square (AD 1590–1595). Running north to south, a new avenue or boulevard called the Charbagh (Ḳiyābān-e Čhārbāġ) 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.



#### ¶164: EDITORIAL

¶165: Almost exactly 50 years ago this month, at a conference held in Monaco, 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.

¶166: A Late Pleistocene woman from Tham Lod, Thailand: the influence of today on a face from the past

¶167: 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. To evaluate the problem, a facial approximation of a young woman from the Late Pleistocene rockshelter of Tham Lod in north-western Thailand 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. The case is of particular interest as the Tham Lod individual probably belonged to a population ancestral to extant Australo-Melanesian peoples.

¶168: Dating Knossos and the arrival of the earliest Neolithic in the southern Aegean

¶169: Knossos, on Crete, has long been famous both for its Minoan period remains and for the presence, at the base of the stratigraphy, of an early Neolithic settlement. The chronology and development of the Neolithic settlement, however, have hitherto been unclear. New light is now thrown on this formative period by combining new and older radiocarbon dates with contextual information in a Bayesian modelling framework. The results from Crete and western Anatolia suggest that an earlier, small-scale Aceramic colonisation preceded the later Neolithic reoccupation of Knossos.

¶170: The earliest directly dated rock paintings from southern Africa: new AMS radiocarbon dates

¶171: 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. The results reveal that southern African hunter-gatherers were creating paintings on rockshelter walls as long ago as 5723–4420 cal BP in south-eastern Botswana: the oldest such evidence yet found in southern Africa.

¶172: Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe

¶173: Recent genetic, isotopic and linguistic research has dramatically changed our understanding of how the Corded Ware Culture in Europe was formed. Here the authors explain it in terms of local adaptations and interactions between migrant Yamnaya people from the Pontic-Caspian steppe and

indigenous North European Neolithic cultures. The original herding economy of the Yamnaya migrants gradually gave way to new practices of crop cultivation, which led to the adoption of new words for those crops. The result of this hybridisation process was the formation of a new material culture, the Corded Ware Culture, and of a new dialect, Proto-Germanic. Despite a degree of hostility between expanding Corded Ware groups and indigenous Neolithic groups, stable isotope data suggest that exogamy provided a mechanism facilitating their integration. This article should be read in conjunction with that by Heyd (2017, in this issue).

¶174: Kossinna's smile

¶175: Two recent palaeogenetic studies have identified a movement of Yamnaya peoples from the Eurasian steppe to Central Europe in the third millennium BC. Their findings are reminiscent of Gustaf Kossinna's equation of ethnic identification with archaeological culture. Rather than a single genetic transmission from Yamnaya to the Central European Corded Ware Culture, there is considerable evidence for centuries of connections and interactions across the continent, as far as Iberia. The author concludes that although genetics has much to offer archaeology, there is also much to be learned in the other direction. This article should be read in conjunction with that by Kristiansen et al. (2017), also in this issue.

¶176: The earliest evidence of pattern looms: Han Dynasty tomb models from Chengdu, China

¶177: Excavation of the Han Dynasty chambered tomb at Laoguanshan in Chengdu, south-west China, has provided the earliest known evidence of pattern loom technology. Four model looms, along with accompanying artefacts and figurines relating to the weaving process, give insight into the technique of jin silk production. The discovery is hugely significant as it provides the first direct evidence of pattern-weave textile production in ancient China. Jin silk, made using this method, was both valuable and widely distributed, and the design of the machine influenced the invention of later looms and the spread of technology throughout Eurasia and Europe, representing great technological accomplishment for the second century BC.

¶178: China and the steppe: reception and resistance

¶179: The development of several key technologies in China—bronze and iron metallurgy and horse-drawn chariots—arose out of the relations of central China, of the Erlitou period (c. 1700–1500 BC), the Shang (c. 1500–1046 BC) and the Zhou (1046–771 BC) dynasties, with their neighbours in the steppe. Intermediaries in these exchanges were disparate groups in a broad border area of relatively high land around the heart of China, the Central Plains. The societies of central China were already so advanced that, when these foreign innovations were adopted, they were transformed within highly organised social and cultural systems.

¶180: Protohistoric graveyards of the Swat Valley, Pakistan: new light on funerary practices and absolute chronology

¶181: The protohistoric graveyards of north-western Pakistan were first excavated in the 1960s, but their chronology is still debated, along with their relationship to broader regional issues of ethnic and cultural change. Recent excavation of two graveyards in the Swat Valley has provided new dating evidence and a much better understanding both of grave structure and treatment of the dead. Secondary burial was documented at Udegram, along with the use of perishable containers and other objects as grave goods. The complexity of the funerary practices reveal the prolonged interaction between the living and the dead in protohistoric Swat.

¶182: The Uffington White Horse geoglyph as sun-horse

¶183: The Uffington White Horse is a unique later prehistoric geoglyph worked onto the chalk hillside of the Berkshire Downs in southern England. This large figure has seen little new interpretation since the early twentieth century. Unable to explain the form satisfactorily, archaeologists have shied away from acknowledging the distinct nature of the horse and its probable importance to previous occupants of the land. 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.

¶184: Cultural spaces inside and outside caves: a study in Guam, western Micronesia

¶185: The limestone cliff face overlooking the coastline of Ritidian, on Guam, has revealed several caves with evidence of human activities. Since 2011, archaeological survey and excavation have exposed how use of the caves had changed over time, and that they were the focus of special behaviours, with quite distinct archaeology to that of nearby residential sites. To understand the significance of these caves fully, they must be contextualised within the broader framework of contemporary open-air sites. The result highlights the use of the caves for unique purposes at different times, including as water sources, venues for various art traditions and particular burial customs.

¶186: Two tales of one city: data, inference and Carthaginian infant sacrifice

¶187: Recent issues of *Antiquity* have seen much discussion on the topic of Carthaginian infant sacrifice: was it a Graeco-Roman fiction or did it really happen? There are strongly held opinions on both sides of the argument, with much resting on the age profile of the children interred at the cemetery known as the Carthage Tophet. Here, the authors respond to claims by Smith et al. (2011, 2013) that their ageing of the infants and children was incorrect, and so also by extension was their interpretation that not all interments at the Tophet were the result of sacrifice.

¶188: Development of an early city in Central Mexico: the Tlalancaleca Archaeological Project

¶189: The origins of the large Classic and Postclassic urban centres of Central Mexico remain poorly understood. Archaeological investigations at the Formative site of Tlalancaleca in Puebla (Mexico) provide the first detailed study of a large-scale urban centre of that period. Preliminary results suggest that the growth and development of this particular site may have influenced the subsequent growth of Teotihuacan itself. This study explores how urbanisation can be identified archaeologically by tracing the expansion of population and the emergence of monumental architecture.

¶190: The Malian Lakes Region redefined: archaeological survey of the Gorbi Valley

¶191: The Malian Lakes Region of West Africa has long been overlooked in favour of better-known basins of the Niger River. New archaeological survey of this region, however, shows a history far more complex than had previously been thought, with settlement mounds and multiple phases of migration and eventual abandonment in a landscape of shifting power structures between the first millennium BC and second millennium AD. With the establishment of a relative chronology, the archaeology of this region now holds great potential for a better understanding of the broader cultural history of the Ghana Empire.

¶192: The perfect storm: climate change and ancient Maya response in the Puuc Hills region of Yucatán

¶193: Climatic fluctuation is often cited as a major factor in the collapse of Maya civilisation during the Terminal Classic Period (e.g. Luzzadder-Beach et al. 2016). Evidence of how people dealt or failed to

deal with it has only recently become a more widespread focus for archaeologists. Investigations at Xcoch in the Puuc Hills show the various ways in which resident populations sought to manage water stores when faced with a climate prone to drought and other meteorological extremes. 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.

¶194: Maritime hominin dispersals in the Pleistocene: advancing the debate

¶195: To what extent is there spatial and temporal patterning in the spread of our genus around the planet, and what environmental and behavioural factors specify this patterning? The prevailing model of Pleistocene dispersals of *Homo* holds that this process was essentially terrestrial, with oceans and seas inhibiting and directing the movement of hominins out of Africa (e.g. Mellars 2006; Dennell & Petraglia 2012; Gamble 2013), although some scholars propose short-range maritime hops at both the Strait of Gibraltar and Bab-el-Mandeb (Lambeck et al. 2011; Rolland 2013). The relatively recent discovery of stone tools with apparently Lower and Middle Palaeolithic characteristics on islands in the eastern Mediterranean and in Island Southeast Asia (ISEA) has, however, been used by some scholars to challenge this terrestrial model.

¶196: Social science and archaeological enquiry

¶197: Is archaeology a social science? Most archaeologists would probably agree that the goal of our discipline is to learn about the people, societies and cultures of the past. Thus there should be little objection to labelling archaeology a 'social' field of study. We study both people and society, but what about the 'science' part? This label is more controversial. Many archaeologists reject the notion that archaeology is, can be or should be a science. Others assume that archaeology is indeed a science and get on with their work, not worrying much about epistemology or definitions of science. Still others pursue decidedly non-scientific goals yet borrow scientific techniques from other disciplines and call it 'archaeological science'.

¶198: Byzantine buildings: monumental architecture at Miletus and Resafa

¶199: History, politics and meaning among the Classic Period Maya of the southern lowlands

¶100: Prehistoric rock art in Scandinavia.

¶101: Anthropomorphic representations in the Cucuteni-Tripolye culture.

¶102: The archaeology of Grotta Scaloria: ritual in Neolithic southeast Italy (*Monumenta Archaeologica* 38).

¶103: A Bronze Age landscape in the Russian Steppes: the Samara Valley Project (*Monumenta Archaeologica* 37).

¶104: The ancient highlands of southwest China: from the Bronze Age to the Han Empire.

¶105: Cartimandua's capital? The late Iron Age royal site at Stanwick, North Yorkshire, fieldwork and analysis 1981–2011 (*Research Report* 175).

¶106: Bearsden: a Roman fort on the Antonine Wall.

¶107: *Archeologia dell'Italia medievale*.

¶108: Climate and settlement in southern Peru: the northern Río Grande de Nasca drainage between 1500 BCE and 1532 CE (Forschungen zur Archäologie Außereuropäischer Kulturen 13).

¶109: The bioarchaeology of societal collapse and regeneration in ancient Peru.

¶110: Material explorations in African archaeology.

¶111: New Book Chronicle

¶112: Project Gallery

¶113: The first evidence of Middle Palaeolithic Nubian technology in north-central Oman

¶114: Since 2012, the French Mission in Oman has discovered several Palaeolithic sites in the south-eastern foothills of the Sufrat Dishshah (a hill of the Sufrat Valley/Wādī al-Cufrāt), in the Adam region of north-central Oman. These sites are attributed to the Lower through to the Late Palaeolithic (Bonilauri et al. 2015). The 2016 field season was dedicated to further investigation of the previously identified sites of the Sufrat Dishshah area. A number of additional artefacts were located and studied on site; four artefacts—two bifaces and two Nubian cores—were retained for further study. These finds have particular importance for the understanding of Middle Palaeolithic variability and cultural diffusion in Oman, and they represent one of the most significant results of the 2016 Adam expedition.

¶115: Harvest time: crop-reaping technologies and the Neolithisation of the Central Mediterranean

¶116: Neolithic societies were defined by the development of agricultural economies not only because part of their diet was obtained from cultivated plants, but also because crop-husbandry practices strongly affected people's lifestyles in a variety of ways. It is therefore unsurprising that the development and diffusion of agriculture can be studied from diverse perspectives and with different approaches, 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 (Mascher et al. 2016). Conversely, agriculture can be indirectly assessed through its impact on the environment and subsequent landscape modifications (Zanchetta et al. 2013; Mercuri 2014). Yet another approach explores crop-husbandry practices as reflected in changing technology. New agricultural tasks required the adaptation of existing technologies and the adoption of new tools and practices, including querns, millstones and other grain-grinding equipment, as well as artefacts and structures for grain storage, cooking and processing.

¶117: Investigating the provenance of obsidian from Neolithic and Chalcolithic sites in Bulgaria

¶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.

¶119: Archaeometric analysis of ceramic production and exchange from the Neolithic to the Gallo-Roman period in Brittany, France

¶120: This short article reports research on the development of ceramic production and exchange between the mainland and islands of Brittany from the Neolithic to the Gallo-Roman period. Archaeometric analysis of ceramics is used to explore the development of communication networks: the movement of people and of products between the islands and the mainland. Did these islands produce their own pottery or were they dependent on mainland production? By determining whether pottery was locally produced or imported, it is possible to identify the changing degrees of connection with, or isolation from, wider networks.

¶121: The lost fortress of Onoguris? Newly discovered sixth-century AD fortifications at Khuntsistsikhe, western Georgia

¶122: The village of Khuntsi is located in the Martvili municipality of Samegrelo, western Georgia, on the west bank of the Tskhenistskali River, on the road that links Martvili, Khoni and Kutaisi. A few short sections of wall on Kukiti Hill (known locally as 'Najikhu', translating roughly from Mingrelian as 'ruins (remains) of a castle') indicate the presence of a fortress. Six years ago, the installation of a mobile phone mast and associated infrastructure without consultation with the appropriate archaeological agencies revealed and damaged archaeological structures. Animal bone and fragments of pottery were retrieved, and are currently stored in the school in Khuntsi. It was information from a local school teacher, Zoya Gadelia, that led the Anglo-Georgian Expedition to Nokalakevi to investigate the site in 2015.

¶123: Investigating the proposed sanctuary near the volcanic Lago di Venere, Pantelleria, Italy, in 2014 and 2015

¶124: The longue durée of human activity on the island of Pantelleria represents an important locus of ancient cultural interaction in the Strait of Sicily. This narrow channel in the central Mediterranean has played a major and continuous role in human relations between Italy, Sicily and North Africa since the Neolithic period. Use or control of the Pantelleria has been pivotal for a number of cultures over time, each leaving a lasting impression on the landscape and the people of the island (Figure 1). The volcanic geology of Pantelleria has determined the shape of its landscape and is responsible for the creation of the collapsed-caldera basin and lake that form the study area of this project. The Brock University Archaeological Project at Pantelleria (BUAPP) is working in the Lago di Venere area, examining past human activity on the north-eastern lake shore. A previous project in the Lago di Venere area (1998–2002) interpreted the site as a Punic and Roman sanctuary (Audino & Cerasetti 2004; Cerasetti 2006). Our project complements this and other archaeological investigations of the island's classical past, including the ongoing excavations on the Acropolis, near the main harbour, which have revealed the remains of the island's Punic and Roman centre (Schäfer et al. 2015).

¶125: Art and archaeology: the visualisation of Orkney

¶126: Art and archaeology have always been an important part of my life, and it is only in the last couple of years that I have realised how I can unite them. Let me explain. I am the daughter of Alan Sorrell—an artist best known for his archaeological reconstruction drawings (Perry & Johnson 2014: 323; Figure 1)—and throughout my childhood we visited sites around the country, linking work and holidays. As an artist, my father would gradually gather information to visualise yet another archaeological site while my brothers and I played. In time, I too became an artist fascinated by the abstraction and geometry of the natural world. When awarded the first TravelArt award 2015 by the ACE Foundation, I was asked to produce an exhibition of paintings of Orkney. This unleashed a latent desire to find my own personal interpretation of archaeology.

## ¶127: ISSUE 3

## ¶128: EDITORIAL

¶129: Protecting heritage is a mission to which all archaeologists will readily subscribe. How best to do so is a more difficult question. We cannot simply fossilise the past; nor (most would agree) should we commodify it, converting it into monetary values that are open to buying and selling. It has a value that goes beyond that: one that makes World Heritage Sites “parts of the cultural and natural heritage [. . .] of outstanding interest and [that] therefore need to be preserved as part of the world heritage of mankind as a whole”.

## ¶130: Populations headed south? The Gravettian from a palaeodemographic point of view

¶131: The Gravettian is known for its technological innovations and artisanal craftwork. At the same time, continued climatic deterioration led to the coldest and driest conditions since the arrival of *Homo sapiens sapiens* in Europe. This article examines the palaeodemographic development and provides regionally differentiated estimates for both the densities and the absolute numbers of people. A dramatic population decline characterises the later part of the Gravettian, while the following Last Glacial Maximum experienced consolidation and renewed growth. The results suggest that the abandonment of the northern areas was not a result of migration processes, but of local population extinctions, coinciding with a loss of typological and technological complexity. Extensive networks probably assured the maintenance of a viable population.

## ¶132: From holes to huts: reconstructing an extinct type of architecture at the Sixth Nile Cataract

¶133: Evidence for light architecture characteristic of mobile and semi-mobile societies is difficult to detect archaeologically. This article investigates such evidence in the form of narrow cylindrical holes discovered on rock walls at the archaeological site of Sphinx, in the Sixth Nile Cataract (central Sudan). Using innovative experimental reconstruction, these holes are interpreted as features associated with wooden pole-built structures, some of which may have been dwellings. This research highlights a significant category of North African archaeological evidence which has, to date, received limited attention.

## ¶134: In pursuit of a missing transition: the Mesolithic and Neolithic radiocarbon chronology at La Font-aux-Pigeons rockshelter

¶135: The 1950s excavations at Châteauneuf-lès-Martigues—type site of the Late Mesolithic Castelnovian phase—played a significant role in shaping theories about the nature of the Neolithic transition in the western Mediterranean. 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. These results overturn the older argument for Mesolithic–Neolithic continuity at this key site.

## ¶136: Adunqiaolu: new evidence for the Andronovo in Xinjiang, China

¶137: Bronze Age social and cultural interconnections across the Eurasian steppe are the subject of much current debate. A particularly significant place is occupied by the Andronovo Culture or family of cultures. Important new data document the most easterly extension of Eurasian Bronze Age sites of Andronovo affinity into western China. Findings from the site of Adunqiaolu in Xinjiang and a new series of radiocarbon dates challenge existing models of eastward cultural dispersion, and demonstrate the need to reconsider the older chronologies and migration theories. The site is well

preserved and offers robust potential for deeper study of the Andronovo culture complex, particularly in the eastern mountain regions.

¶138: Bronze Age wool: provenance and dye investigations of Danish textiles

¶139: Recent analysis of the wool textiles from the famous Egtved oak coffin burial in Denmark indicated that the wool had been obtained from beyond Denmark. Was this an isolated case or evidence of a large-scale wool trade in the Danish Bronze Age? To investigate the broader pattern of wool provenance, textile manufacturing and trade practices, 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. These results challenge extant interpretations of Scandinavian Bronze Age textile provenance, and demonstrate the complexity of exchange networks in wool textiles during this period.

¶140: Animal exploitation in the oases: an archaeozoological review of Iron Age sites in southern Central Asia

¶141: Protohistoric populations of the southern steppes experienced a series of significant changes in settlement and material culture between the Late Bronze Age (c. 1500 BC) and the end of the Iron Age. 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. They indicate that localised cultural choices, perhaps responding to local environmental constraints, persisted throughout this period, despite successive cultural or political shifts, including the Achaemenid conquest of the region in the sixth century BC.

¶142: Bronze Age metal circulation in China

¶143: The Shang (c. 1500–1045 BC) and Zhou dynasties (c. 1045–771 BC) of China are famous for their sophisticated ritual bronze vessels. 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. It reveals the complexity of the copper sources on which the late Shang capital at Anyang depended for its bronzes, suggesting the transport of copper from distant regions in the south, on the Yangtze, and from north-east China. The new interpretational system furthers our understanding of the network on which successive Chinese dynasties depended for copper, lead and tin, and attempts to give equal weight to the archaeological and chemical data.

¶144: Ancient metalworking in South America: a 3000-year-old copper mask from the Argentinian Andes

¶145: Metallurgy in pre-Columbian America first developed in the Andes, and Peru has long been considered to be the initial point of origin. The recent discovery of an anthropomorphic copper mask in north-west Argentina, however, draws new attention to the southern Andes as a centre of early metalworking. Found in a funerary context c. 3000 BP, at a time of transition from mobile hunter-gatherer bands to agro-pastoral villages, the mask from Bordo Marcial shows that the Cajón Valley and its surrounding region was an important locus for copper metallurgy. To date, the mask is the oldest intentionally shaped copper object discovered in the Andes, and suggests that more than one region was involved in the origin of this technology.

¶146: Polished greenstone celt caches from Ceibal: the development of Maya public rituals



¶147: Excavations at Ceibal in Guatemala have recovered numerous polished celts from contexts dating throughout the Preclassic Maya occupation of the site. The celts are made of different types of greenstone, and most were deposited in caches in public areas close to ceremonial structures. Recent study shows how deposition practices changed over time. Furthermore, microwear analysis suggests that the majority of celts did not have a practical function. It is argued, instead, that the caches of greenstone celts represent public rituals relating to the establishment of early Preclassic elites.

¶148: Late Holocene guanaco hunting grounds in southern Patagonia: blinds, tactics and differential landscape use

¶149: Research in two distinct steppe landscapes in southern Patagonia—the western basaltic plateaux and the central Deseado Massif—compares hunter-gatherer strategies in the two environments, focusing on the use of hunting blinds and associated tactics in the hunting of guanaco. The evidence obtained brings this region into discussions about the use of rocky structures and the recognition of tactics used for hunting ungulates in a global perspective. The authors also emphasise the importance of highland settings as major and reliable sources of critical resources for foraging peoples, a topic still not fully appreciated in archaeological studies of hunter-gatherers.

¶150: Ile-Ife and Igbo Olokun in the history of glass in West Africa

¶151: Recent excavations at the site of Igbo Olokun in the Yoruba city of Ile-Ife, in south-western Nigeria, have shed light on early glass manufacturing techniques in West Africa. 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. The results of these studies suggest that glass bead manufacture at this site was largely independent of glass-making traditions documented farther afield, and that Igbo Olokun may represent one of the earliest known glass-production workshops in West Africa.

¶152: Revisiting Baranda: a multi-analytical approach in classifying sixteenth/seventeenth-century glass beads from northern Zimbabwe

¶153: The glass bead trade in southern Africa provides important evidence of interregional contact during the early modern period. Compositional analysis of a large assemblage of imported glass beads from the sixteenth- to seventeenth-century AD trading site of Baranda in northern Zimbabwe 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: On early metallurgy and textile-production technologies in the southern Levant: a response to Langgut et al. (2016)

¶155: In a recent article published in this journal, Langgut et al. (2016: 973) proposed five Late Chalcolithic (c. 4300–4000 BC) wooden shafts to be “the earliest Near Eastern wooden spinning implements”. Here we discuss these unique finds in light of their cultural and technological contexts, and suggest an alternative interpretation according to which these wooden shafts, one with a lead macehead lodged on its upper end, were components of the cultic practices of the southern Levantine Ghassulian culture.

¶156: On Chalcolithic maceheads and spinning implements

¶157: We are grateful to Ben-Yosef et al. (above) for their thorough critical evaluation of our recent paper. We identified a group of modified wooden shafts originating in two large complex caves with Late Chalcolithic (Ghassulian) burials in the Negev Desert (Israel) as the earliest Levantine wooden spinning implements (Langgut et al. 2016). Their detailed assessment culminated in the alternative hypothesis that the wooden objects functioned as sticks that carried metal maceheads during rituals. This raises several issues that merit serious consideration. Our response to Ben-Yosef et al.'s suggestions is divided into two sections, each concentrating on one of the two main technologies under discussion: spinning and metallurgy.

¶158: If it looks like a duck: final comment on early metallurgy and textile-production technologies in the southern Levant

¶159: We appreciate the emerging discussion on the identification of the recently discovered Chalcolithic artefacts from the Judean Desert, and the careful attention to detail by Langgut et al. (above) that helps to further clarify our current understanding of spinning and metallurgical technologies in this period. Yet while we agree that by its nature archaeology is full of surprises and exceptional discoveries, we argue, however, that especially in such cases as this, the supporting evidence should be robust. This is clearly not the situation here; regardless of Langgut et al.'s nuanced argumentation (above) on specific contextual observations, our interpretation of the lead artefact as a metallic macehead that happened to be found with its wooden shaft still attached (a rare find but paralleled in the hoard from the Cave of the Treasure) remains much simpler and more straightforward than the interpretation that this extremely rare metal was used as part of a mundane spinning implement (which has no parallels anywhere). As the limitation on space does not allow us to address each of the points raised by Langgut et al., we leave it to the reader to assess the accuracy and relevance of their claims. In any case, their detailed response is only tangential to the essential line of our argument, which is related to weighing the available data and contextual information properly. The conclusion remains that while the observations that ostensibly connect the newly discovered artefacts to textile production are feeble and can be simply related to Ghassulian prestige metal objects (e.g. the use of wooden shafts and textiles in their carrying and maintenance), other observations make this connection difficult (as admitted also by Langgut et al. regarding the weight of the lead 'whorl'), if not impossible.

¶160: Satellite imagery and heritage damage in Egypt: a response to Parcak et al. (2016)

¶161: In a recent article, Parcak et al. (2016) presented the results of a study in which they used satellite imagery to evaluate looting and other damage at over one thousand heritage sites in Egypt. Assessing imagery dating between 2002 and 2013, their results indicated an increase in visible damage to sites during this period caused by looting and encroachment, which by Parcak et al.'s definition "includes building development, cemetery growth, agricultural expansion and intentional damage through targeted destruction" (2016: 190). Their findings support the work of previous authors who have documented an increase in looting and other damage to archaeological sites connected with increasing nationwide economic and political instability (e.g. Ikram 2013; Ikram & Hanna 2013).

¶162: Threats to the archaeological sites of Egypt: a response to Fradley and Sheldrick

¶163: We appreciate Michael Fradley and Nichole Sheldrick's response to our 2016 Antiquity paper. They claim that our results are "potentially misleading", that there is an incorrect "emphasis on looting as the most significant problem facing Egypt's heritage" and that our prediction model is flawed. Our paper, however, clearly focuses on the major population centre of Egypt—the Nile

Valley and Delta regions—where the bulk of the archaeological sites are located. This is a basic Egyptological fact.

¶164: Final comments: looking to the future

¶165: We thank Sarah Parcak et al. for their response to our paper, for engaging in this important debate and for clarifying a number of points regarding Parcak et al. (2016), and for raising some important questions concerning the methods and objectives of the EAMENA project. We can, however, only comment on what was presented in their original article and address, in these brief final remarks, a few of the points raised in their response.

¶166: Londoners enticed and engrossed

¶167: The Crossrail Project is building railways through London between Essex and Kent in the east and Acton in the west: the Elizabeth Line. In anticipation of remains at the sites of new stations and ancillary structures, more than 200 archaeologists investigated the route between 2009 and 2016. Now London's Docklands Museum is showing about 500 of the many thousands of finds in 'Tunnel'. At the same time, the exhibition describes how archaeological research and recording works.

¶168: A foot in the river

¶169: Ever decreasing circles

¶170: The fabric of society: recognising the importance of textiles and their manufacture in the ancient past

¶171: African materiality

¶172: Holocene prehistory in the Telidjene Basin, eastern Algeria: Capsian occupations at Kef Zoura D and Ain Misteheyia.

¶173: Clairvaux et le 'Néolithique Moyen Bourguignon'.

¶174: Sagaholm: north European Bronze Age rock art and burial ritual.

¶175: The provincial archaeology of the Assyrian empire.

¶176: Tartessos and the Phoenicians in Iberia.

¶177: The chora of Metaponto 6: a Greek settlement at San'Angelo Vecchio.

¶178: The field survey of the Vasilikos Valley: volume II. Artefacts recovered by the field survey

¶179: Ancient ports: the geography of connections

¶180: Romano-British settlement and cemeteries at Mucking: excavations by Margaret and Tom Jones, 1965–1978.

¶181: Viking Dublin: the Wood Quay excavations.

¶182: Portmahomack on Tarbet Ness: changing ideologies in north-east Scotland, sixth to sixteenth century AD.

¶183: Ritual violence in the ancient Andes: reconstructing sacrifice on the north coast of Peru.

¶184: On the Late Pliocene stone tools of the Quranwala Zone, north-west sub-Himalayas, India

¶185: A recent study of the Quranwala Zone (QZ) of the north-west sub-Himalayas, India, presents evidence for anthropic activity during the Pliocene that includes a number of stone tools found in association with fossil animal bones with cut marks. Based on the date of the Pliocene rock outcrop, the tools and bones are suggested to date from 2.6 Ma (Gaillard et al. 2016). There is, however, a question mark over the context of these tools within an outcrop of Pliocene rocks and, hence, over the date of these tools and the fossil bones. The trench from which they were excavated at Masol 2 (Gaillard et al. 2016: fig. 3) lies in a depression at the bottom of a slope; the description provided in section 2 of the paper by Gaillard et al. (2016) suggests that the stone tools may not have been in situ within the Pliocene levels, but had accumulated there and were mixed with the fragments of fossil bone due to geological processes. Moreover, many of the stone tools, such as the 'simple choppers' found in association with the fossil animal bones (Gaillard et al. 2016: figs 6, 8, 9), are usually found on much more recent sites and are therefore unlikely to date from 2.6 Ma.

¶186: An Acheulean biface from the Deh Luran Plain, Iran

¶187: In 1960, Robert Braidwood discovered, by chance, an Acheulean biface at Gakia, Kermanshah Province, in the Zagros Mountains of western Iran (Braidwood 1960). Since then, only around ten Lower Palaeolithic sites have been identified on the Iranian Plateau, most of which are open-air sites (see Biglari & Shidrang 2006). Despite growing interest in the Palaeolithic of Iran over the past decade, studies generally continue to focus on particular sites and are largely concerned with the technology and typology of raw materials. A major problem for studies of the Lower Palaeolithic, in particular, is the rarity of cave sites, making it very difficult to study the behaviour of the early hominids through excavation. This paper reports the discovery of an Acheulean biface during a survey of the Deh Luran Plain to the south of the plateau, adding to the picture of human dispersal during the Pleistocene.

¶188: Recent investigations of the early prehistory of the Wainganga River basin, eastern Maharashtra, India

¶189: The Pleistocene archaeological record of South Asia is important for questions relating to the origin and evolution of Palaeolithic cultures, continuity or change in lithic technologies, and the dispersals of humans across Asia. With these issues in mind, the research project presented here has set out to investigate the basin of the Wainganga River of the Deccan Plateau, southern India.

¶190: Drenovac: a Neolithic settlement in the Middle Morava Valley, Serbia

¶191: The Late Neolithic houses excavated at Drenovac, Serbia, rank amongst the best-preserved in Europe. In particular, the preservation of collapsed second-storey floors offers unique insights into household and social organisation. The site of Slatina-Turska česma, Drenovac, is located in the Middle Morava Valley of central Serbia (Figure 1). It is a deeply stratified site, with cultural deposits up to 6.5m thick, that spans two main periods of occupation (separated by a hiatus of approximately 700 years): the Early Neolithic Starčevo Culture (6100–5900 BC) and the Late Neolithic Vinča Culture (5300–4700/4500 BC). The site was first recorded in 1966, and the first large-scale excavations undertaken between 1968 and 1971 (Vetnić 1974: 125–39; Perić 2004). In 2004, the Archaeological Institute in Belgrade conducted further excavations to improve understanding of the site's chronology, stratigraphy, formation processes and occupation dynamics (Perić 2009; Perić & Perić 2014). Geomagnetic surveys were carried out in parallel with further excavations undertaken between 2008 and 2011 in cooperation with the Romano–Germanic Commission of the German Archaeological Institute (Perić et al. 2016) and, between 2012 and 2013, with the Viminacium Centre

for New Technologies. An extensive geomagnetic survey here offers extraordinary insights into the layout and extent of the Late Neolithic settlement, and has enabled targeted excavations (Figure 1).

¶192: Discovery of obsidian mines on Mount Chikiani in the Lesser Caucasus of Georgia

¶193: The volcanic Javaketi Range (Lesser Caucasus, Georgia) has recently aroused the interest of both geologists and archaeologists on account of its rich environmental and geological history, the prehistoric exploitation of its raw materials and the discovery of archaeological sites ranging from the Palaeolithic to the Historical Ages (Gogadze 1980; Kikodze 1983). In 2012 and 2014, two systematic surveys were conducted on Mount Chikiani (Koyundağ) with the aim of defining the areas from which obsidian was obtained during different prehistoric periods, and to characterise its sources (Biagi & Gratuze 2016). A longer season of archaeological prospection was carried out in 2016. Among the many important finds was the discovery of a large number of obsidian mining pits along the northern and north-eastern lower slopes of the volcano (Figure 1), as well as several obsidian workshops. During the 2016 season, research focused on the 2417m-high trachyrhyolitic dome—a source of high-quality obsidian—emerging from the plain around 300m north-east of Lake Paravani.

¶194: El Pacífico: early architecture and landscape during the Formative period of the Central Andes

¶195: Despite archaeological interest in the study of the origins of public architecture in the Andes, there remain a number of gaps in our knowledge, especially in the area between the Chancay and Lurin Valleys on the central coast of Peru. This situation may, in part, result from how we have approached the study of the Formative period. In particular, the lack of intensive studies in several types of sites and valleys means that we have incomplete knowledge of wider settlement systems. As a result, we know very little about the existence of smaller settlements, only the great public centres. Nor do we understand how the unique occupational histories of each site and valley developed. This is despite the fact that investigations of the period began with middens and sites with modest architecture such as Bellavista or Ancón (Uhle 1906; Rosas 2007). Yet this shortcoming has not been an obstacle to formulating explanatory models, which have focused on the origin of early public architecture. The current dominant explanatory model for the emergence of architectural monumentality focuses on the concept of the concentration of power (e.g. Haas 1982; Trigger 1990). Our project at El Pacífico takes a different perspective, seeing these mounds as a palimpsest of social experiences and socially constructed places to preserve community memory and traditional patterns of life (Dillehay 1990; Tilley 1994; Rosenswig & Burger 2012; Flores 2014).

¶196: A prehistoric pyramid in the shape of a volcanic cinder cone, Nepeña Valley, Peru

¶197: Archaeological work in the 1960s in the middle Nepeña Valley of coastal Peru (Figure 1) identified an artificial earthen mound or pyramid, approximately 15.5m high, with what was interpreted to be a crater dug into the top (Proulx 1968). This site has been variously known as Wanka, Huaca de Muro and El Bocón (PV31-55 in the Peruvian Ministry of Culture files). When viewed from a distance (Figure 2), the site resembles a volcanic cinder cone, such as the one in the Andahua Valley in southern Peru (Figure 3), and we have therefore named the site El Volcán. It should be noted, however, that there are no volcanoes in the vicinity of El Volcán to serve as models, nor indeed are any other examples of volcano-shaped structures known from Peru or elsewhere.

¶198: Newly discovered rock art sites in Balandar, Mashhad province, north-eastern Iran

¶199: The site of Pire Mazar Balandar (or PMB001) is located near the village of Balandar in the Khorasan region of north-eastern Iran (33°09'37.64"N, 59°29'52"E; Figure 1). It consists of an

outcrop of volcanic rock on a mountain peak (1532m asl) on the north-eastern side of the Binaloud range, above the city of Mashhad (Figure 2).

¶1200: The discovery of an ancient Maya causeway system in the southern Maya Mountains of Belize

¶1201: The archaeological site of Quebrada de Oro, southern Belize, is one of four ancient Maya settlement sites, mainly dating to the Classic period (AD 250–900), that are situated in the Bladen Branch drainage of the southern Maya Mountains proper. This remote location has long been taken to imply that the region was a political backwater, but the recent discovery of an ancient Maya causeway system associated with Quebrada de Oro—the first significant example to be documented in this area—sheds new light on this group of Maya sites (Figure 1).

¶1202: ISSUE 4

¶1203: Archaeologists, it must ruefully be admitted, are often the beneficiaries of past societies' disasters. How much more do we know of Pompeii and Herculaneum owing to the ash and pumice that engulfed them on that fatal day in AD 79? Yet the plaster casts of the victims remind us vividly of the cost in human lives, and recent analysis of the eruption has underlined what a terrifying experience that must have been. Similar evidence from other parts of the world is equally sobering: the iron-clad warrior who was overcome by pyroclastic flows at Kanai Higashiura in sixth-century Japan, for example, or the victims of the 1815 Tambora eruption, excavated at Pancasila in Indonesia.

¶1204: A stable relationship: isotopes and bioarchaeology are in it for the long haul

¶1205: Given their ubiquity in dietary reconstruction, it is fitting that the story of isotopes began with a conversation over dinner. Although coined in scientific literature by Frederick Soddy (1913), the word 'isotope' was first conceived by Margaret Todd, a medical doctor (also known as the novelist 'Graham Travers', and an all-round gender-stereotype-smasher of their age). In 1912, Soddy and Todd were attending a supper in Glasgow. When talk turned to work, Soddy described the then nameless concept of elements of different masses that occupy the same place in the periodic table. Todd suggested the term 'isotope', from the Greek *isos* ('same') + *topos* ('place'), and the name stuck (Nicol 1957; Nagel 1982).

¶1206: Peopling South America's centre: the late Pleistocene site of Santa Elina

¶1207: The earliest peopling of South America remains a contentious issue. Despite the growing amount of new evidence becoming available, and improved excavation and dating techniques, few sites have yet to be securely assigned to a period earlier than 12000 BP. The Santa Elina shelter in Brazil, located at the convergence of two major river basins, is one of them. The excavations at the site, including the results of various dating programmes, are described here along with reflections on the unique insights offered by Santa Elina into early migration routes into the Southern Cone.

¶1208: Large-scale storage and storage symbolism in the ancient Near East: a clay silo model from Tel Tsaf

¶1209: Recent excavations at the protohistoric (5200–4600 cal BC) site of Tel Tsaf in the Jordan Valley (Israel) revealed an unusual clay model, found in a room surrounded by several large grain-storage silos. It provides the first insight into the manner in which the superstructures of the silos at Tel Tsaf may have been constructed. More importantly, this find adds a new dimension to understanding the link between large-scale storage and the symbolism related to grain storage, burial and the regeneration of life. It also illustrates the early appearance of distinct strategies for controlling the

means of production and for accumulating wealth—factors that led to the creation of social hierarchies in the ancient Near East.

¶210: The temple of Tulán-54: Early Formative ceremonial architecture in the Atacama Desert

¶211: Unique among its kind in the Atacama Desert, the temple of Tulán-54 is a key site of the Early Formative period. Evidence of ceremonies and ritual activities, such as feasts and offerings, demonstrates that Tulán-54 was the scene of important cultural and economic transformation, from hunter-gatherers to early pastoralist communities. Recent investigations have provided new data that enriches and challenges interpretations of the site, the association of its ceremonial architecture with its material culture, and its carved motifs and inhumations. This evidence expands our understanding of the social and cultural complexity of Chilean Early Formative societies at both a local and regional scale.

¶212: The epigraphic stela of Montoro (Córdoba): the earliest monumental script in Iberia?

¶213: A remarkable stela from Montoro, southern Spain, is unique in its morphology, epigraphic traits and landscape context. 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. This multi-faceted approach allowed the stela to be interpreted within the context of early interactions between literate Mediterranean societies of the Late Bronze Age and Iron Age and non-literate Iberian societies. A key outcome of this research is a wider understanding of the complex patterns in the use and perception of early scripts.

¶214: Rach Nui: ground stone technology in coastal Neolithic settlements of southern Vietnam

¶215: The discovery of a small portable grinding stone at Rach Nui in southern Vietnam provides significant new insights into regional Neolithic trade networks and ground stone technologies. Previous research held that the manufacture of stone tools took place near stone sources in the interior, along the Dong Nai and Be River basins, but the Rach Nui grinding stone comes from a Neolithic site in the Mekong Delta, approximately 80km to the south-east. This suggests that some manufacturing occurred away from raw material sources. Technological analysis indicates that the artefact was a portable tool for the polishing, maintenance and repair of ground stone adzes. Its discovery at Rach Nui may indicate the presence of specialist tool makers or itinerant traders. This research illustrates the complexity of Neolithic trading networks, and highlights the technological expertise that circulated alongside finished and incomplete objects.

¶216: Airborne LiDAR prospection at Lovea, an Iron Age moated settlement in central Cambodia

¶217: Recent archaeological investigations and technological applications have increased our appreciation of the intricacies of pre-Angkorian societal development. The results reveal a transformative period characterised by increasing socio-political complexity, exchange and technological transfer, differences in burial wealth, growing levels of conflict and variation in site morphology. Among the excavated Iron Age sites in Cambodia, Lovea, near the heart of Angkor, is well placed to provide a greater understanding of these changes in this region. Excavation and remote sensing confirm that the two moats surrounding Lovea are testimony to the early adoption of water-management strategies. These strategies grew in complexity, culminating in the vast network of canals, reservoirs and tanks that are the hallmarks of the hydraulic society of Angkor.

¶218: Building the Terracotta Army: ceramic craft technology and organisation of production at Qin Shihuang's mausoleum complex

¶1219: Despite decades of research into the Terracotta Army of the First Emperor of China, many questions remain about how, where and by whom the figures were made. 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 in a highly organised system of labour and craft specialisation that laid the foundation for imperial China.

¶1220: Identifying 'plantscapes' at the Classic Maya village of Joya de Cerén, El Salvador

¶1221: The Classic Maya village of Joya de Cerén is extraordinary in that it was preserved by volcanic ash following the Loma Caldera volcanic eruption. The excellent preservation conditions offer a unique opportunity to understand plants in their primary use contexts, and to examine geospatial relationships between plants—both living and curated—in gardens, fields and households. The geospatial analysis of 'plantscapes' at Cerén presented here provides a template for interpreting botanical resource use and management at other contemporaneous Maya sites, and can contribute to a broader understanding of the use of space, plants and agriculture in the past.

¶1222: Mosaicists at work: the organisation of mosaic production in Early Islamic Jerash

¶1223: The city of Jerash in northern Jordan was badly damaged by an earthquake in AD 749. As a result of this, many parts of the city, including the Northwest Quarter, were abandoned and further construction ceased. Archaeological excavations in those parts of the city therefore reveal snapshots in time from the moment at which disaster hit. Of particular interest is the so-called 'House of the Tesserae', where archaeologists discovered a trough for the storage of pieces to be used in the construction of mosaics. The find, reported here for the first time, provides a unique insight into the practice of mosaic-laying during the Early Islamic Period.

¶1224: The church of Santa Comba de Bande and early medieval Iberian architecture: new chronological results

¶1225: The church of Santa Comba de Bande in north-west Spain has long been considered a model for regional Late Antique and early medieval architecture. Controversy, however, has recently emerged concerning its construction date. Is it a 'Visigothic' (seventh century) or 'Mozarabic' (ninth to tenth centuries) church? The combination of stratigraphic data with absolute dating methods has now provided a date of AD 751–789 for construction of the church. This result has historical and architectural implications: Santa Comba de Bande represents an extremely early example of Mozarabic architecture, and demonstrates the dynamic circulation of influences between the Islamic south and Christian north in eighth-century Iberia.

¶1226: Borgring: the discovery of a Viking Age ring fortress

¶1227: A massive tenth-century AD ring fortress was recently identified at Borgring, south of Copenhagen in Denmark. The combination of high-resolution LiDAR mapping, geophysical survey and targeted small-scale excavation has demonstrated that the site belongs to a rare class of monuments—the Trelleborg-type ring fortress. Borgring is the first such monument to be found in Denmark in over six decades, and provides an opportunity to investigate a type-site of Viking Age military organisation and conflict. The authors argue that Borgring complements a varied group of fortification structures in late Viking Age Denmark, part of a military network close to contemporaneous European ideas of military kingship and defence.



¶1228: The Dancing Kudu: women's initiation in the Namib Desert during the second millennium AD

¶1229: Although the rock art of southern Africa is overwhelmingly concerned with ritual, there are few depictions of the initiation rites so important to hunter-gatherer identity. This study presents the first definitive evidence of women's initiation based on evidence from rock art and archaeological features at the site of /Ui-//aes in Namibia. The evidence reveals multiple links between initiation, women's work in gathering wild grass seed, and the importance of the female kudu as a metaphor of positive social values. 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.

¶1230: Post-colonialism, human origins and the paradox of modernity

¶1231: Post-colonial thought affects the heart of Western science. Although there is comparatively little engagement with post-colonial theory in the fields traditionally concerned with human origins or human evolution, it should be of critical importance to Palaeolithic archaeology and human evolutionary studies. 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.

¶1232: Re-dating the Ingombe Ilede burials

¶1233: Several burials excavated during 1960 at Ingombe Ilede in southern Africa were accompanied by exceptional quantities of gold and glass beads, bronze trade wire and bangles. 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. This was a dynamic period when the Portuguese were establishing market settlements along the Zambezi, generating new demands for trade products from the interior, and establishing trade networks with the Mwene Mutapa confederacy. These new dates invite a reconsideration of Ingombe Ilede's relationship to Swahili and Portuguese trade in the middle Zambezi. This article is followed by four responses and a final comment by the authors.

¶1234: The glass beads from Ingombe Ilede

¶1235: Analysis of glass beads from the Ingombe Ilede burials 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. Following an unsuccessful attempt to locate the Ingombe Ilede beads in the Livingstone Museum, we analysed beads from a card with samples of Ingombe Ilede beads that had been originally prepared by A.P. du Toit (1965), and later sold to MuseuMAfrica in Johannesburg (Figure 1). The beads were chemically analysed using LA-ICP-MS, as part of a larger project on ancient African glass bead chemistry (Robertshaw et al. 2003). All analysed beads from burials 3 and 8 belong to the Khami series produced in India and traded into southern and south-central Africa from the mid fifteenth to mid seventeenth centuries. Some beads of an earlier type were present in other graves, and may have been kept as heirlooms.

¶1236: Ingombe Ilede and the demise of Great Zimbabwe

¶1237: Although new research suggests multi-directional trajectories in the development of the Zimbabwe Tradition (see Chirikure et al. 2016), regional population shifts need not be discounted, as some of these generated states (e.g. Vigneswaran & Quirk 2015). Oral-historical data from northern Zimbabwe counters persistent but often misleading views of pre-colonial states in south-central

Africa as exercising power over static and stationary populations (Pikirayi 1993). Rather, human mobility shaped, among other things, the Zimbabwe Culture's spatial features, its strategies for accumulating power and managing resources, and the regional political, social and economic actors to which it was connected. This occurred with the demise of Great Zimbabwe from the second half of the fifteenth century and for much of the sixteenth. Ingombe Ilede attests to post mid fifteenth-century regional shifts in patterns of trade that would lure the Portuguese to south-central Africa from the early sixteenth century onwards. The Zambezi became the preferred inland route. Great Zimbabwe's expansionary thrusts to control this trade undermined its own political control over the southern Zimbabwe plateau, as this spawned new political formations like the Mwene Mutapa state and other polities, including Ingombe Ilede.

¶1238: Tracing Ingombe Ilede's trade connections

¶1239: McIntosh and Fagan (above) write that “For 45 years, Ingombe Ilede has been viewed as a key nexus linking the Copperbelt and Great Zimbabwe”. Some regional specialists have not believed this since the publication of Swan's (2007) important review of the sizes and shapes of prehistoric copper ingots found in modern Zimbabwe. Swan noted that both of the ingot moulds found at Great Zimbabwe (which have a clear stylistic connection to the Copperbelt) are of the earlier HIH style (ninth to fourteenth centuries AD; de Maret 1995; Nikis & Livingstone Smith in press). But neither the later HXR-style copper ingots (fourteenth to seventeenth centuries)—some of which were excavated at Ingombe Ilede—nor the moulds to make them have been found on a Zimbabwe tradition site. The distribution of HXR ingots within the modern nation of Zimbabwe is almost exclusively in the north, within the former territory of the Mutapa state (Swan 2007: fig. 2). The clear implication is that the HXR ingot style—and thus the elite burials at Ingombe Ilede—post-date the breakup of the state ruled from Great Zimbabwe, which gave birth to the Mutapa (northern) and Torwa (southern) states. The new radiocarbon dates by McIntosh and Fagan provide welcome confirmation of this inference.

¶1240: Rethinking Ingombe Ilede and its hinterland

¶1241: The late fifteenth- to early seventeenth-century dates reported by Susan McIntosh and Brian Fagan (above) for the richest burials at Ingombe Ilede challenge well-known narratives concerning trade and politics in greater Zambezia. For example, as the authors indicate, Ingombe Ilede now seems more an outcome of the destabilised politics of Great Zimbabwe than a cause of its demise. The role that the inhabitants of Ingombe Ilede played in the shifting competitions and alliances that characterised political and economic life in sixteenth-century Zambezia must now be addressed.

¶1242: Relocating Ingombe Ilede in the history of south-central Africa

¶1243: We thank the four commentators for adding new dimensions and important data relevant to interpreting the new Ingombe Ilede dates. These contribute to the recent wave of reassessments and critiques of earlier interpretations and frameworks for the development of trade and complexity in southern Africa. Such reconsiderations are made possible by more sophisticated and precise radiocarbon dating, expanded investigation of both new and previously excavated sites, and by the use of chemical analyses to identify differently sourced groups of glass beads and metals (e.g. Pikirayi 2009; Robertshaw et al. 2010; Chirikure et al. 2013, 2014, 2016; Koleini et al. 2016).

¶1244: Coastal archaeologies: settlement on the changing North Sea littoral

¶1245: Over the past decade or so, the submerged prehistoric archaeology and landscapes in the area that is known to us today as the North Sea have received increasing attention from both

archaeologists and earth scientists. For too long, this body of water was perceived as a socio-cultural obstacle between the prehistoric Continent and the British Isles, the rising sea level a threat to coastal settlers, and the North Sea floor itself an inaccessible submerged landscape. Notwithstanding the many pertinent and pervasive problems that the archaeology of the North Sea still needs to overcome, recent research has made clear that these rather uninspiring beliefs are misplaced.

¶246: Ancient urbanism and complex societies in the Peruvian Desert: recent field research on the north and south coasts

¶247: The two monographs under review here are both published by the University Press of Florida and both feature results of field research at two previously understudied sites on the north and south coasts of Peru. Based on descriptions of excavation contexts and the analysis of material remains, Melissa Vogel and Christina Conlee discuss the implications of El Purgatorio and La Tiza for understanding Casma urbanism and the development of complex societies in Nasca, respectively. Field and laboratory results are used to revisit perennial questions in Andean archaeology, including the origins of urbanism, human-environment interactions and the role of regional phenomena in the unfolding of local cultures. While both authors report on site-based projects, they structure their presentations differently. Conlee takes a more regional approach, synthesising previous research at the national, regional, local and site levels. Vogel takes a more site-centric approach, presenting a summary of the ancient city's organisation and examining its impact on regional developments.

¶248: New bioarchaeological approaches to care in the past

¶249: Until a few years ago the bioarchaeology of care was a topic very rarely touched upon. Stimulated in large part by the innovative work by Tilley and colleagues, which provides a socially contextualised model to interpret the implications of health care in the past (Tilley & Oxenham 2011; Tilley 2015), this is now a burgeoning field in bioarchaeology. The two volumes on care in the past under review here showcase leading research in this emerging field, emphasising the social aspects of care in palaeopathological cases of disability. These volumes also illustrate the value of bioarchaeological consideration of the social implications of care provision, abuse and neglect of infants and children, as well as a consideration of care for animals in the past.

¶250: Evidential reasoning in archaeology.

¶251: The pottery from Dhaskalio (The sanctuary on Keros and the origins of Aegean ritual: the excavations of 2006–2008, volume IV).

¶252: La necropoli di Campovalano: tombe italico-ellenistiche, III

¶253: An urban geography of the Roman world, 100 BC to AD 300

¶254: The small finds and vessel glass from Insula VI.1 Pompeii: excavations 1995–2006

¶255: The rural settlement of Roman Britain

¶256: Abū Mīnā VI. Die Keramikfunde von 1965 bis 1998 (Archäologische Veröffentlichungen 111).

¶257: The lost Dark Age kingdom of Rheged: the discovery of a royal stronghold at Trusty's Hill, Galloway.

¶258: Khirbat al-Minya: Der Umayyadenpalast am See Genezareth (Orient-Archäologie 36).

¶259: The German Ocean. Medieval Europe around the North Sea.

¶1260: Ancient Southeast Asia.

¶1261: New Book Chronicle

¶1262: Reflecting on his motivations for writing a history of tomorrow, Yuval Noah Harari (2017: 68) observes that: “historians are asked to examine the actions of our ancestors so that we can repeat their wise decisions and avoid their mistakes. But it almost never works like that because the present is just too different from the past”. What then would Harari make of the new archaeology books reviewed in this instalment of NBC, concerned as they are with the present day and the future as much as they are with the past?

¶1263: Khorbas: a Lower Palaeolithic site on Qeshm Island in the Persian Gulf

¶1264: Despite the potential importance of southern Iran, and the Persian Gulf area in particular, for discussions on the dispersal of early hominins from Africa into Eurasia during the late Pliocene and early Pleistocene (Bar-Yosef & Belfer-Cohen 2001; Rose 2010), this area has remained almost unexplored until recently. Historically, Palaeolithic survey and excavations in Iran have mainly concentrated in western regions, especially the Zagros Mountains. As a result of recent studies, however, evidence for Palaeolithic sites in the southern regions of Iran, from Fars province to Qeshm Island, has greatly increased (Dashtizade 2009, 2010). Even with this improvement, no sites of Lower Palaeolithic date have yet been reported from the southern coastal areas on one of the proposed early hominin routes into Eurasia. As a result, it has been suggested that the few Lower Palaeolithic sites reported from other parts of Iran, especially in the west (e.g. Biglari & Shidrang 2006), were not populated from the south.

¶1265: A human face carved on a pebble from the Late Natufian site of Nahal Ein Gev II

¶1266: There is a paucity of Palaeolithic art in the southern Levant prior to 15 000 years ago. The Natufian culture (15 000–11 500 BP; Grosman 2013) marks a threshold in the magnitude and diversity of artistic manifestations (Bar-Yosef 1997). Nevertheless, depictions of the human form remain rare—only a few representations of the human face have been reported to date. This article presents a 12 000-year-old example unearthed at the Late Natufian site of Nahal Ein Gev II (NEGII), just east of the Sea of Galilee, Israel (Figure 1). The object provides a glimpse into Natufian conventions of human representation, and opens a rare opportunity for deeper understanding of the Natufian symbolic system.

¶1267: Neolithic developments in the Gorgan Plain, south-east of the Caspian Sea

¶1268: Until about two decades ago, the Neolithic of north-east Iran was known only from a few brief excavation reports: the sites of Yarim Tappeh (Stronach 1972) and Turang Tappeh (Deshayes 1967) on the Gorgan Plain, and preliminary reports of large-scale excavations at the twin mound of Sang-e Chakhmaq in the southern foothills of the eastern Alborz Mountains (e.g. Masuda 1984). In the absence of absolute chronologies, these sites were dated by ceramic assemblages to the sixth millennium BC, and were considered to relate to the so-called ‘Jeitun Culture’ of southern Turkmenistan (Figure 1; Roustaei 2016a).

¶1269: SETinSTONE: an impact assessment of the human and environmental resource requirements of Late Bronze Age Mycenaean monumental architecture

¶1270: Mycenaean monumental architecture has been well studied. Yet the extent to which large-scale building programmes may have contributed to change and crises in Late Bronze Age Greece (c. 1600–1100/1070 BC) has never been investigated using actual field data. The aim of the SETinSTONE

project is to assess if and how monumental building activities in Late Bronze Age Greece affected the political and socio-economic structures of Mycenaean polities, and how people may have responded to these changes (Brysbaert 2013).

¶1271: Maya mortuary landscapes, Central Belize

¶1272: The Central Belize Archaeological Survey (CBAS) was initiated in 2005 as a sub-project of the Belize Valley Archaeological Reconnaissance project (BVAR; directed by Jaime Awe) to investigate the prehistoric Maya cemetery site of Caves Branch Rockshelter. Subsequently, we began to survey other nearby cave and rockshelter sites (Hardy 2009) and to excavate the monumental civic-ceremonial centre of Deep Valley (Jordan 2008). CBAS became an independent project in 2009, with an increasing focus on sites in the neighbouring Roaring Creek Valley (Figure 1). This slight geographic shift was in part intended to expand bioarchaeological investigations to include dark zone cave contexts identified during the late 1990s by BVAR's Western Belize Regional Cave Project. In the area around these caves, we identified two large, previously unreported civic-ceremonial centres and a network of raised roads (sacbeob) connecting them and other sites. Our survey and excavations at Tipan Chen Uitz (Figure 2) have yielded evidence that it was a regional capital with ties to powerful foreign polities, as attested by the discovery of multiple carved stone monuments (Figure 3; see Andres et al. 2014; Helmke & Andres 2015; Andres et al. in press in *Antiquity*). We have also continued our investigations of mortuary rockshelters, including Sapodilla Rockshelter in the Caves Branch Valley.

¶1273: State formation in early medieval Castile: craft production and social complexity

¶1274: The EARMEDCASTILE project, based at the University of the Basque Country, has received funding from the European Union's Horizon 2020 Research and Innovation Programme, Marie Skłodowska-Curie Action (grant agreement 656540); <http://earmedcastile.blogspot.com>).

¶1275: City and wadi: exploring the environs of Jerash

¶1276: Archaeological excavations of urban sites in the Mediterranean have a long history, but only recently are geoarchaeology-based landscape studies beginning to provide insight into the complex and dynamic relationships between cities and their hinterlands. 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 (Barthel & Isendahl 2013; Butzer et al. 2013; Kintigh et al. 2014; Nelson et al. 2016).

¶1277: Finding Alcatrazes and early Luso-African settlement on Santiago Island, Cape Verde

¶1278: After the Portuguese discovered the Cape Verde Islands in AD 1456 they divided its main island, Santiago, into two governing captaincies. The founding settlement in the south-west, Cidade Velha, soon became the Islands' capital and a thriving trade centre; in contrast, that in the east, Alcatrazes, only lasted as an official seat from 1484–1516 and is held to have 'failed' (see Richter 2015).

¶1279: The PLANTCULT Project: identifying the plant food cultures of ancient Europe

¶1280: Plant foods are closely connected to cultural, social and economic aspects of human societies, both past and present. Food-preparation techniques and the etiquette of consumption involve complex interactions of natural resources and human cultures. During European prehistory, these changes included the shift to sedentism, the cultivation and domestication of plants, food storage,

the production and exchange of alcoholic beverages and luxury foodstuffs, and the continuous adaptation of established culinary practices to newcomers in fields and gardens.

¶1281: ISSUE 5

¶1282: EDITORIAL

¶1283: Archaeology takes the long view: that is one of the things that distinguishes it from history. Many of us (prehistorians in particular) deal with dates ending in multiple zeros that can easily confuse the uninitiated. The spans of time are vast, the evidence challenging and the pace of change, for much of that timescale, seemingly very slow. How far that impression is caused by taphonomy—the further back we look, the less there is to go on—and how far by the conservative nature of small-scale societies is a good question. There is no doubt about the gathering pace of change as we approach the present, however, and that is hardly surprising given the ballooning size of human populations. Twenty-first-century technology does not make us cleverer, but there are more of us around to invent things.

¶1284: Radiocarbon dating of human burials from Raqefet Cave and contemporaneous Natufian traditions at Mount Carmel

¶1285: The Natufian culture (c. 15–11.5 ka cal BP) marks a pivotal step in the transition from hunting and gathering to sedentism and farming in the Near East. Although conventionally divided into Early and Late phases, this internal chronology lacks support from reliable absolute dates. This is now addressed by new AMS dating from two neighbouring Natufian sites at Mount Carmel in Israel: Raqefet Cave, conventionally assigned to the Late phase of the Natufian; and el-Wad Terrace, spanning the entire Natufian sequence. Results indicate that these two sites were in fact contemporaneous at some point, but with distinct lunate assemblages. Distinguishing between Natufian phases is, therefore, more complex than previously thought; the social implications of diverse but co-existing cultural manifestations must be considered in any future reconstruction of the Natufian.

¶1286: Hafting with beeswax in the Final Palaeolithic: a barbed point from Bergkamen

¶1287: During the Last Glacial Maximum (LGM), much of the familiar insect fauna of Northern Europe today was confined to the warmer areas south of the Alps. Chemical and microscopic analysis of hafting residues on a Final Palaeolithic barbed point from Westphalia in Germany 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.

¶1288: Islands of history: the Late Neolithic timescape of Orkney

¶1289: Orkney is internationally recognised for its exceptionally well-preserved Neolithic archaeology. The chronology of the Orcadian Neolithic is, however, relatively poorly defined. 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. The resultant chronology for the period suggests differences in the trajectory of social change between the 'core' (defined broadly as the World Heritage site) and the 'periphery' beyond. Activity in the core appears to have declined markedly from c. 2800 cal BC, which, the authors suggest, resulted from unsustainable local political tensions and social concerns.

¶1290: The afterlife of Egyptian statues: a cache of religious objects in the temple of Ptah at Karnak

¶1291: The relationship of statues to the deities they represent is reflected in the special treatments they were often accorded during and after their primary use and display. In 2014 an unusual favissa—an intentionally hidden cache of religious objects—was discovered in the temple of Ptah at Karnak in Egypt. Such caches are generally poorly documented and difficult to date. The favissa contained numerous fragmentary statuettes and figurines, including 14 representing Osiris, carefully arranged around a larger central statue of Ptah. By comparing this cache with evidence from other Egyptian favissae, a hypothesis is proposed to explain the creation of such caches: the Osirian burial of an artefact, in this case the deposition of the ‘deceased’ statue of the god Ptah and its assimilation with Osiris, the god of rebirth.

¶1292: Tracing textile cultures of Italy and Greece in the early first millennium BC

¶1293: Archaeological textiles are relatively rare finds in Mediterranean Europe, but many fragments survive in a mineralised form. Recent analysis of Iron Age textiles from Italy and Greece indicates that, despite the use of similar textile technologies at this time, Italy shared the textile culture of Central Europe, while Greece largely followed the Near Eastern traditions of textile production. This research greatly expands our current understanding of the regional circulation of textile technological knowledge and the role of textiles in ancient societies.

¶1294: Emptyscapes: filling an ‘empty’ Mediterranean landscape at Rusellae, Italy

¶1295: The Emptyscapes project is an interdisciplinary programme designed to stimulate new developments in Italian landscape archaeology. It achieves this through the integration of traditional approaches with multidisciplinary studies, to which are added the relatively new techniques of large-scale geophysical survey, airborne laser scanning and geo-environmental analysis. The effectiveness of such an approach has been borne out by results from central Italy. These show that the underlying ‘archaeological continuum’ can be detected even in an area where archaeological evidence was previously thought to be absent.

¶1296: Bayesian analysis and free market trade within the Roman Empire

¶1297: The trade networks of the Roman Empire are among the most intensively researched large-scale market systems in antiquity, yet there is no consensus on the economic structure behind this vast network. The difficulty arises from data fragmentation and the lack of formal analytical methods. 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.

¶1298: Depletion gilding, innovation and life-histories: the changing colours of Nahuange metalwork

¶1299: The technique of depletion gilding is well evidenced in pre-Columbian Andean gold work. 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. Results suggest that depletion gilding may have been an accidental discovery and, contrary to widespread assumptions, not always a desirable feature. This research illustrates how technological innovation may not always be immediately adopted, and considers how the life-history of gold

artefacts may affect their appearance and microstructure. It also offers directions for future studies of depletion gilding elsewhere.

¶1300: Understanding the layout of early coastal settlement at Unguja Ukuu, Zanzibar

¶1301: New investigations at the coastal settlement of Unguja Ukuu in Zanzibar have demonstrated the effectiveness of magnetometry as a survey method. The early occupation of this Swahili port, from the sixth century AD, presents a unique opportunity to develop our understanding of the growth and development in settlement and trade along the East African coast. The geophysical survey has allowed the size of this important site to be reassessed and an industrial component to be identified. It also offers an insight into the role that early Islamicisation may have played in helping to establish the settlement as a key port during the growth of the Indian Ocean trade network.

¶1302: Two Classic Maya ballplayer panels from Tipan Chen Uitz, Belize

¶1303: Recent archaeological investigations at Tipan Chen Uitz, Belize, yielded two remarkable Classic Maya ballplayer panels. Iconographic and glyphic analysis of these panels within a regional context provides new insights into large-scale socio-political relationships, demonstrating that the ballgame was an important means and mechanism for macro-political affiliation in the Maya Lowlands. The panels suggest that Tipan was part of a wider system of vassalage that tied it to other Maya centres, including Naranjo, a regional capital under the dominion of Calakmul where the Snake-Head dynasty held sway. The data presented here underpin a more general discussion of archaeological approaches to ancient interaction spheres.

¶1304: New radiocarbon dates and the herder occupation at Kasteelberg B, South Africa

¶1305: The archaeological sequence at Kasteelberg B, in the Western Cape of South Africa, spans a millennium and covers several distinct occupational phases in the early pastoralist settlement history of the region. Attempts to understand that history through coordinating archaeological, linguistic and genetic evidence have proved problematic. The refined programme of radiocarbon dating presented here sheds further light on the different phases of occupation. More remarkably, it suggests, despite changes in material culture, the persistence of a single population over time, rather than population replacement as has been previously conjectured.

¶1306: Integrating the Old World into the New: an 'Idol from the West Indies'

¶1307: The Pigorini cemí is an icon of Caribbean colonial history, reflecting early trans-Atlantic cross-cultural exchanges. Although well documented, the piece has received surprisingly little systematic study. 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. These include indigenous shell and European glass beads, newly identified feather and hair fibres, and the enigmatic rhinoceros-horn mask carved as a human face. We also address the sculpture's hidden internal wooden base, which is shown to be a non-indigenous display mount made of European willow (*Salix* sp.).

¶1308: Glass and stoneware knapped tools among hunter-gatherers in southern Patagonia and Tierra del Fuego

¶1309: 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. The combination of archaeological data



with ethnographic and historical accounts shows contrasting contexts for the manufacture of scrapers and projectile points with new raw materials such as glass and stoneware within these two distinct geographic areas. These differences are explained by a number of key factors: the introduction of the horse, the role of guanaco in a newly imposed capitalist economic framework, demographic patterns, bio-geographic barriers and the establishment of 'reservations' and missions.

¶1310: Semi-automated detection of looting in Afghanistan using multispectral imagery and principal component analysis

¶1311: High-resolution satellite imagery has proved to be a powerful tool for calculating the extent of looting at heritage sites in conflict zones around the world. Monitoring damage over time, however, has been largely dependent upon laborious and error-prone manual comparisons of satellite imagery taken at different dates. 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.

¶1312: Agents and commodities: a response to Brughmans and Poblome (2016) on modelling the Roman economy

¶1313: This article responds directly to Brughmans and Poblome's (2016a) recent application of agent-based modelling to explore the relative integration of the Roman economy. The response will not only be of relevance to debates about the Roman economy, for it also asks critical questions about the use of formal modelling to interpret archaeological data. In posing open-ended questions rather than presenting definitive answers, it seeks to broaden and fuel discussion in a spirit of constructive critique.

¶1314: The case for computational modelling of the Roman economy: a reply to Van Oyen

¶1315: We thank Astrid Van Oyen for a highly constructive and important discussion piece that will improve our own future work, as well as that of others. We wish to elaborate on one issue: that formalist approaches do not necessarily have inherently modernist theoretical assumptions.

¶1316: Our fourth Lascaux

¶1317: World's most famous archaeological replica, Lascaux II was replaced in December 2016 by Lascaux IV. IV deserves to inherit the reputation, but it is already struggling to cope as it seeks to outdo II's tally of visitors. The ironies are manifold.

¶1318: Archaeology, archaeozoology and the study of pastoralism in the Near East

¶1319: Sheep and goat herding, the basis of pastoralism in the Near East, has been integral to the social organisation, diet, economy, religion and environment of the region since the beginnings of animal domestication. Interestingly, this omnipresent factor of life in the Near East has not been a popular topic of enquiry in its own right amongst archaeologists—of course, they deal with pastoralism in one way or another, but they mostly manage to keep the herder separate from the king. Instead, the study of pastoralism in this region has been largely the domain of archaeozoologists who study the sheep, goat and indeterminate 'sheep/goat' bones that dominate Near Eastern faunal assemblages from the Early Holocene onwards (the notorious difficulty of distinguishing sheep and goat bones led archaeozoologists to invent the sheep/goat, now an official taxon in the Encyclopedia of Life no less! <http://eol.org>).

¶1320: Fortifications in the ancient Mediterranean and Near East

¶1321: The two volumes under review are the outcome of the 'Focus on Fortifications Project', or 'FoFo' as its many participants refer to it here. In their insightful introduction, the editors explain that this project is best characterised as a scholarly network intended to foster new knowledge of ancient fortifications in the Eastern Mediterranean and the Near East (Asia Minor, Syria and Jordan). The resulting two volumes, published in the monograph series of the Danish Institute at Athens, encompass theoretical and methodological considerations (Volume 1), and the results of new studies of specific fortifications (Volume 2).

¶1322: Mycenaean in Bavaria? Amber and gold from the Bronze Age site of Bernstorf

¶1323: In August 1998 the German archaeological world was stunned when two amateur archaeologists found decorated gold-sheet ornaments on a hill in Bavaria north of Munich, near a farm named Bernstorf, in the commune of Kranzberg. A Bronze Age fortified enclosure was known there, local amateurs having excavated it earlier in the 1990s; later, permission was granted for gravel extraction, trees were cleared and it was in this disturbed area that the gold appeared. The authorities were quickly alerted. Both the Staatssammlung in Munich (Bavarian State Archaeological Museum) and the Bayerisches Landesamt für Denkmalpflege (BLfD, Bavarian State Office for Monument Care) took part in inspections and, subsequently, excavations. More gold, including a 'diadem', appeared and, in late September 1998, perforated lumps of amber. Then in November 2000, on the edge of an area under excavation by the BLfD, came the sensational discovery of two incised pieces of amber hailed as Mycenaean.

¶1324: How humans cooperate: confronting the challenges of collective action.

¶1325: Marine ventures: archaeological perspectives on human-sea relations.

¶1326: Stone tools in human evolution: behavioral differences among technological primates.

¶1327: Archaeological investigations in the Niah Caves, Sarawak (The archaeology of the Niah Caves, Sarawak 2).

¶1328: Deathways at Lepenski Vir: patterns in mortuary practice.

¶1329: Elfenbeinstudien Faszikel 3: Elefanten und Elfenbein auf der Iberischen Halbinsel und in Nordwestafrika (Iberia Archaeologica 16.3).

¶1330: Montelirio: un gran monumento megalítico de la Edad del Cobre.

¶1331: A mid-Republican house from Gabii.

¶1332: The people of early Winchester (Winchester Studies 9.i).

¶1333: Piecing together Sha Po: archaeological investigations and landscape reconstruction.

¶1334: New Book Chronicle

¶1335: Is the era of globalisation on the wane or on the cusp of a new phase of extraordinary expansion? US president Trump's abandonment of trade agreements and the rise of protectionism coincide with China's 'Belt and Road Initiative', an unprecedented investment in infrastructure across Asia, Europe and North Africa to improve the connectivity of China with its markets by both land and sea. The future is therefore anyone's guess, but what about the past? There has been much discussion by archaeologists about ancient globalisations (most recently, Hodos 2017), but

archaeological studies have often typically been set within the looser framework of 'connectivity'—the interconnectedness of people and places and the movement of material culture and ideas. The books reviewed here are concerned with various aspects of connectivity, focusing on the Eastern Mediterranean and its European hinterland. All of the volumes are edited collections, each adopting a different unifying theme—the influence of Braudel, a single country as microcosm, the transfer of technology, change vs tradition, and the effects of boundaries and frontiers. Do any wider insights into connectivity in the past emerge? And where might archaeological studies of connectivity go next?

¶1336: The first Middle Palaeolithic site exhibiting obsidian industry on the northern slopes of the Central Caucasus

¶1337: Modern research in the Caucasus involving both obsidian artefact characterisation and sourcing enhances our knowledge of the early exploitation and exchange of this raw material (Le Bourdonnec et al. 2012; Montoya et al. 2013; Chatainger & Gratuze 2014; Doronicheva & Shackley 2014; Frahm et al. 2014; Pleurdeau et al. 2016).

¶1338: Archaeological reconnaissance of the Late Pleistocene Red Sea coast in the Danakil

¶1339: The paucity of archaeological evidence from the northern Afar Rift and Red Sea littoral remains a major hindrance to testing the hypothesised Out-of-Africa dispersal of early humans via the 'Southern Route'—across the Bab al-Mandeb into Arabia and beyond. Encouraged by renewed geological studies (e.g. Atnafu et al. 2015), and recent archaeological discoveries (e.g. Walter et al. 2000; Beyin 2013), we initiated a pioneering exploration along the ancient Red Sea coast in the Danakil Depression (Figure 1a–c). The most conspicuous geomorphological features here constitute terraces of reef carbonates and associated marine deposits, formed when the depression was covered by the open Red Sea during the Middle to Late Pleistocene. Initial results of our exploration promise contexts in which the distribution and cultural/behavioural adaptation of early humans during the Out-of-Africa event can be closely investigated.

¶1340: 'Forest Moss': no part of the European Neanderthal diet

¶1341: In recent years, the study of Palaeolithic people has been a vigorous, productive topic, with the increasing knowledge of diet contributing significantly to the debate's liveliness (e.g. Richards 2009; Henry et al. 2010; Hardy et al. 2012, 2016; El Zaatari et al. 2016).

¶1342: New research on the Late Pleistocene in the Lim Channel, Istria

¶1343: As a part of the multidisciplinary project entitled 'Archaeological Investigations into the Late Pleistocene and Early Holocene of the Lim Channel, Istria', archaeological research has been conducted at four sites: Romuald's Cave, Abri Kontija 002, Pećina at Rovinjsko Selo and Lim 001 (Figure 1). There is much debate on issues related to biological and behavioural continuity, to patterns of changes and adaptations during this crucial period, and to external factors (e.g. changes in ecology and climate). For example, a clearer insight is needed into how climatic change affects the ecology of specific regions, including changing sea levels. Additionally, there continues to be debate centring on who produced the earliest (Initial) Upper Palaeolithic industries in Europe. To achieve a more precise insight into long-term diachronic changes and cultural relations around the Adriatic, and to document the presence of Middle and Upper Palaeolithic humans in Istria, we concentrated on a single microregion (the Lim Channel in Istria, Croatia). Here we report work on the two sites that to date have yielded Pleistocene material: Romuald's Cave and Abri Kontija 002.

¶1344: Flint quarrying in north-eastern Iberia: quarry sites and the initial transformation of raw material

¶1345: Prehistoric communities carried out quarrying activities to obtain raw materials for tool production. These were produced either directly for immediate or later use by the same groups who quarried the stone, or indirectly by distributing the raw material or partially or completely manufactured products to third parties. All these procedures could be performed within a temporal and spatial sequence of variable extent, giving rise to archaeological evidence of very different types (Nelson 1991; Ingold 2012).

¶1346: The origins of metallurgy in China

¶1347: Archaeologists worldwide have shown much interest in the origins of metallurgy in China (e.g. Mei 2005; Hanks et al. 2007; Parzinger 2011; Fan et al. 2012). Around 2200–1700 BC, the Seima-Turbino Culture originated in the Altai Mountains of Central Asia and spread across the Eurasian steppes (Chernykh 2004, 2008). The most iconic artefact of this culture is the socketed spearhead with single side hook; these have been found across the Eurasian steppes (Figure 1: 1–2). Two new observations of these spearheads suggest that Seima-Turbino metal-casting technology was responsible for the development of metallurgy in China.

¶1348: A palimpsest grave at the Iron Age cemetery in Estark-Joshaqan, Iran

¶1349: At the onset of the Iron Age, after c. 1200 BC, Iran was a place of major social transformation. After the collapse of the Bronze Age urban civilisations, the land was inhabited mainly by groups of mobile pastoralists that gradually transitioned from tribal organisation into loose federations, before finally developing into the Median and Persian early states (Potts 2014). This transition is still poorly recognised, as settlement sites from this period are scarce and most evidence is from cemeteries that were excavated many decades ago. Here we report results of excavations at a recently discovered cemetery that may provide new insights into the social complexity and cultural affinities of Iron Age nomads in Iran.

¶1350: Towards a landscape archaeology of Buddhist cave-temples in China

¶1351: Buddhism spread from northern India throughout the Asian continent from the first century BC onwards. As it spread, it changed and adapted to suit the new peoples and customs with which it came into contact. In recent years, studies have been undertaken on the landscape archaeology of Indian, Central Asian and Southeast Asian Buddhism. By focusing on China, this study represents a preliminary step in attempting to illuminate a new aspect of early Buddhist practice in China. It considers the chronological implications of the way in which the sites are positioned within the landscape. The study is based on survey work and site visits undertaken over the last five years, during the course of which certain patterns began to emerge. Based on these observations, an initial hypothesis was formed which states that the visibility of the locations into which cave sites are carved increases over time. Visibility is taken as the presence or prominence of a site within the physical landscape. This study focuses only on rock-cut cave-temples because they can still be clearly seen within their (nearly) original landscape settings. They can also be dated with relative accuracy on stylistic grounds. The same cannot be said of surface religious structures.

¶1352: A recent reconnaissance of the central Helmand Valley

¶1353: Archaeological fieldwork in the central Helmand Valley of modern-day Afghanistan has been sparse as a result of the region's remoteness and lack of security; the work that has been done suggests that the area has been occupied since prehistoric times. The Central Helmand

Archaeological Study (CHAS) is the most recent archaeological field research to be conducted in the valley. It was launched in 2011 with the support of the US Marine Corps and the Government of the Islamic Republic of Afghanistan, to locate and record archaeological sites in the region and to report any evidence of looting or damage (Abramiuk & Wong 2015). This paper reports on some early findings in the course of continuing analysis and provides a preliminary assessment.

#### ¶1354: ISSUE 6

¶1355: One of the recurrent patterns in the Eurasian past is the tension between the steppe and the sown—between the nomadic peoples occupying the grassland belt from the Ukraine to China, and the settled farmers living along their southern margins. Peoples of the steppe have featured regularly in recent issues of *Antiquity*: the bronze-working traditions of the eastern steppes (Hsu et al. 2016), Andronovo settlement in Xinjiang (Jia et al. 2017), the Yamnaya people of the western steppes (Heyd 2017; Kristiansen 2017) , , or animal husbandry in the southern oases (Lhuillier et al. 2017). The more nomadic the lifestyle, the fewer the archaeological traces one might expect to find; but for some steppe peoples, those traces are nonetheless spectacular. And for none is that truer than for the Scythians, subject of the current major exhibition at the British Museum.

¶1356: A large handaxe from Wadi Dabsa and early hominin adaptations within the Arabian Peninsula

¶1357: The role played by the Arabian Peninsula in hominin dispersals out of Africa has long been debated. The DISPERSE Project has focused on south-western Arabia as a possible centre of hominin settlement and a primary stepping-stone for such dispersals. This work has led to the recent discovery, at Wadi Dabsa, of an exceptional assemblage of over 1000 lithic artefacts, including the first known giant handaxe from the Arabian Peninsula. The site and its associated artefacts provide important new evidence for hominin dispersals out of Africa, and give further insight into the giant handaxe phenomenon present within the Acheulean stone tool industry.

¶1358: The Kostënki 18 child burial and the cultural and funerary landscape of Mid Upper Palaeolithic European Russia

¶1359: Palaeolithic burials are few and far between, and establishing their chronology is crucial to gaining a broader understanding of the period. A new programme of radiocarbon dating has provided a revised age estimate for the Palaeolithic burial at Kostënki 18 in European Russia (west of the Urals). This study reviews the need for re-dating 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, confirming Kostënki 18 as the only plausibly Gravettian burial known in Russia.

¶1360: Fishing in life and death: Pleistocene fish-hooks from a burial context on Alor Island, Indonesia

¶1361: Fish-hooks discovered among grave goods associated with an adult female burial at the Tron Bon Lei rockshelter on the island of Alor in Indonesia are the first of their kind from a Pleistocene mortuary context in Southeast Asia. Many of the hooks are of a circular rotating design. Parallels found in various other prehistoric contexts around the globe indicate widespread cultural convergence. 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.

¶1362: Aurochs bone deposits at Kfar HaHoresh and the southern Levant across the agricultural transition

¶1363: Aurochs played a prominent role in mortuary and feasting practices during the Neolithic transition in south-west Asia, although evidence of these practices is diverse and regionally varied. This article considers a new concentration of aurochs bones from the southern Levantine Pre-Pottery Neolithic site of Kfar HaHoresh, situating it in a regional context through a survey of aurochs remains from other sites. Analysis shows a change in the regional pattern once animal domestication began from an emphasis on feasting to small-scale practices. 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.

¶1364: Exploring the emergence of an 'Aquatic' Neolithic in the Russian Far East: organic residue analysis of early hunter-gatherer pottery from Sakhalin Island

¶1365: The Neolithic in north-east Asia is defined by the presence of ceramic containers, rather than agriculture, among hunter-gatherer communities. The role of pottery in such groups has, however, hitherto been unclear. This article presents the results of organic residue analysis of Neolithic pottery from Sakhalin Island in the Russian Far East. Results indicate that early pottery on Sakhalin was used for the processing of aquatic species, and that its adoption formed part of a wider Neolithic transition involving the reorientation of local lifeways towards the exploitation of marine resources.

¶1366: Spiralled patchwork in pottery manufacture and the introduction of farming to Southern Europe

¶1367: Pottery-manufacturing sequences can act as proxies for human migration and interaction. A good example is provided by the 'spiralled patchwork technology' (SPT) identified at two key early farming sites in the Ligurian-Provencal Arc in the north-west of the Italian peninsula. SPT is distinct from the ceramic technology used by early farmer communities in south-east Italy that shows technical continuity with the southern Balkans. 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. The identification of SPT opens up the exciting possibility of tracing the origins and migrations of a second distinct group of early farmers into Southern Europe.

¶1368: Understanding blunt force trauma and violence in Neolithic Europe: the first experiments using a skin-skull-brain model and the Thames Beater

¶1369: The difficulty in identifying acts of intentional injury in the past has limited the extent to which archaeologists have been able to discuss the nature of interpersonal violence in prehistory. Experimental replication of cranial trauma has proved particularly problematic due to the lack of test analogues that are sufficiently comparable to the human skull. A new material now overcomes this issue, and for the first time allows accurate insight into the effects of different weapons and different blows in inflicting cranial injury; in this case, blunt force trauma caused using a replica of the 'Thames Beater' Neolithic wooden club.

¶1370: Armies in the Early Bronze Age? An alternative interpretation of Únětice Culture axe hoards

¶1371: The Early Bronze Age Únětice Culture in central Germany was a highly stratified society with a ruling class of 'princes', as evidenced by the famous burials at Leubingen and Helmsdorf, and the newly excavated burial mound Bornhöck near Dieskau. To investigate the notion of Únětice military

organisation, this article presents a new interpretation of the numerous weapons hoards recovered from the region. Hoard deposition and composition from central Germany strongly suggests a shift from a Late Neolithic culture of 'warrior heroes' to the creation of organised standing armies of professional soldiers under the control of ruling elites.

¶1372: Disproving claims for small-bodied humans in the Palauan archipelago

¶1373: Recent excavation at Ucheliungs Cave in Palau has provided new evidence in the debate concerning the colonisation of the Palauan archipelago. An abundance of faunal material and the presence of transported artefacts contradict a previous interpretation that the site represents an early burial cave containing purported small-bodied humans. 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. The results of this research here discount earlier claims for insular dwarfism among the earliest inhabitants of these islands.

¶1374: Cereal cultivation and nomad-sedentary interactions at the Late Bronze Age settlement of Zawiyet Umm el-Rakham

¶1375: Research on Late Bronze Age relations between Egyptians and local nomadic or semi-nomadic Libyans has hitherto focused almost exclusively on Egyptian textual and iconographic sources. Recent archaeological evidence for grain production and agrarian practice at the Egyptian fortress of Zawiyet Umm el-Rakham allows us to address this imbalance, in combination with ethnographic data and cross-cultural parallels drawn from nomad-sedentary interactions in the Near East. Results suggest that Egyptian subsistence in this relatively isolated outpost of the New Kingdom Empire was probably dependent upon Libyan manpower and their knowledge of local environmental conditions and effective farming methods.

¶1376: Revisiting lead isotope data in Shang and Western Zhou bronzes

¶1377: Lead is a major component of Chinese ritual bronze vessels. Defining its sources and usage is thus highly significant to understanding the metal industries of the Chinese Bronze Age. 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.

¶1378: Exotica as prestige technology: the production of luxury gold in Western Han society

¶1379: The recent discovery of the tomb of Liu Fei, King of Jiangdu, in eastern China, has provided a unique insight into the significance of early gold production in Western Han society. 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. Production of this gold not only entailed the control of organised local labour, but also the co-opting of methods and stylistic attributes associated with foreign territories. 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.

¶1380: On confluence and contestation in the Orinoco interaction sphere: the engraved rock art of the Atures Rapids

¶1381: The Atures Rapids have long been considered a major point of confluence in the Middle Orinoco landscape, Venezuela. This has been underlined by newly discovered rock art panels on islands within the Rapids and on the margins of the Orinoco River. The panels were recorded photographically and photogrammetrically, and the spatial organisation and taphonomic factors affecting the corpus were investigated. The rock art was also examined in the context of established models of chronology and authorship. Placing the corpus in relation to archaeological and ethnographic evidence from Amazonia and the Guianas emphasises how the Atures Rapids structured pre-Columbian and Colonial contact between diverse groups in lowland South America.

¶1382: Beneath the Basilica of San Marco: new light on the origins of Venice

¶1383: The origins of Venice have been of great interest to Venetians and to scholars more generally for centuries. Long shrouded in myth and legend due to the dearth of pre-ninth-century AD evidence, recent archaeological research is now illuminating how the famous city built on water began. Using high-resolution AMS dating of peach stones (pits) from below the Basilica of San Marco, the authors provide the first evidence for human activity at what is now the location of Piazza San Marco. Dating to between AD 650 and 770, this activity included canal in-filling and ground consolidation intended to create an area that was to become the city's civic centre in the early ninth century.

¶1384: Reverential abandonment: a termination ritual at the ancient Maya polity of El Palmar

¶1385: Archaeological evidence for Maya termination rituals has been reported from several sites, but spatial analyses based on quantitative data have not previously been undertaken. This study uses spatial analysis of deposits at the Guzmán Group, an outlying architectural group within the Maya centre of El Palmar in Mexico, 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. The study highlights the significance of contextual analyses for a greater understanding of the spatial dynamics inherent in the abandonment processes of early complex societies.

¶1386: Franklin's fate: discoveries and prospects

¶1387: 2014, at last, revealed the wreck of HMS Erebus off Canada's Arctic mainland. Two years later, her companion, HMS Terror, was found 40 miles away, off King William Island. The government was already confident enough about their whereabouts in 1992 to declare the entire area a National Historic Site and, among other responses to the retreating ice and increasing shipping, Parks Canada began searching for the wrecks in 2008. Previous investigators had concentrated on tracing and recording the crews: among others, Owen Beattie in the 1980s (Notman et al. 1987), F.L. McClintock in 1857–1859, and four naval expeditions before that. HMS Investigator was lost in the 1853 search, and her wreck discovered off Banks Island in 2011. Ranging very widely, all of the investigators, and many others, were trying to find out what befell Sir John Franklin's attempt to complete the Northwest Passage between the Atlantic Ocean and the Pacific in 1845–1848. Erebus and Terror were his ships.

¶1388: Theory and practice in Russian and Soviet archaeology: retrospect and prospect

¶1389: Despite the fact that several books and a plethora of articles have been published in recent decades on the archaeology of the USSR and Russia, Soviet-Russian archaeology is still largely ignored in the West (e.g. Fagan 2003, but see Trigger 2006: 230–32, 326–44). For non-Russian



scholars, the first acquaintance with it can be nightmarish; for example, Anthony (2007: 164) describes the periodisation of the Aeneolithic Cucuteni-Tripolye culture of Ukraine and Moldova (parts of the USSR before 1991), and Romania:

¶1390: There is a Borges-like dreaminess to the Cucuteni pottery sequence: one phase (Cucuteni C) is not a phase at all but rather a type of pottery probably made outside the Cucuteni-Tripolye culture; another phase (Cucuteni A1) was defined before it was found, and never was found.

¶1391: Bioarchaeological perspectives on the social experience of prehistoric and historic communities

¶1392: Traditionally, reconstructions of social complexity in past societies have relied on a plethora of indicators including, but not limited to, ancient texts, monumental architectural and archaeological evidence for hierarchical leadership, surplus storage, craft specialisation and the density of populations. With the exception of mortuary patterns, particularly the quantity and quality of grave goods, bioarchaeological data have featured less prominently in archaeological interpretation. Over the past 40 years, however, the study of human skeletal remains has been more firmly integrated into theoretical explorations of the past, and the broader development of biocultural models has contributed more fully to archaeological research. The first of the two volumes reviewed here is exemplary of current bioarchaeological approaches that draw on human biology, cultural development and physical environments to understand the human experience.

¶1393: Ancient Rome mapped

¶1394: When I first began my teaching career in 1976 at the University of California, Los Angeles, the subject of Roman topography was difficult to teach to English-speaking students. Most of the scholarship was written in Italian, and much of the rest was in French and German. Over the past 40 years the situation has changed significantly. We now have two useful introductory surveys in English: Coarelli's *Rome and environs* (2014) and Claridge's *Rome: an Oxford archaeological guide* (2010). We also have a host of monographic studies and, since 1988, innumerable articles and book reviews in the *Journal of Roman Archaeology*. Richardson's (1992) *A new topographical dictionary of ancient Rome* updated the one venerable but antiquated English reference work that we had long had: Platner and Ashby's (1926) *A topographical dictionary of ancient Rome*. Meanwhile, at least for polyglot scholars, the situation became even more favourable with the appearance of Steinby's (1992–2001) *Lexicon Topographicum Urbis Romae (LTUR)*, a collaborative work by a distinguished international team writing in Italian, French, German and English, with around 2300 individual entries on specific sites and monuments of the ancient city

¶1395: Aztec political economy: a new conceptual frame

¶1396: For those in search of current perspectives on the Aztec with a focus on matters economic, I heartily recommend a deep dive into these three volumes. Each book offers an insightful vantage on what we presently know about this pre-Hispanic Mesoamerican empire, as well as how new discoveries over the last 60–70 years force serious rethinking of both the long-term history of pre-Columbian Mesoamerica and key tenets that underpin pre-industrial political economies more broadly. Empires were a relatively rare phenomenon in the pre-industrial world, especially in the ancient Americas, and few have been so skilfully studied through a multi-disciplinary approach that integrates both historical texts and archaeology.

¶1397: Dry Creek: archaeology and paleoecology of a Late Pleistocene Alaskan hunting camp.

¶1398: JADE: interprétations sociales des objets-signes en jades alpins dans l'Europe néolithique.

¶1399: Farmers, fishers, fowlers, hunters: knowledge generated by development-led archaeology about the Late Neolithic, the Early Bronze Age and the start of the Middle Bronze Age (2850–1500 cal BC) in the Netherlands (Nederlandse Archeologische Rapporten 53).

¶1400: Amphorae from the Kops Plateau (Nijmegen) (Archaeopress Roman Archaeology 20).

¶1401: Ländliche Siedlungsstrukturen im römischen Spanien. Das Becken von Vera und das Camp de Tarragon—zwei Mikroregionen im Vergleich (Archaeopress Roman Archaeology 22).

¶1402: Villa Magna: an imperial estate and its legacies: excavations 2006–10 (Archaeological Monographs of the BSR 23).

¶1403: Petra Great Temple volume 3: Brown University excavations 1993–2008, architecture and material culture.

¶1404: Campo: archaeological research at the mouth of the Ntem River (south Cameroon) (Africa Praehistorica 31).

¶1405: Mifsas Bahri: a Late Aksumite frontier community in the mountains of southern Tigray. Survey, excavation and analysis, 2013–16 (British Archaeological Reports International series 2839).

¶1406: The frozen Saqqaq sites of Disko Bay, West Greenland. Qeqertasussuk and Qajaa (2400–900 BC).

¶1407: New Book Chronicle

¶1408: At the end of Antiquity's ninetieth year, this issue of NBC looks at a selection of new books through the eyes of Antiquity's founder: O.G.S. Crawford. He died exactly 60 years ago, but were he to be resurrected in 2017, what would he make of archaeology today? What would be familiar? And what developments would surprise him? He would undoubtedly scour Antiquity to bring himself up to date, but he might also turn to some introductory texts for a panorama of the modern archaeological landscape; he would have plenty to choose from.

¶1409: Ushbulak-1: new Initial Upper Palaeolithic evidence from Central Asia

¶1410: In world archaeology, there has always been a problem regarding the Middle to Upper Palaeolithic transition. Late twentieth-century research has attempted to address this issue through the recognition of Initial Upper Palaeolithic (IUP) lithic industries. These assemblages were first characterised through evidence from the sites of Boker Tachtit and Ksar Akil (the Levant), and they are now identified in many regions of Eurasia, including Central Asia, the Near East, the Altai Mountains, Transbaikalia, Mongolia and northern China. A characteristic IUP assemblage has also been recently found in Kazakhstan (Ushbulak-1) (Shunkov et al. 2016). Large blades and elongated pointed flakes dominate these assemblages, and there is a prevalence of Upper Palaeolithic tool types in tool sets.

¶1411: A Late Palaeolithic assemblage at Kunjaram, south-east India

¶1412: In contrast to the Acheulian and Middle Palaeolithic, the Late Palaeolithic archaeological record of the south-east coast of India is poorly understood (Pappu 2001; Petraglia et al. 2010; Pappu et al. 2011). Considerable uncertainty surrounds the definition of the blade-based microlithic or non-Levallois, flake-based assemblages, largely as a result of the lack of chronometric dates from excavated sites and due to the paucity of lithic studies (Pappu 2001). The Late Palaeolithic is a crucial period in relation to questions about the dispersals of anatomically modern humans across India and Sri Lanka (Petraglia et al. 2010; Mellars et al. 2013; Roberts et al. 2015) and regional evolutionary

trajectories of blade technologies. Here, we present an overview of the site complex of Kunjaram (KJ) in the Kortallaiyar River Basin, Tamil Nadu, south-east India. This represents one of the 43 Late Palaeolithic sites documented in this region (Pappu et al. 2010). While analysis of the lithics from other sites continues, we focus here on the lithic assemblage from KJ-3 because of its good preservation and potential to yield information on all stages of the reduction sequence, as well as its geographic proximity to the Lower and Middle Palaeolithic site of Attirampakkam, which would enable the construction of regional cultural sequences.

¶413: New investigations of the Epipalaeolithic in western Central Asia: Obishir-5

¶414: Intensive research on the Mesolithic of western Central Asia began in the mid twentieth century, when the discovery of key sites allowed for the formulation of the main regional cultural-chronological schemes (Figure 1).

¶415: A new Later Upper Palaeolithic open-air site with articulated horse bone in the Colne Valley, Berkshire

¶416: The end of the last Ice Age in Britain (c. 11500 BP) created major disruption to the biosphere. Open habitats were succeeded by more wooded landscapes, and changes occurred to the fauna following the abrupt disappearance of typical glacial herd species, such as reindeer and horse (Conneller & Higham 2015). Understanding the impact of these changes on humans and how quickly they were able to adapt may soon become clearer, due to recent discoveries in the Colne Valley on the western edge of Greater London, north of the River Thames. An exceptionally well-preserved open-air site was discovered in 2014 as part of a wider project of archaeological investigation and excavation carried out by Wessex Archaeology (2015), on behalf of CEMEX UK. The site, at Kingsmead Quarry in Horton, is unusual because it has good organic preservation and, in addition to worked flint artefacts, it has yielded groups of articulated horse bone. The extreme rarity of such sites of this period in Britain makes this discovery especially significant and re-emphasises the potential importance of the Colne Valley (Lacaille 1963; Lewis 2011; Morgi et al. 2011).

¶417: New archaeological investigations at the Lothagam harpoon site at Lake Turkana

¶418: The Lothagam harpoon site in north-west Kenya's Lake Turkana Basin provides a stratified Holocene sequence capturing changes in African fisher-hunter-gatherer strategies through a series of subtle and dramatic climate shifts (Figure 1). The site rose to archaeological prominence following Robbins's 1965–1966 excavations, which yielded sizeable lithic and ceramic assemblages and one of the largest collections of Early Holocene human remains from Eastern Africa (Robbins 1974; Angel et al. 1980).

## Name: Antiquity 2018 abstracts

¶1: Antiquity 2018 abstracts

¶2: ISSUE 1

¶3: EDITORIAL

¶4: Both Antiquity and archaeology have changed immeasurably since O.G.S. Crawford penned this journal's first editorial in 1927. The discipline has grown in size and sophistication, and has achieved professional status and public recognition. What was novel at that time, such as aerial photography and the use of ethnographic parallels, both flagged in that first editorial, have now long been integral to archaeological theory and practice. Antiquity has documented—and often driven—these developments, itself evolving along the way. Nine decades after its foundation, Antiquity publishes more content, on more varied periods and places, and authored by an ever-more international cast of contributors. It has also changed in terms of its audience. Part of Crawford's original vision was to communicate archaeology more effectively to the general public, not least with the intention of debunking the misleading, sensationalist and downright incorrect fare peddled in the bestsellers and newspapers of the day. The content of Antiquity today is aimed at a more professional readership, what one previous editor, Martin Carver, called “the extended archaeological family” of academics and field archaeologists, and the many associated specialists in cognate disciplines with whom we work. All these developments notwithstanding, it is striking that many of Crawford's concerns and interests still continue to resonate. The disciplinary imperative to communicate with the public is stronger than ever, finding new opportunities in social media, blogs and TV programmes, and under pressure from funding bodies to demonstrate public benefit or ‘impact’. The analytical, and aesthetic, importance of aerial photography that Crawford worked hard to promote has too taken on a new lease of life through satellite imagery, LiDAR and, most recently, photography using drones or unmanned aerial vehicles (see Frontispiece 1).

¶5: Diversity and differential disposal of the dead at Sunghir

¶6: Understanding the Palaeolithic emergence of human social complexity opens up a key perspective on later periods of cultural evolution. Palaeolithic mortuary practice is particularly revealing, as it echoes the social statuses of both the living and the dead. The famous Sunghir burials fall at the beginning of this sequence. Bioarchaeological analysis of the Sunghir individuals, viewed in the context of earlier Upper Palaeolithic mortuary behaviour more generally, reveals the concurrent practice of a range of funerary treatments, some of which are probably related to individual pathological abnormalities. Through this approach, the Sunghir burials become more than just an example of elaborate Palaeolithic burial, and highlight the diversity of early social and mortuary behaviours.

¶7: What lies beneath . . . Late Glacial human occupation of the submerged North Sea landscape

¶8: Archaeological evidence from the submerged North Sea landscape has established the rich diversity of Pleistocene and Early Holocene ecosystems and their importance to hunter-gatherer subsistence strategies. Comparatively little of this evidence, however, dates to the Late Glacial, the period when Northern Europe was repopulated by colonising foragers. A human parietal bone and a decorated bovid metatarsus recently recovered from the floor of the North Sea have been dated to this crucial transitional period. They are set against the background of significant climatic and

environmental changes and a major technological and sociocultural transformation. These discoveries also reaffirm the importance of continental shelves as archaeological archives.

¶19: Palaeolithic art at Grotta di Cala dei Genovesi, Sicily: a new chronology for mobiliary and parietal depictions

¶10: Unusually for a Palaeolithic cave, the Grotta di Cala dei Genovesi on the island of Levanzo, off the west coast of Sicily, Italy, has yielded evidence of both parietal and mobiliary art. Developments in dating techniques since the excavations of the 1950s now allow the age of the mobiliary art—an engraved aurochs—to be determined. At the same time, stylistic comparison of the parietal art at Grotta di Cala dei Genovesi with other broadly contemporaneous sites that demonstrate well-documented cave art allows a relative chronology to be proposed. The two methods taken together enable a direct chronological comparison to be made between the production of parietal and mobiliary art at this important cave site.

¶11: Lithic analysis and the transition to the Neolithic in the Upper Tigris Valley: recent excavations at Hasankeyf Höyük

¶12: The excavation of several structures at the site of Hasankeyf Höyük in south-east Anatolia has revealed evidence for the continuity of hunter-gatherer lithic technology into the early stages of the Neolithic in the tenth to ninth millennia BC. In particular, the Nemrik point, previously seen as a hallmark of the early Neolithic, can now be shown to have been in use in a local tradition of hunter-gatherer lithic technology. Overall, the continuity in time and space at Hasankeyf Höyük indicates a long-term persistence of lithic technologies, which contrasts with the pattern of change in the Levant and which suggests different pathways to the Neolithic in different parts of the Fertile Crescent region in the Near East.

¶13: Keep your head high: skulls on stakes and cranial trauma in Mesolithic Sweden

¶14: The socio-cultural behaviour of Scandinavian Mesolithic hunter-gatherers has been difficult to understand due to the dearth of sites thus far investigated. Recent excavations at Kanaljorden in Sweden, however, have revealed disarticulated human crania intentionally placed at the bottom of a former lake. The adult crania exhibited antemortem blunt force trauma patterns differentiated by sex that were probably the result of interpersonal violence; the remains of wooden stakes were recovered inside two crania, indicating that they had been mounted. Taphonomic factors suggest that the human bodies were manipulated prior to deposition. This unique site challenges our understanding of the handling of the dead during the European Mesolithic.

¶15: Rows with the neighbours: the short lives of longhouses at the Neolithic site of Versend-Gilencsa

¶16: Longhouses are a key feature of Neolithic Linearbandkeramik (LBK) settlements in Central Europe, but debate persists concerning their usage, longevity and social significance. Excavations at Versend-Gilencsa in south-west Hungary (c. 5200 cal BC) revealed clear rows of longhouses. New radiocarbon dates suggest that these houses experienced short lifespans. This paper produces a model for the chronology of Versend, and it considers the implications of the new date estimates for a fuller understanding of the layout and duration of LBK longhouse settlements.

¶17: On the scent of an animal skin: new evidence on Corded Ware mortuary practices in Northern Europe

¶18: The Late Neolithic Corded Ware Culture (c. 2800–2300 BC) of Northern Europe is characterised by specific sets of grave goods and mortuary practices, but the organic components of these grave

sets are poorly represented in the archaeological record. New microscopic analyses of soil samples collected during the 1930s from the Perttulanmäki grave in western Finland have, however, revealed preserved Neolithic animal hairs. Despite mineralisation, the species of animal has been successfully identified and offers the oldest evidence for domestic goat in Neolithic Finland, indicating a pastoral herding economy. 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

¶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 presents the discovery of El Médano pictographs from new sites—in particular the Izcuña ravine—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.

¶21: Radiocarbon dating and Bayesian modelling of one of Remote Oceania's oldest cemeteries at Chelechol ra Orrak, Palau

¶22: Research at the Chelechol ra Orrak rockshelter in Palau has revealed an extensive cemetery with at least 50 interred individuals, their graves overlain by later occupational deposits. Previous radiocarbon dating placed this sequence of burial and occupation at c. 3000 cal BP, making it one of the earliest Pacific Island cemetery sites. 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 <sup>14</sup>C determinations. The results provide more secure evidence for burial activity dating back to c. 3000 cal BP, thus confirming Chelechol ra Orrak as one of the only cemeteries in Remote Oceania that dates to the earliest, known stages of island colonisation.

¶23: The art of rock relief in ancient Arabia: new evidence from the Jawf Province

¶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. The recently discovered 'Camel Site' in northern Arabia 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.

¶25: The Viking Great Army in England: new dates from the Repton charnel

¶26: Archaeological evidence for the Viking Great Army that invaded England in AD 865 is focused particularly on the area around St Wystan's church at Repton in Derbyshire. Large numbers of burials excavated here in the 1980s have been attributed to the overwintering of the Great Army in AD 873–874. Many of the remains were deposited in a charnel, while others were buried in graves with Scandinavian-style grave goods. Although numismatic evidence corroborated the belief that these were the remains of the Great Army, 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.

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

¶128: The role of pre-contact indigenous peoples in shaping contemporary multi-ethnic society in Hispaniola (Haiti and the Dominican Republic), and elsewhere in the Caribbean, has been downplayed by traditional narratives of colonialism. Archaeological surveys in the northern Dominican Republic and open-area excavations at three (pre-)Contact-era Amerindian settlements, combined with historical sources and ethnographic surveys, show that this view needs revising. 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.

¶129: Experimental stone-cutting with the Mycenaean pendulum saw

¶130: The development of an advanced stone-working technology in the Aegean Bronze Age is suggested by the putative Mycenaean pendulum saw. This device seems to have been used to cut through hard sedimentary rock at a number of sites on the Greek mainland and, according to some scholars, also in central Anatolia. As no pendulum saws are preserved in the archaeological record, understanding the machine relies on preserved tool marks and experimental research. This paper presents the results of stone-cutting experiments conducted with a modern reconstruction of a pendulum saw. The research investigates blade shape, size, design and the mechanics of the device, while questioning the accuracy of earlier reconstructions.

¶131: The Desert Fayum in the twenty-first century

¶132: From 1924–1928, Gertrude Caton-Thompson and Elinor Gardner surveyed and excavated Epipalaeolithic and Neolithic sites across the Fayum north shore in Egypt, publishing a volume entitled *The Desert Fayum* (1934). Since then, a number of researchers have worked in the Fayum (e.g. Wendorf & Schild 1976; Hassan 1986; Wenke et al. 1988; Kozłowski & Ginter 1989), and most recently the UCLA/RUG/UOA Fayum Project. The long history of research in the area means that the Fayum is a testament to changing archaeological approaches, particularly regarding the Neolithic. Caton-Thompson and Gardner's study is recognised as one of the most progressive works on Egyptian prehistory, and their research provided the foundation for many subsequent studies in the region (e.g. Wendrich & Cappers 2005; Holdaway et al. 2010, 2016; Shirai 2010, 2013, 2015, 2016a; Emmitt 2011; Emmitt et al. 2017; Holdaway & Wendrich 2017). A recent article in *Antiquity*, however, uses Caton-Thompson and Gardner's preliminary interpretations of their excavations at a stratified deposit in the Fayum, Kom W, to generate a series of speculative statements concerning agricultural origins in the region (Shirai 2016b). The majority of these statements are very similar to conclusions initially made by Caton-Thompson and Gardner in the first half of the twentieth century, and new data and theory needed to reassess earlier conclusions are not considered. Recently published studies concerning the Fayum north shore and adjacent regions provide a different view of the state of research in this region and the Egyptian Neolithic in general. Here we acquaint *Antiquity* readers with current archaeological approaches to the Fayum north shore Neolithic, with the intent of stimulating academic debate.

¶133: Deposition practices in Iron Age France: new light on old discoveries

¶134: Dealing with information coming from nineteenth-century discoveries is not always an easy task for archaeologists, and it can prove particularly problematic for iconic findings that have come to characterise entire periods or cultural horizons. Information is very often fragmentary, and in most cases, field methods and recording techniques are not up to present-day standards. A careful re-examination of old collections can, however, often be as fruitful as new findings. This is exemplified by the volumes under review here, which reassess two of the most important archaeological discoveries made in the late nineteenth-century in France: the bronze hoard of Launac in Languedoc and the grave of La Gorge-Meillet in Champagne. In addition to summarising existing knowledge, the volumes also provide new information coming from modern scientific analysis, as well as re-evaluations of certain find categories.

¶135: Between Marx and Locke: approaching early complex societies

¶136: I viewed this review project as an opportunity to assess the degree to which archaeologists have been able to transcend what Gary Feinman (*Eurasia at the dawn of history*, p. 146) refers to as “impenetrable academic silos and rigid adherence to entrenched ideas”. Happily, I found ample evidence of transcendence, with the exception of *Modes of production and archaeology*. 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 Jeremy 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.

¶137: Elite power in the landscapes of early medieval Europe

¶138: The early medieval period in Europe is commonly viewed as a time of emerging nations, as the institutions, lineages and territories that we recognise as integral to medieval and later states were established. The preoccupation with nationhood is the primary reason that earlier generations of early medieval scholars often limited the geographic focus of their studies, with their findings feeding back into broader narratives of national culture, identity and ethnicity. Such research traditions have taken some time to evolve, but thankfully the last decade or so has seen a marked increase in the publication of archaeologically orientated studies with a broader remit. The ability to compare and contrast the evidence from other regions has resulted in a much-improved research environment, transforming our understanding of the period. Two of the publications reviewed here, *Fortified settlements in early medieval Europe* and *Making Christian landscapes in Atlantic Europe*, represent the latest additions to this positive trend, comprising edited volumes with impressive coverage across the Continent. While the third volume, *Social complexity in early medieval rural communities*, is concentrated solely on Iberia, it is an equally welcome addition, as its publication in English is likely to broaden readership and open up the archaeology of the area to new audiences. Each contribution explores distinct material, although the articulation of elite power, and the means by which archaeologists can detect that power, is the prominent theme throughout.

¶139: Archaeology and anthropology: a growing divide?



¶140: The three volumes reviewed here have different origins but a common theme: all try to put some social or cultural anthropology into, or back into, archaeology. In the United Kingdom these are separate disciplines anyway, but in North America they are usually taught in the same department and have similar interests. The problem is that they are growing apart.

¶141: The Desert Fayum reinvestigated—the Early to Mid-Holocene landscape archaeology of the Fayum north shore, Egypt

¶142: The value of things. Prehistoric to contemporary commodities in the Maya region.

¶143: Landscape and politics in the ancient Andes: biographies of place at Khonko Wankane.

¶144: Archaeological rescue excavations on packages 3 and 4 of the Bāṭinah Expressway, Sultanate of Oman (British Foundation for the Study of Arabia Monograph 18).

¶145: Comparative perspectives on past colonisation, maritime interaction and cultural integration.

¶146: The archaeology of Byzantine Anatolia: from the end of Late Antiquity until the coming of the Turks.

¶147: Winchester: Swithun's 'City of Happiness and Good Fortune': an archaeological assessment.

¶148: A Cromwellian warship wrecked off Duart Castle, Mull, Scotland, in 1653.

¶149: Molluscs in archaeology: methods, approaches and applications (Studying Scientific Archaeology 3).

¶150: New Book Chronicle

¶151: Back in 2013, Rob Witcher, in his first NBC, mused on the future of academic publishing, and especially the potential impact of open access and e-books on traditional book reviews. Reading these lines five years later as incoming Reviews Editor, it is striking how little an impression e-books in particular have made on the market, and more generally how persistent print editions of both journals (including *Antiquity*) and books have remained in the face of rapidly changing digital technologies. Sales of major e-reader brands have declined since their height in 2014, at least in the UK, and e-book sales have stabilised since then at around 25 per cent of all book purchases. At *Antiquity*, we still receive upwards of 300 books per year, and send out over 120 to review across the six issues. NBC is an attempt to provide some critical perspective on a selection of the remaining books, many of which merit reviews in their own right but cannot be included for reasons of space. This section will continue in much the same manner as in the past, safe in the knowledge that, as Groucho Marx put it, 'Outside of a dog, a book is a man's best friend . . .' (the second half of the quotation is less relevant here but perhaps worth including—'. . . inside of a dog, it's too dark to read').

¶152: Project Gallery

¶153: Kara-Bom: new investigations of a Palaeolithic site in the Gorny Altai, Russia

¶154: New archaeological investigations at the key Palaeolithic Russian site of Kara-Bom have further characterised its stratigraphy through analysis of the rich lithic complex recovered. This evidence both complements and supplements our understanding of central and northern Asian Initial Upper Palaeolithic populations.

¶155: New excavations at Tappeh Asiab, Kermanshah Province, Iran

¶156: The site of Tappeh Asiab in Iran is one of only a handful of Early Neolithic sites known from the Zagros Mountains. Discovered during Robert Braidwood's 'Iranian Prehistory' project, the site has seen limited publication of its early excavations. Here, the authors challenge some of the initial assumptions made about the site by discussing the first findings of renewed excavations, in the hope of substantially improving our currently limited knowledge of the Early Neolithic in this region.

¶157: Ancient fingerprints from Beit Nattif: studying Late Roman clay impressions on oil lamps and figurines

¶158: Analysis of oil lamps and clay figurines recovered from a Late Roman ceramics workshop at Beit Nattif in Israel has revealed numerous fragments with evidence of the manufacturer's fingerprints preserved on some of the ceramic surfaces. Further study of these fingerprints has provided a unique insight into the production history of the workshop, even showing how particular innovations in technique may be associated with particular individuals.

¶159: Monitoring the impact of coastal erosion on archaeological sites: the Cyprus Ancient Shoreline Project

¶160: Coastal erosion of archaeological sites has long been a problem for archaeologists seeking to understand maritime interactions in the past. 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.

¶161: ISSUE 2

¶162: EDITORIAL

¶163: Thirty years ago on a London street, an excited young teenager stood in a queue the likes of which he had never previously seen. The wait, however, was worth it, for the reward was the opportunity to see a small detachment of warriors from the Terracotta Army on their first visit to the city. For this particular young archaeologist, it was a glimpse of a foreign civilisation that made the local Roman ruins look desperately provincial by comparison. But it was not just I who was impressed; public interest in the event was extraordinary. With hindsight, it is easy to overlook the novelty that the warriors represented at that time. Fewer than 15 years had passed between the discovery of an army guarding the tomb of the Emperor Qin Shi Huang, large-scale excavations at the mausoleum complex and its inscription as a World Heritage Site, and the arrival of the exhibition in London at the start of an endless global tour as the new face (or faces) of Chinese cultural heritage.

¶164: The antiquity of bow-and-arrow technology: evidence from Middle Stone Age layers at Sibudu Cave

¶165: The bow and arrow is thought to be a unique development of our species, signalling higher-level cognitive functioning. How this technology originated and how we identify archaeological evidence for it are subjects of ongoing debate. Recent analysis of the putative bone arrow point from Sibudu Cave in South Africa, dated to  $61.7 \pm 1.5$  kya, 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. These features suggest that the Sibudu point was first used as an arrowhead for hunting, and afterwards was deposited in a hearth. Our results support the claim that bone weapon tips were used in South African hunting long before the Eurasian Upper Palaeolithic.

¶166: Symmetry is its own reward: on the character and significance of Acheulean handaxe symmetry in the Middle Pleistocene

¶167: Bilateral symmetry in handaxes has significant implications for hominin cognitive and socio-behavioural evolution. Here the authors show that high levels of symmetry occur in the British Late Middle Pleistocene Acheulean, which they consider to be a deliberate, socially mediated act. Furthermore, they argue that lithic technology in general, and handaxes in particular, were part of a pleasure-reward system linked to dopamine-releasing neurons in the brain. Making handaxes made Acheulean hominins happy, and one particularly pleasing property was symmetry.

¶168: Illuminating the cave, drawing in black: wood charcoal analysis at Chauvet-Pont d'Arc

¶169: The Grotte Chauvet is world renowned for the quality and diversity of its Palaeolithic art. Fire was particularly important to the occupants, providing light and producing charcoal for use in motifs. 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. The results throw new light on the cultural and palaeoenvironmental factors that influenced choices underlying the collection of wood for charcoal production.

¶170: Early art in the Urals: new research on the wooden sculpture from Shigir

¶171: The carved wooden object uncovered from the Shigir peat bog in the Sverdlovsk region towards the end of the nineteenth century remains one of the oldest, known examples of monumental anthropomorphic sculpture from anywhere in the world. 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. The results of these recent analyses are placed here in the context of local and extra-local traditions of comparable prehistoric art. This discussion highlights the unique nature of the find and its significance for appreciating the complex symbolic world of Early Holocene hunter-gatherers.

¶172: Missing link: an early wool textile from Pustopolje in Bosnia and Herzegovina

¶173: In 1990 the excavation of a group of tumuli in south-western Bosnia was published in the pages of *Antiquity*. The key discovery was the Bronze Age burial of an adult male (Pustopolje tumulus 16), wrapped in a large woollen textile. At the time, little attention was paid to the textile. New analyses of the fabric, however, have led to a reappraisal of this find. The textile is presented here fully for the first time, with details of the analyses that have been undertaken. These reveal that the Pustopolje textile has major significance for our understanding of the early development of weaving technology and clothing in the Bronze Age archaeological record, and in particular it underlines the presence of distinct and separate weaving traditions in Central Europe and Scandinavia.

¶174: A jade parrot from the tomb of Fu Hao at Yinxi and Liao sacrifices of the Shang Dynasty

¶175: The importance of jade in the burnt offerings of the Shang Dynasty known as 'Liao sacrifice' has long been known from documentary evidence, but has yet to be scientifically verified. We present the results of non-destructive analyses of a jade parrot excavated from the tomb of imperial consort Fu Han at Yinxi in Henan Province. Analyses revealed the presence of diopside, an outcome of phase transition from tremolite resulting from heating in antiquity. 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.

¶176: Symbolic equids and Kushite state formation: a horse burial at Tombos

¶177: The recent discovery of a well-preserved horse burial at the Third Cataract site of Tombos illuminates the social significance of equids in the Nile Valley. The accompanying funerary assemblage includes one of the earliest securely dated pieces of iron in Africa. The Third Intermediate Period (1050–728 BC) saw the development of the Nubian Kushite state beyond the southern border of Egypt. Analysis of the mortuary and osteological evidence suggests that horses represented symbols of a larger social, political and economic movement, and that the horse gained symbolic meaning in the Nile Valley prior to its adoption by the Kushite elite. This new discovery has important implications for the study of the early Kushite state and the formation of Kushite social identity.

¶178: The east bank of the Tiber below the Island: two recent advances in the study of early Rome

¶179: Two recent discoveries on the east bank of the Tiber are of major significance to the study of early Rome: the discovery that the sixth-century BC riverbank was in a different position to the modern bank, and the finding of a Late Bronze Age site deeply buried adjacent to Sant'Omobono church, the latter reported by Brock and Terrenato (2016). This article reconsiders the Sant'Omobono data in an environmental context, questioning both the previous interpretation of site usage and the provenience of the dating evidence. This reappraisal is placed within a recently developed research theme, namely the transformation of the landscape of early Rome into a cityscape, which involved large-scale encroachment on the east bank.

¶180: *Trichuris trichiura* in the mummified remains of southern Siberian nomads

¶181: The identification of parasites in ancient human remains can address questions of past health, disease, mobility and mortuary customs. Archaeoparasitological evidence from Russia is, however, almost absent. This study presents the first such evidence in the form of a helminth infection in a mummified individual from the southern Siberian site of Doge-Bary II, the burial ground of a nomadic Iron Age community. 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. This evidence provides the first confirmation of prehistoric contact between southern Siberian nomads and distant agricultural areas, such as China and Central Asia.

¶182: A moment frozen in time: evidence of a late fifth-century massacre at Sandby borg

¶183: The European Migration Period (c. AD 400–550) was characterised by political, social and economic instability. Recent excavations at Sandby borg ringfort on the island of Öland in Sweden have revealed indisputable evidence of a massacre which occurred at that time. Osteological, contextual and artefactual evidence strongly suggest that the fort was abandoned immediately following the attack and was left undisturbed throughout antiquity. Sandby borg offers a unique snapshot of domestic life and abrupt death in the Scandinavian Migration Period, and provides evidence highly relevant to studies of ancient conflict, and on social and military aspects of Iron Age and Migration Period societies.

¶184: 'Differing in status, but one in spirit': sacred space and social diversity at island monasteries in Connemara, Ireland

¶185: The Christianisation of Ireland in the fifth century AD produced distinct monastic practices and architectural traditions. Recent research on Inishark Island in western Ireland illuminates the diverse material manifestations of monasticism and contributes to the archaeological analysis of pilgrimage. Excavations revealed a ritual complex (AD 900–1100) developed as both an ascetic hermitage and a

pilgrimage shrine. 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. In a global context, this research emphasises how material and spatial settings of pilgrimage can accommodate and construct social distinctions through patterns of seclusion, exclusion and integration in ritual.

¶186: Technologies of urbanism in Mesoamerica: the pre-Columbian bridges of Cotzumalhuapa, Guatemala

¶187: Despite the high degree of technological sophistication visible in other aspects of urban engineering, the archaeology of pre-Columbian Mesoamerica has revealed curiously few examples of bridges or formal, permanent water-crossing structures. The ancient city of Cotzumalhuapa, where at least five such structures have been identified, is a notable exception. The author reviews the archaeological and historical evidence for these bridges, and reflects upon the diversity of engineering technologies that they reveal. Although it remains unclear why bridges are absent at many other contemporaneous sites, these examples offer a fascinating glimpse into the urban planning of structured mobility in Mesoamerica.

¶188: Tradition and transformation in Sámi animal-offering practices

¶189: Archaeological evidence for ritual animal offerings is key to understanding the formation and evolution of indigenous Sámi identity in Northern Fennoscandia from the Iron Age to the seventeenth century AD. 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. To explore the chronology of, and local variations in, Sámi animal-offering tradition, we provide a synthesis of archaeozoological data and radiocarbon dates from 17 offering sites across Norway, Sweden and Finland. Analysis reveals new patterns in the history of Sámi religious ritual and the expression of Sámi identity.

¶190: The Digital Index of North American Archaeology: networking government data to navigate an uncertain future for the past

¶191: 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.

¶192: Against reactionary populism: towards a new public archaeology

¶193: From Brazil to the United Kingdom, 2016 was a critical year in global politics. Heritage, ethics and the way that archaeologists relate to the public 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, 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" (Soloveitchik 2016). 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, and is committed to reflective, critical teaching.

¶194: Archaeology's 'People'

¶195: 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.

¶196: Decolonial archaeology as social justice

¶197: 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. In so doing, they urge archaeologists to abandon the soothing liberal but ineffective embrace of communities and the public. They also argue against identitarian politics and the discourse of apolitical and abstract multiculturalism. I am in broad agreement with them, and called some years ago for a shift from ethics to politics, and for an explicit, public political stance (Hamilakis 2007). If the politicisation of archaeology was important 10 years ago, it is much more urgent now.

¶198: It's not all about archaeology

¶199: As the authors of the Association of Critical Heritage Studies manifesto (Campbell & Smith 2011), there are aspects of the debate piece by González-Ruibal et al. (above) that we have no trouble agreeing with, but we take issue with other elements. This paper sets up far too many straw people, based on a limited engagement with the archaeological and heritage studies literature. At its heart, and despite the radical rhetoric, Gonzalez-Ruibal et al.'s paper is another defence of archaeological expertise by archaeologists, based on a dubious equation of reactionary politics with communities and the popular.

¶100: Changing archaeology's 'brand' would be helpful

¶101: González-Ruibal et al. raise challenging issues that seem frightening in their implications. In both their specificity and their wider theoretical contexts, I had previously given these issues little thought, and some I had not even recognised. I share fully the authors' concern that archaeologists must seek ways to engage people influenced by 'reactionary populism', people who "are diverse, fragmented and complex", and who may be "greedy, patriarchal, xenophobic or uninterested in the past" (González-Ruibal et al. above). 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. 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.

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

¶103: We thank all of the commentators for raising crucial points that provide us with the opportunity to make important clarifications. 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. We also believe that archaeology has a responsibility towards the dead. We are, in a Derridean spirit, committed to “those others who are no longer or [. . .] not yet there, presently living, whether they are already dead or not yet born” (Derrida 2012: 18). There is, however, more than an ethical dimension to this; 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: Rome's zenith commemorated

¶105: Following four centuries of Roman expansion, the Emperor Trajan led the Empire to its greatest extent by annexing Dacia (Transylvania), north-western Arabia and Sinai and, briefly, all of Armenia and Mesopotamia. He bolstered imperial administration, reformed provincial government, clarified certain principles of justice and encouraged a system of welfare, the *alimenta* (Bennett 2001). Last year, 2017, was the nineteen-hundredth anniversary of Trajan's death. The occasion was marked in various ways across Europe, and the opportunity to reflect on Trajan's legacy was particularly poignant in view of the continent's present troubles.

¶106: Ceramic studies: examining the full spectrum

¶107: These three books range from the clinical (Hunt) to the folksy (Woodward and Hill), and might be seen as a progression. One travelling from the Hunt-edited encyclopaedia with its emphasis on new and exotic scientific analytical techniques, rigorous theoretical approaches and data analysis, through the Integrative approaches book using techniques and ideas that have proved effective for decades (this book is firmly within the mainstream of recent excellent pot books that have a very strong US contribution, as exemplified by Quinn 2009), to the English, and almost quaint, re-issue of Woodward and Hill outlining post-processualist concerns and quite devoid of any black box ‘gee-whiz’. Their combined 1200 pages, heavily featuring petrography, often alongside geochemistry, show that these sorts of ceramic studies, although often regarded as comatose-inducing, are in favour again.

¶108: Societies and economics in the Eastern Mediterranean Bronze Age

¶109: These volumes treat economic and social themes of the Bronze Age in the Eastern Mediterranean; all touch on Egypt, but the volume on Egypt itself limps way behind in both quality and scope. Taking these three volumes together, one has the impression that the unresolved problems of the last five decades of turmoil in archaeological thought have left not merely unhealed scars, but also badly set broken bones.

¶110: Rethinking the dichotomy: ‘Romans’ and ‘barbarians’

¶111: Our understanding of the interactions between the Roman Empire and indigenous societies (or ‘barbarians’) that lay within or surrounding its borders has undergone considerable advances over the last 30 years. 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. Even with these advances, the self-imposed opposition between prehistoric and Roman studies, whether in theoretical stance, approach or research frameworks, remains constant in modern scholarly debate (Hingley 2012: 629). As a consequence, and despite

extensive debate to the contrary, the divide between 'Romans' and 'natives' endures in our current interpretations of the contact between pre-Roman and Roman society.

¶112:

¶113: Early humans.

¶114: Going west? The dissemination of Neolithic innovations between the Bosphorus and the Carpathians. Proceedings of the EAA Conference, Istanbul, 11 September 2014 (Themes in Contemporary Archaeology 3).

¶115: Agricultural sustainability and environmental change at ancient Gordion (Gordion Special Studies 8).

¶116: Hiri: archaeology of long-distance maritime trade along the south coast of Papua New Guinea.

¶117: The Caribbean before Columbus.

¶118: Ancient Maya commerce: multidisciplinary research at Chunchucmil.

¶119: Water from stone: archaeology and conservation at Florida's springs.

¶120: Fibres: microscopy of archaeological textiles and furs.

¶121: Archaeologies of gender and violence.

¶122: Archaeological theory in the new millennium. Introducing current perspectives.

¶123: New Book Chronicle

¶124: And so to my next NBC, the difficult second album, the sophomore slump. As an antidote to any jitters on my part, in this issue we tackle a range of books investigating creativity and innovation in the past. Innovation is enjoying something of a 'moment' in archaeological thought at present, with several large, multi-disciplinary projects underway in Europe and sessions devoted to the topic at major US and European conferences over the last few years. As with the current concentration on inequality, this interest can be traced to the social and political climate of the present and concerns over rapid technological change, economic growth and productivity. Innovation can be both productive and profoundly disruptive, and as such, it is of central concern in understanding social change in the past and predicting its effects in the future. The first four volumes discussed below deal directly with innovation, creativity and learning. The fifth, written by political scientist James C. Scott, invites us to consider the negative consequences of certain kinds of innovation and the implications for the sorts of complex societies that we live in today.

¶125: The Palaeolithic of Seimarreh Valley in the Central Zagros, Iran

¶126: Newly discovered prehistoric sites in the Seimarreh Valley in Iran provide the first evidence for Palaeolithic human habitation in this region of the Central Zagros.

¶127: A possible Late Pleistocene forager site from the Karaburun Peninsula, western Turkey

¶128: The 'Karaburun Archaeological Survey' project aims to illuminate the lifeways of Late Pleistocene and Early Holocene foragers in western Anatolia. A recently discovered, lithic-rich site on the Karaburun Peninsula offers new insights into a currently undocumented period of western Anatolian prehistory.

¶129: Connecting Early Neolithic worlds: excavating Mala (Nova) Pećina in Dalmatian Zagora, Croatia



¶130: Recent excavations at Mala Pećina Cave in Croatia have provided new evidence for social and cultural interaction between mobile groups during the Balkan Early Neolithic.

¶131: The first possible evidence of the Aceramic Neolithic in the Iranian Central Plateau

¶132: Salvage excavations in Tehran have provided a small lithic assemblage of probable Aceramic Neolithic date. This may offer the earliest evidence for the spread of Neolithic culture across the vast Iranian Central Plateau.

¶133: The discovery of the earliest specialised Middle Neolithic pottery workshop in western Thessaly, central Greece

¶134: Disparity in recorded Neolithic activity between the eastern and western Thessaly plain in central Greece is being redressed by the 'Long Time No See' landscape project. A recently discovered pottery kiln complex at Magoula Rizava tell site offers exciting new evidence for intra-regional pottery production and circulation during the Middle Neolithic period.

¶135: Collapse or transformation? Regeneration and innovation at the turn of the first millennium BC at Arslantepe, Turkey

¶136: Ongoing excavations at Arslantepe in south-eastern Turkey are revealing settlement continuity spanning two crucial phases at the transition from the second to the first millennium BC: the post-Hittite period and the development of Syro-Anatolian societies.

¶137: The Georgian Caucasus and its resources: the exploitation of the Mount Chikiani uplands during the metal ages

¶138: Recent surveys around Mount Chikiani in the Georgian Caucasus have revealed intensive prehistoric exploitation of high-altitude obsidian resources, far beyond the scale previously documented.

¶139: Landscapes of production and punishment: convict labour management on the Tasman Peninsula 1830–1877

¶140: The 'Landscapes of Production and Punishment' project aims to examine how convict labour from 1830–1877 affected the built and natural landscapes of the Tasman Peninsula, as well as the lives of the convicts themselves.

¶141: Progress, problems, and possibilities of GIS in the South Caucasus: an international workshop summary

¶142: In response to increased international collaboration in archaeological research of the South Caucasus, 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.

¶143: ISSUE 3

¶144: EDITORIAL

¶145: When John F. Kennedy described Washington, D.C. as a city of Southern efficiency and Northern charm, it was presumably not intended as a compliment. Nonetheless, like all good quotes, it captures a wider truth—a capital city as the pivot of a vast and diverse nation, a symbolic and political, if not geographic, centre. In this sense, the choice of Washington, D.C. to host the 83rd Annual Meeting of the Society for American Archaeology (SAA), 11–15 April 2018, was more than

coincidence. With a still relatively new administration in the White House making policy changes with significant implications for the nation's cultural heritage, 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, and the SAA Government Affairs Program pursued meetings on Capitol Hill to press the case for the protection and promotion of cultural heritage. The theme was reinforced through the SAA Presidential Sponsored Forum, entitled 'Bears Ears, the Antiquities Act, and the Status of our National Monuments', where the panel reflected on the effectiveness of the Antiquities Act of 1906 (now safeguarding over one million square kilometres of US territory) and the emerging threats to the protection it provides. In particular, the unprecedented proposal by the new administration to reduce significantly the size of one of the most recent additions to the list, the Bears Ears National Monument in Utah (as well as Grand Staircase-Escalante National Monument), has led to concerns—and lawsuits—over political interference and the weakening of the protection that the Act provides for sites and landscapes across the USA.

¶146: Climate change and the deteriorating archaeological and environmental archives of the Arctic

¶147: The cold, wet climate of the Arctic has led to the extraordinary preservation of archaeological sites and materials that offer important contributions to the understanding of our common cultural and ecological history. This potential, however, is quickly disappearing due to climate-related variables, including the intensification of permafrost thaw and coastal erosion, which are damaging and destroying a wide range of cultural and environmental archives around the Arctic. In providing an overview of the most important effects of climate change in this region and on archaeological sites, the authors propose the next generation of research and response strategies, and suggest how to capitalise on existing successful connections among research communities and between researchers and the public.

¶148: The unique Solutrean laurel-leaf points of Volgu: heat-treated or not?

¶149: The laurel-leaf points of the Volgu cache found in eastern France rank among the most remarkable examples of skilled craftsmanship known from the Solutrean period of the Upper Palaeolithic. In addition to pressure flaking, heat treatment may have helped in the making of the points, as both have been previously described in association with Solutrean assemblages. This study presents the results of an infrared spectroscopic analysis of seven artefacts from the Volgu cache conducted to test this assumption. The findings show that heat treatment was not universally applied to this particular tool type, meaning that we must rethink the reasons why such a technique was used.

¶150: Harvesting and processing wild cereals in the Upper Palaeolithic Yellow River Valley, China

¶151: Northern China has been identified as an independent centre of domestication for various types of millet and other plant species, but tracing the earliest evidence for the exploitation of wild cereals and thus the actual domestication process has proven challenging. Evidence from microscopic analyses of stone tools, including use-wear, starch and phytolith analyses, however, show that in the Shizitan region of north China, various plants have been exploited as far back as 28000 years ago, and wild millets have been harvested and processed by the time of the Last Glacial Maximum, 24000 years ago. This is some 18000–14000 years before the earliest evidence for domesticated millet in this region.

¶152: A tale of two tells: dating the Çatalhöyük West Mound

¶153: Çatalhöyük is one of the most well-known and important Neolithic/Chalcolithic sites in the Middle East. Settlement at the site encompasses two separate tell mounds known as Çatalhöyük East and West, with the focus of attention having traditionally been upon what is often regarded as the main site, the earlier East Mound. Limitations of dating evidence have, however, rendered the nature of the relationship between the settlements on these mounds unclear. Traditional models favoured a hiatus between their occupation, or, alternatively, a rapid shift from one site to the other, often invoking changes in natural conditions by way of an explanation. New dates challenge these theories, and indicate a potentially significant overlap between the occupation of the mounds, starting in the late seventh millennium BC.

¶154: Radical 'royals'? Burial practices at Başur Höyük and the emergence of early states in Mesopotamia

¶155: Human sacrifice has long been associated with the rise of hierarchical centralised societies. Recent excavation of a large cist tomb at third-millennium BC Başur Höyük, in Turkey, shows that state formation in Mesopotamia was accompanied by a fundamental change in the value of human life within local ritual economy. Osteological analysis and study of the grave goods have identified some of the dead as human sacrifices. This was indeed a retainer burial, reflecting the emergence of stratified society at a time of instability and crisis.

¶156: The ring sanctuary of Pömmelte, Germany: a monumental, multi-layered metaphor of the late third millennium BC

¶157: Religion, social identity and social formation processes are topics of great interest to the archaeological community. Regarding the Neolithic and Early Bronze Age monuments of Central Europe, evidence from recent excavations at the Pömmelte enclosure in Central Germany suggests that circular or henge-like enclosures were monumental sanctuaries that served as venues for communal gatherings, ritual activities and performance. We suggest that such enclosures represent complex metaphors, possibly representing cosmological geographies, and that they also played important roles as communal structures in local identity formation and social regulation.

¶158: Mixing metaphors: sedentary-mobile interactions and local-global connections in prehistoric Turkmenistan

¶159: The deeply engrained stereotype of opposing 'steppe' and 'sown' societies has strongly influenced interpretation of Bronze Age Central Asia. This has led to the idea that the agricultural Oxus civilisation and non-Oxus mobile pastoralists formed two distinct cultural-economic groups in this region that are easily distinguishable through archaeological remains. Recent excavations of campsites in southern Turkmenistan, however, provide new evidence of variability in exchange between sites, suggesting adaptation by pastoralist groups in their interactions with settled Oxus farming groups. Rather than wholly reiterating or dissolving the distinctions between them, such practices dynamically reshaped the boundaries of these social and economic groups. These findings challenge us to move away from notions of centre-periphery, dependency and diffusion in discussions of intercultural contact in Eurasian prehistory.

¶160: A first absolute chronology for Late Neolithic to Early Bronze Age Myanmar: new AMS 14C dates from Nyaung'gan and Oakaie

¶161: Late prehistoric archaeological research in Myanmar is in a phase of rapid expansion. Recent work by the Mission Archéologique Française au Myanmar aims to establish a reliable Neolithic to Iron Age culture-historical sequence, which can then be compared to surrounding regions of

Southeast Asia. Excavations at Nyaung'gan and Oakaie in central Myanmar have provided 52 new AMS dates, which allow the creation of Myanmar's first reliable prehistoric radiometric chronology. They have also identified the Neolithic to Bronze Age transition in central Myanmar, which is of critical importance in understanding long-range interactions at the national, regional and inter-regional level. This research provides the first significant step towards placing late prehistoric Myanmar in its global context.

¶162: The Anyang Xibeigang Shang royal tombs revisited: a social archaeological approach

¶163: The Shang Dynasty has attracted much archaeological research, particularly the renowned 'royal tombs' of the Xibeigang cemetery at Anyang Yinxu, the last Shang capital. Understanding of the social strategies informing Shang mortuary practices is, however, very limited. A new reconstruction of the detailed chronology of the cemetery is presented here, allowing social theory to be applied, and reveals the strategic social decisions behind the placement of the tombs in relation to each other. The results of this analysis are important not only for the reconstruction of the social structure and organisation of the late Shang dynasty, but also for understanding the relationship between mortuary practices and the functioning of early states in other regions.

¶164: Fulayj: a Late Sasanian fort on the Arabian coast

¶165: Archaeological evidence for a Sasanian presence in the 'Uman region of Eastern Arabia is sparse. Recent excavations at the site of Fulayj in Oman have, however, revealed it to be a Late Sasanian fort, the only securely dated example in Arabia, or indeed on the western shores of the Indian Ocean more generally. AMS dating supports the ceramic chronology proposed for the site, demonstrating occupation until the Islamisation of South-eastern Arabia in the early seventh century AD, and also briefly into the very Early Islamic period. Fulayj fort provides new insights into Sasanian military activities during this crucial period of Arabian history.

¶166: 'The gleaming mane of the serpent': the Birka dragonhead from Black Earth Harbour

¶167: The 'Birka dragon' symbol is synonymous with the famous Viking Age town of that name, an association born from the 1887 discovery of a casting mould depicting a dragonhead. Recent excavations in Black Earth Harbour at Birka have yielded a dress pin that can, almost 150 years later, be directly linked to this mould. This artefact introduces a unique 'Birka style' to the small corpus of known Viking Age dragonhead dress pins. The authors discuss and explore the artefact's manufacture, function and chronology, and its connections to ship figureheads.

¶168: The weight of ritual: Classic Maya jade head pendants in the round

¶169: A newly discovered jade head pendant from the Guatemalan site of Ucanal illuminates a rarely considered element of Classic Maya royal ceremonies: weight. The largest and probably the heaviest of its kind, this pendant is a rare example of Classic Maya belt ornaments. Finely carved jade ornaments symbolised the prestige and wealth of elite officials, but were also metaphors for the weighty burdens of office. 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: 100 years later: the dark heritage of the Great War at a prisoner-of-war camp in Czersk, Poland

¶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, which reveal that such heritage may have a bright side. This study discusses a Russian canteen recovered from the German First World War prisoner-of-war camp at Czersk in Poland. Discovered in 2006, the canteen belonged to a Russian prisoner. It records biographical details of its owner, and offers an alternative narrative of difficult heritage by testifying to emotion and human creativity behind barbed wire.

¶172: Retracing the footsteps of H.H. Thomas: a review of his Stonehenge bluestone provenancing study

¶173: The long-distance transport of the Stonehenge bluestones from the Mynydd Preseli area of north Pembrokeshire was first proposed by geologist H.H. Thomas in 1923. For over 80 years, his work on the provenancing of the Stonehenge bluestones from locations in Mynydd Preseli in south Wales has been accepted at face value. New analytical techniques, alongside transmitted and reflected light microscopy, have recently prompted renewed scrutiny of Thomas's work. While respectable for its time, the results of these new analyses, combined with a thorough checking of the archived samples consulted by Thomas, reveal that key locations long believed to be sources for the Stonehenge bluestones can be discounted in favour of newly identified locations at Craig-Rhos-y-felin and Carn Goedog.

¶174: Boots on the ground in Africa's ancient DNA 'revolution': archaeological perspectives on ethics and best practices

¶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, and raising ethical concerns over the destruction of human remains. In the absence of discipline-wide protocols, teams are often left to navigate aDNA sampling on an individual basis, contributing to widely varying practices that do not always protect the long-term integrity of collections. As those on the frontline, archaeologists and curators must create and adhere to best practices. We review ethical issues particular to African aDNA contexts and suggest protocols with the aim of initiating public discussion.

¶176: From totems to myths: theorising about rock art

¶177: The expanding and deepening scope of historical archaeology

¶178: 2017 marked the fiftieth anniversary of the founding of both the Society for Historical Archaeology, in North America, and the Society for Post-Medieval Archaeology, in the UK. Each society celebrated this milestone by publishing a collection of forward-looking essays in their respective journals (see Brooks 2016; Matthews 2016). Although each group of practitioners has followed what might be best described as parallel, but not convergent, intellectual tracks, what they have shared is a common focus on the period of European expansion and colonialism starting in the late fifteenth century. Since that time, the two fields have grown much closer, while the larger intellectual project that is historical archaeology has seen its popularity grow across the globe. In many respects, these three volumes, while different, nevertheless provide a rich collection of chapters that reveal both the widening and deepening of the field.

¶179: Human dispersal and species movement. From prehistory to the present.

¶180: Woodland in the Neolithic of Northern Europe: the forest as ancestor.

¶181: The story of Alderley. Living with the Edge.

¶182: Rethinking prehistoric Central Asia: shepherds, farmers, and nomads.

¶183: Megadrought and collapse: from early agriculture to Angkor.

¶184: Khao Sam Kaeo. An early port-city between the Indian Ocean and the South China Sea (Mémoires Archéologiques 28). 2

¶185: Archaeologies of African American life in the Upper Mid-Atlantic.

¶186: Contemporary archaeology and the city: creativity, ruination, and political action.

¶187: Geology for archaeologists: a short introduction.

¶188: The Oxford handbook of zooarchaeology.

¶189: New Book Chronicle

¶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.

¶191: ISSUE 4

¶192: What’s new in Chaco research?

¶193: This special section of Antiquity reports on new research on Chaco Canyon and its surrounding region in the northern U.S. Southwest. Two of the contributions are based on new excavations within Chaco Canyon—one at the largest great house of Pueblo Bonito by Patricia Crown and W.H. Wills (2018), and the other on Chaco’s water management by Vernon Scarborough et al. (2018). The second pair of articles are based on the regional data compilation and analyses of great houses and great kivas, which form part of the larger Chaco World. The article by Mills et al. (2018) applies social network analysis to a large database of ceramics to look at changing connectivity in the Chaco World over three centuries. Katherine Dungan et al. (2018) use an innovative total viewshed approach to examine when and to what degree great houses and great kivas were placed in visually prominent locations. This introduction reviews new findings of the past decade and contextualises the following four articles within the current literature. It does not provide a comprehensive review of the Chaco literature, and the reader is referred to other reviews, most recently by Plog (2010, 2018), Schachner (2015) and Plog et al. (2017). These can be compared with earlier syntheses (Mills 2002; Lekson 2006, 2009) to underscore the pace of new research.

¶194: Water uncertainty, ritual predictability and agricultural canals at Chaco Canyon, New Mexico

¶195: The Pueblo population of Chaco Canyon during the Bonito Phase (AD 800–1130) employed agricultural strategies and water-management systems to enhance food cultivation in this unpredictable environment. Scepticism concerning the timing and effectiveness of this system, however, remains common. 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 ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) analyses confirm the diversion of waters from multiple sources during Chaco’s occupation. The extent of this water-management system raises

new questions about social organisation and the role of ritual in facilitating responses to environmental unpredictability.

¶196: The complex history of Pueblo Bonito and its interpretation

¶197: Pueblo Bonito in Chaco Canyon is one of the most iconic pre-Hispanic archaeological sites in the U.S. Southwest. Archaeologists refer to it as a great house in recognition of its massive scale, and often describe it as the centre of the Chaco world. Yet questions remain about Pueblo Bonito's origins, sequence of construction, duration of occupation and abandonment. Here, the authors present new research that helps to clarify the early phases of occupation, and illuminates some of the problems inherent in reconstructing a building that was a perennial work in progress.

¶198: A total viewshed approach to local visibility in the Chaco World

¶199: The Chacoan great houses and great kivas of the U.S. Southwest are monumental, both in their scale and in conveying meaning. Visibility is key to understanding how and by whom that meaning was experienced. Although often discussed in Chaco studies, visibility has been infrequently tested. Here, the authors consider 430 great house and great kiva locations, and evaluate their visibility within their local landscapes. 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. These patterns may speak to the social and physical properties of the structures.

¶200: Evaluating Chaco migration scenarios using dynamic social network analysis

¶201: Migration was a key social process contributing to the creation of the 'Chaco World' between AD 800 and 1200. 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. By the late eleventh century, Chaco Canyon was tied strongly to the Middle and Northern San Juan, while a twelfth-century retraction of networks separated the Northern and Southern San Juan areas prior to regional depopulation. Understanding Chaco migration is important for comprehending both its uniqueness in U.S. Southwest archaeology and for comparison with other case studies worldwide.

¶202: Between foraging and farming: strategic responses to the Holocene Thermal Maximum in Southeast Asia

¶203: Large, 'complex' pre-Neolithic hunter-gatherer communities thrived in southern China and northern Vietnam, contemporaneous with the expansion of farming. Research at Con Co Ngua in Vietnam suggests that such hunter-gatherer populations shared characteristics with early farming communities: high disease loads, pottery, complex mortuary practices and access to stable sources of carbohydrates and protein. The substantive difference was in the use of domesticated plants and animals—effectively representing alternative responses to optimal climatic conditions. The work here suggests that the supposed correlation between farming and a decline in health may need to be reassessed.

¶204: Cultural and economic negotiation: a new perspective on the Neolithic Transition of Southern Scandinavia

¶205: The diversity of archaeological evidence for the adoption of farming in Northern Europe has led to competing hypotheses about this critical shift in subsistence strategy. Through a review of the archaeological material alongside ethnographic evidence, we reconsider the Neolithic Transition in

Southern Scandinavia, and argue for both continuity and change during the early Funnel Beaker Culture (c. 4000–3500 cal BC). A new model is proposed for understanding the processes of regional transition—one which allows for compromise between the dominant explanatory frameworks. We conclude that the first centuries of the Scandinavian Neolithic saw cultural and economic negotiation between the last foragers and the first farmers. This has major implications for the understanding of agricultural origins in Northern Europe.

¶1206: The emergence of complex society in China: the case of Liangzhu

¶1207: Recent research at Liangzhu in China documents the settlement as a fortified town dating from 3300–2300 BC, accompanied by an impressive system of earthen dams for flood control and irrigation. An earthen platform in the centre of the town probably supported a palace complex, and grave goods from the adjacent Fanshan cemetery include finely worked jades accompanying high-status burials. These artefacts were produced by a complex society more than a millennium before the bronzes of the Shang period. The large-scale public works and remarkable grave goods at Liangzhu are products of what may be the earliest state society in East Asia.

¶1208: Isotopic evidence for mobility at large-scale human aggregations in Copper Age Iberia: the mega-site of Marroquíes

¶1209: Settlements incorporating large-scale human aggregations are a well-documented but poorly understood phenomenon across late prehistoric Europe. The authors' research examines the origins and trajectory of such aggregations through isotope analysis of human skeletal remains from the mega-site of Marroquíes in Jaén, Spain. The results indicate that eight per cent of 115 sampled individuals are of non-local origin. These individuals received mortuary treatments indistinguishable from those of locals, suggesting their incorporation into pre-existing social networks in both life and death. This research contributes to our understanding of the extent and patterning of human mobility, which underlies the emergence of late prehistoric mega-sites in Europe.

¶1210: When peripheries were centres: a preliminary study of the Shimao-centred polity in the loess highland, China

¶1211: Chinese civilisation has long been assumed to have developed in the Central Plains in the mid to late second millennium BC. Recent archaeological discoveries at the Bronze Age site of Shimao, however, fundamentally challenge traditional understanding of 'peripheries' and 'centres', and the emergence of Chinese civilisation. This research reveals that by 2000 BC, the loess highland was home to a complex society representing the political and economic heartland of China. Significantly, it was found that Later Bronze Age core symbols associated with Central Plains civilisations were, in fact, created much earlier at Shimao. This study provides important new perspectives on narratives of state formation and the emergence of civilisation worldwide.

¶1212: Early Metal Age interactions in Island Southeast Asia and Oceania: jar burials from Aru Manara, northern Moluccas

¶1213: New evidence from the rockshelter site of Aru Manara, on the island of Morotai, in the northern Moluccas, East Indonesia, suggests an earlier than previously assumed date for extensive interactions between this area of Southeast Asia and the wider Pacific. Shared mortuary customs and associated ceramic grave goods, along with other practices such as megalithic traditions, appear to start in the Late Neolithic, but become more widespread and consolidated in the Early Metal Age. Excavations at Aru Manara show that the northern Moluccas may have figured prominently in the



newly established network of interaction evidenced at this time, making it an important location in the spread and dispersal of people and culture throughout Island Southeast Asia and into Oceania.

¶1214: Bone tool and tuber processing: a multi-proxy approach at Boyo Paso 2, Argentina

¶1215: This article provides results from a full morphological, use-wear and microfossil residue analysis of a notched bone tool made from a camelid scapula, which was recovered from the late pre-Hispanic site of Boyo Paso 2 (1500–750 years BP, Sierras of Córdoba, Argentina). The use-wear pattern showed striations similar to those recorded in experimental bone tools used for scraping activities. The starch grains found on the active or working edge are similar to the Andean tuber crop *Oxalis tuberosa*, and suggest that the tool was used for peeling wild or domesticated *Oxalis* sp. tubers, thereby questioning the disproportionate attention directed towards maize in late pre-Hispanic economies.

¶1216: Elites and commoners at Great Zimbabwe: archaeological and ethnographic insights on social power

¶1217: Archaeological indicators of inequality at major historic centres of power have long been poorly understood. This paper is the first to address the archaeology of class and inequality at Great Zimbabwe (AD 1000–1700) from an African-centred viewpoint. Data from new excavations, combined with insights from Shona philosophy, practice and ethnography, suggest that the categories of ‘elite’ and ‘commoner’ were situational and transient, and that they require a more robust theorisation than that currently adopted for the site. The results provide a valuable study for the comparative archaeology of ancient cities, differing in many ways from established interpretive frameworks in global archaeology.

¶1218: Moving in mysterious ways: the use and discard of Cambridge college ceramics

¶1219: Artefact biographies are a valuable means of conceptualising the relationships between people, places and objects in the past. It is rare, however, that the detailed contextual information required by such approaches can be extracted from the archaeological assemblages typically found in the often dense and confusing palimpsests of complex urban sites. Eighteenth- to twentieth-century ceramic wares associated with Oxbridge colleges provide one way of exploring this issue. Detailed historical records of property owners and tenants can be combined with ceramics linked to individual colleges by corporate markings such as coats of arms or badges. This enables fine-grained reconstructions which show, in many cases, that ordinary vessels had far from ordinary histories of use and discard.

¶1220: ISIS and heritage destruction: a sentiment analysis

¶1221: While periods of war have always seen cultural heritage placed at risk, 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. Using data collated from social media (Twitter), the authors conducted sentiment analysis of reactions to instances of heritage destruction and repurposing in the Middle East between 2015 and 2016. It is hoped that the insights gained can help the international community better tackle terrorism, protecting heritage and supporting affected communities.

¶1222: Approaching the archaeopolitical

¶1223: Objects, Romans, materialities

¶1224: Prismatic perspectives on the pre-Islamic empires of Persia

- ¶1225: Humans and the environment in northern Baikal Siberia during the Late Pleistocene.
- ¶1226: Where the land meets the sea: fourteen millennia of human history at Huaca Prieta, Peru.
- ¶1227: An archaeology of Ancash: stones, ruins and communities in Andean Peru.
- ¶1228: In search of the Phoenicians.
- ¶1229: The Roman amphitheatre of Chester volume 1: the prehistoric and Roman archaeology.
- ¶1230: Maya E groups: calendars, astronomy, and urbanism in the early lowlands.
- ¶1231: Landscapes of social transformation in the Salinas Province and the eastern Pueblo world. 2
- ¶1232: The archaeology of underwater caves.
- ¶1233: The opium poppy in Europe: exploring its origin and dispersal during the Neolithic
- ¶1234: A new project aims to define the origins and dispersal patterns of the opium poppy in Neolithic Western Europe through a comprehensive programme of radiocarbon dating.
- ¶1235: Late prehistoric coastal settlement patterns in the Cantabrian region, northern Spain
- ¶1236: Desert kites in the Libyan Sahara: new evidence from remotely sensed images
- ¶1237: Satellite imagery analysis has revealed the presence of at least 330 stone structures—akin to ‘desert kites’ recorded elsewhere—on and around the Hamada al Hamra Plateau in Libya. These structures, which probably vary in shape based on local geomorphology, may have been used for hunting or herding animals.
- ¶1238: Archaeological LiDAR in Italy: enhancing research with publicly accessible data
- ¶1239: Recent changes to the availability and accessibility of LiDAR data in Italy have greatly expanded the potential for their exploration by members of the general public. Further promotion of this fact and how to engage with such data could prove to be of significant value to both archaeologists and other interested parties.
- ¶1240: Exploring non-urban society in the Mediterranean: hill-forts, villages and sanctuary sites in ancient Samnium, Italy
- ¶1241: The Tappino Area Archaeological Project combines remote sensing, intensive survey methods and excavation to illuminate the development and working of ancient society in the Apennine Mountains, southern Italy.
- ¶1242: The discovery of seven engraved La Tène glass beads from the sanctuary of Mathay-Mandeure
- ¶1243: Analysis of seven newly discovered engraved La Tène beads from the Mathay-Mandeure sanctuary in Doubs, France, has refined the chronology for the manufacture of such rare artefacts, and increases our understanding of Late Iron Age ritual deposition practices.
- ¶1244: Back to basics: a non-photorealistic rendering method for the analysis of texts from 3D Roman inscriptions
- ¶1245: This paper presents the results of a non-photorealistic rendering approach to analysing Roman inscriptions, which uses line drawings to highlight the text of two epigraphs from Galicia in north-west Spain.

¶1246: Christ's face revealed at Shivta: an Early Byzantine wall painting in the desert of the Holy Land

¶1247: A previously unknown painting of Christ's face, recently discovered at the Byzantine site of Shivta in the Negev Desert of southern Israel, represents the first pre-iconoclastic baptism-of-Christ scene to be found in the Holy Land.

¶1248: Ironworking technology and social complexity in rural communities in the early medieval Basque Country

¶1249: The Basquesmith project aims to illuminate the cycle of iron production and consumption by early medieval rural farming communities in the Álava province, Basque Country, northern Spain.

¶1250: Remote cays and the pre-Columbian colonisation of The Bahamas

¶1251: Recent research investigating the origins of Bahama archipelago habitation conducted archaeological surveys on the remote Bahamian Guinchos Cay and Cay Lobos. A complete lack of prehistoric evidence, however, suggests that they played no significant role in the colonisation of The Bahamas.

¶1252: ISSUE 5

¶1253: The first technical sequences in human evolution from East Gona, Afar region, Ethiopia

¶1254: Gona in the Afar region of Ethiopia has yielded the earliest Oldowan stone tools in the world. Artefacts from the East Gona (EG) 10 site date back 2.6 million years. Analysis of the lithic assemblage from EG 10 reveals the earliest-known evidence for refitting and conjoining stone artefacts. This new information supplements data from other Oldowan sites in East Africa, and provides an important insight into the technological capacities and evolutionary development of hominins during this period.

¶1255: Is there a centre of early agriculture and plant domestication in southern China?

¶1256: The archaeobotanical evidence for a putative third centre of early agriculture and plant domestication in southern subtropical China, based primarily on use-wear and residue analyses of artefacts from the sites of Zengpiyan, Niulandong and Xincun, is here reviewed. The available data are not diagnostic of early cultivation or plant domestication based on vegetative propagation in this region. The uncertainties raised by this review are not unique to southern China, and reveal a bias against the identification of early cultivation of vegetatively propagated plants in other regions of the world. The authors 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.

¶1257: Neolithic pastoralism in marginal environments during the Holocene Humid Period, northern Saudi Arabia

¶1258: The origins of agriculture in South-west Asia is a topic of continued archaeological debate. Of particular interest is how agricultural populations and practices spread inter-regionally. Was the Arabian Neolithic, for example, spread through the movement of pastoral groups, or did ideas perhaps develop independently? Here, the authors report on recent excavations at Alshabah, one of the first Neolithic sites discovered in Northern Arabia. The site's material culture, environmental context and chronology provide evidence suggesting that well-adapted, seasonally mobile, pastoralist groups played a key role in the Neolithisation of the Arabian Peninsula.

¶1259: The long-distance exchange of amazonite and increasing social complexity in the Sudanese Neolithic

¶1260: The presence of exotic materials in funerary contexts in the Sudanese Nile Valley suggests increasing social complexity during the fifth and sixth millennia BC. Amazonite, both in artefact and raw material form, is frequently recovered from Neolithic Sudanese sites, yet its provenance remains unknown. 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. This research, along with data on different exotic materials from contemporaneous Sudanese cemeteries, suggests a previously unknown, long-distance North African exchange network and confirms the emergence of local craft specialisation as part of larger-scale developing social complexity.

¶1261: Settlement and social organisation in the late fourth millennium BC in Central Europe: the waterlogged site of Zurich-Parkhaus Opéra

¶1262: With the exception of Circum-Alpine wetland sites, structural remains of fourth-millennium BC settlements in Central Europe are rarely encountered. As a result, there is a dearth of information concerning settlement organisation and social differentiation. Recent excavations at the waterlogged Parkhaus Opéra site on the shores of Lake Zurich have, however, provided important new evidence for the existence of complex Late Neolithic settlement strategies and social stratification. Excellent organic preservation conditions permit extensive dendrochronological analyses of structures and the precise phasing of building activity. The results reveal a complex and highly dynamic settlement system, and provide a rare insight into the organisation of Late Neolithic Central European society.

¶1263: Tulán-52: a Late Archaic ceremonial centre at the dawn of the Neolithisation process in the Atacama Desert

¶1264: Excavations at the Late Archaic site of Tulán-52 (3450–2250 BC) in the Atacama Desert of Chile revealed what was initially considered to be a very early semi-sedentary settlement. New investigations into these earlier excavations, however, show evidence for structural and organisational characteristics that overlap with those found at the nearby ceremonial site of Tulán-54, dated to around two millennia later. The reinterpretation of Tulán-52 suggests that early monumentalism in the Puna de Atacama may reflect the emergence of social complexity among late hunter-gatherers—a development that led to, rather than resulted from, the process of Neolithisation.

¶1265: Siret's smile

¶1266: 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. Heyd (2017) considers a simultaneous spread of material culture as supportive of these model. The author addresses Heyd's suggestions in the light of new archaeological data from the southern Iberian Peninsula. These data strongly suggest both Eastern Mediterranean and endogenous influences and innovation in the spread of culture across Europe during the third millennium BC.

¶1267: The South American agricultural frontier: the first direct evidence for maize consumption in San Luis, Argentina

¶1268: The spread of agriculture across the Andes is a topic of intense archaeological debate, particularly the processes driving the adoption of maize (*Zea mays*) by mobile hunter-gatherer groups of the Central Pampas of Argentina. This paper presents the first direct botanical evidence of maize from the Late Holocene hunter-gatherer sites of El Durazno and La Alborado in the San Luis province—an area considered climatically unsuited to maize production. These data provide important new information on the production, processing and consumption of maize on a macro-regional scale, and the development of Central Pampas exchange systems.

¶1269: Social responses to climate change in Iron Age north-east Thailand: new archaeobotanical evidence

¶1270: New evidence from archaeological investigations in north-east Thailand shows a transition in rice farming towards wetland cultivation that would have facilitated greater yields and surpluses. This evidence, combined with new dates and palaeoclimatic data, suggests that this transition took place in the Iron Age, at a time of increasingly arid climate, and when a number of broader societal changes become apparent in the archaeological record. For the first time, it is possible to relate changes in subsistence economy to shifts in regional climate and water-management strategies, and to the emergence of state societies in Southeast Asia.

¶1271: Lidar reveals the entire kingdom of Izapa during the first millennium BC

¶1272: The origins of ancient states is an important archaeological research topic that illuminates the precursors of modern nations. Public buildings, as is the case today, created urban settings in which political, administrative and religious functions were undertaken. This investigation of the ancient Mesoamerican kingdom of Izapa reveals a network of urban centres laid out according to shared design principles. While the capital city of Izapa has long been known, the authors' research reveals, for the first time, the entire Izapa kingdom. This work provides an important new insight into the origins of political hierarchy and urban life in pre-Hispanic Mesoamerica.

¶1273: Stone lines and burnt bones: ritual elaborations in Xiongnu mortuary arenas of Inner Asia

¶1274: The vast mortuary complexes of the Xiongnu, the world's first nomadic empire (c. 200 BC–AD 100), were important statements of elite power and ritual commemoration in Inner Asia. Very few of the features that accompanied the main tombs, however, have been fully excavated and investigated. This study is one of the first to assess completely the small archaeological features—and associated faunal remains—that surround the more monumental structures, 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.

¶1275: The development of the Pictish symbol system: inscribing identity beyond the edges of Empire

¶1276: The date of unique symbolic carvings, from various contexts across north and east Scotland, has been debated for over a century. Excavations at key sites and direct dating of engraved bone artefacts have allowed for a more precise chronology, extending from the third/fourth centuries AD, broadly contemporaneous with other non-vernacular scripts developed beyond the frontiers of the Roman Empire, to the ninth century AD. 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.

¶1277: Viking Age tar production and outland exploitation

¶1278: The use of tar and resinous substances dates back far into Scandinavian prehistory. How it was produced, however, was unknown until recent excavations in eastern Sweden revealed funnel-shaped features—now identified as structures for producing tar. A new way of organising tar production appeared in the eighth century AD, leading to large-scale manufacture within outland forests. Intensified Viking Age maritime activities probably increased the demand for tar, which also became an important trade commodity. The transition to intensive tar manufacturing implies new ways of organising production, labour, forest management and transportation, which influenced the structure of Scandinavian society and connected forested outlands with the world economy.

¶1279: The influence of Amazonia on state formation in the ancient Andes

¶1280: The impact of Amazonia on the history and development of late prehistoric (c. AD 500–1500) Andean highland polities has been largely ignored. This article considers how shifting exchange relations between Amazonia and the Andes may have greatly influenced state-formation processes. It is argued that Arawak expansion in the Amazonian lowlands, completed by c. AD 500, was a prerequisite development for stimulating the rise of Andean highland empires, which were heavily dependent upon imported prestige Amazonian feathers. Future research directions are suggested in order to enhance our understanding of late prehistoric state formation in the Americas.

¶1281: Ancient pathways and geoglyphs in the Sihuas Valley of southern Peru

¶1282: Anthropogenic pathways and geoglyphs comprise two of the most recognisable pre-Colombian features of the Peruvian Andes. Although often found in close proximity, there has been no quantitative investigation of the relationships between these types of landscape features. To investigate, the authors performed spatial analysis and simulation modelling on a combination of unmanned aerial vehicle and surface reconnaissance data from the Sihuas River Valley pampa in southern Peru. 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.

¶1283: Thinking of the children: assessing archaeological evidence for childhood

¶1284: Urbanism and culture contact in ancient Egypt: looking out from within

¶1285: Cultural heritage in peacebuilding and economic development

¶1286: The Oxford handbook of the prehistoric Arctic.

¶1287: The Royal Mounds of A'ali in Bahrain: the emergence of kingship in Early Dilmun.

¶1288: The Shammakh to Ayl Archaeological Survey, southern Jordan (2010–2012) (ASOR Archaeological Reports 24).

¶1289: Origins of the colonnaded streets in the cities of the Roman East.

¶1290: North Africa under Byzantium and Early Islam.

¶1291: Connected communities: networks, identity, and social change in the ancient Cibola World.

¶1292: Homeless heritage: collaborative social anthropology as therapeutic practice.

¶1293: Clashes of time: the contemporary past as a challenge for archaeology.

¶1294: Between Denisovans and Neanderthals: Strashnaya Cave in the Altai Mountains

¶1295: New data from Strashnaya Cave have revealed previously unknown complexity in hominin occupation of the Altai Mountains, including the first regional evidence for the presence of anatomically modern humans.

¶1296: Rockshelters and the impact of the Laacher See eruption on Late Pleistocene foragers

¶1297: Predictive modelling has identified rockshelter sites to the north-east of the Laacher See volcano in western Germany. These will be excavated to investigate the impacts of volcanic eruption on Late Pleistocene foragers.

¶1298: Before and after: millet cultivation and the transformation of prehistoric crop production in northern Germany

¶1299: A programme of radiocarbon dating aims to correlate the onset of millet cultivation in northern Germany with cultural and technological changes during the Bronze Age.

¶1300: Provenancing the first obsidian artefact discovered in Belarus

¶1301: Geochemical analysis of the first obsidian artefact discovered in Belarus reveals its source to be the Trans-Caucasus, rather than the expected Carpathian source for prehistoric obsidian in Eastern Europe.

¶1302: Protecting and rehabilitating the archaeology of Bethlehem

¶1303: Rescue excavations in Bethlehem undertaken by the Sapienza University of Rome and the Palestinian Ministry of Tourism and Antiquities—Department of Archaeology and Cultural Heritage—have revealed four Bronze Age necropolises. These newly discovered sites illuminate the development of pre-Classical Bethlehem.

¶1304: Jebel Moya: new excavations at the largest pastoral burial cemetery in sub-Saharan Africa

¶1305: New excavations at the Jebel Moya cemetery in Sudan reveal extensive evidence for Meroitic-era occupation, providing valuable data on contemporaneous diet, migration, exchange and population composition in sub-Saharan Africa.

¶1306: An agricultural field of Hellenistic date at Pauli Stincus, Terralba, Sardinia

¶1307: Excavation at Pauli Stincus in Sardinia has revealed an ancient plough soil, with associated evidence of intensive prehistoric agricultural activities.

¶1308: Compilation and digitisation of the Palmyrene corpus of funerary portraits

¶1309: Since 2012, the 'Palmyra Portrait Project' has collected, studied and digitised over 3700 limestone funerary portraits from Palmyra dating to the first three centuries AD. This represents the largest collection of funerary representations from one place in the classical world.

¶1310: Critical heritage studies beyond epistemic popularism

¶1311: A response to the recent debate piece in *Antiquity* by González-Ruibal et al., examining the role of epistemic popularism in critical heritage studies and public archaeology.

¶1312: Salvaging archaeology: why cultural resource management is not part of the 'new public archaeology'

¶1313: The authors respond to the recent debate piece in *Antiquity* by González-Ruibal et al., which they claim misrepresents public archaeology by ignoring the dominant practice of cultural resource management (CRM).

¶1314: ISSUE 6

¶1315: The effects of heavy-duty machinery on the formation of pseudo-knapping debitage in Stone Age cultural landscapes

¶1316: The risk to surface archaeological sites posed by heavy machinery has grown significantly, and stone-tool assemblages are particularly susceptible to alteration that may be difficult to recognise. Indeed, the impact of industrial machines on surface scatters of lithic material has not yet been explored. 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. The results demonstrate that while formal tool types are not easily replicated through machine action, the creation of assemblages that resemble archaeological debitage poses a much greater challenge for archaeologists.

¶1317: Human mobility and early sedentism: the Late Neolithic landscape of southern Azerbaijan

¶1318: Recent survey and excavation conducted in the Mil Plain region of the southern part of the Republic of Azerbaijan challenges traditional notions of Neolithic sedentism. Here, the authors present their findings, and propose that prior to its abandonment towards the end of the sixth millennium BC, the occupation of the region was comprised of numerous highly variable short-term sites and multi-mounded sites (Qarabel Tepe), as well as anchoring sites (Kamiltepe). This indicates multi-scalar patterns of mobility of a much more complex nature than had previously been supposed, making this region quite unique for the Late Neolithic of South-western Asia.

¶1319: Gaining traction on cattle exploitation: zooarchaeological evidence from the Neolithic Western Balkans

¶1320: The study of the exploitation of animals for traction in prehistoric Europe has been linked to the 'secondary products revolution'. Such an approach, however, leaves little scope for identification of the less specialised exploitation of animals for traction during the European Neolithic. This study presents zooarchaeological evidence—in the form of sub-pathological alterations to cattle foot bones—for the exploitation of cattle for the occasional pulling of heavy loads, or 'light' traction. 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.

¶1321: The earliest burial from the Caribbean coast of Nicaragua: the Angi shell-matrix site

¶1322: The Caribbean coast of Nicaragua has witnessed relatively little archaeological research. In the last decade, however, there has been a substantial effort to record regional archaeological sites. First excavated in the early 1970s, the Angi shell-matrix site has been subject to new investigations, which have identified the first burial to be recorded on the Nicaraguan Caribbean coast. Although collagen preservation was insufficient for direct radiocarbon dating, samples obtained from surrounding deposits date the burial to c. 3900 BC. This represents both the earliest archaeological feature recorded to date on the Caribbean coast of Nicaragua and the oldest-known human remains from the region.

¶1323: A material and technical study of Paracas painted ceramics

¶1324: The Paracas culture of Late Formative Period south coastal Peru (c. 900–100 BC) is renowned for its elaborate and colourful ceramics—particularly those decorated using the post-fire painting



technique. The materials and the methods used to achieve post-fire painting, however, remain elusive. 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.

¶1325: Guandimiao: a Shang village site and its significance

¶1326: Extensively excavated village sites from the Chinese Bronze Age are rare. Information emerging from the analysis of the small Anyang-period village site of Guandimiao, however, challenges widely held assumptions concerning the Shang polity at Anyang and its hierarchical lineages based on war and sacrifice. Evidence for specialised pottery production and the presence of artefacts imported from Anyang suggest an unexpected degree of regional economic integration. Guandimiao is emerging as a site of revolutionary importance for understanding Anyang-period Shang political and economic networks, and in its significance to both Chinese archaeology and the study of early complex societies more generally.

¶1327: A new chronological model for the Bronze and Iron Age South Caucasus: radiocarbon results from Project ArAGATS, Armenia

¶1328: The South Caucasus occupies the divide between ancient Mesopotamia and prehistoric Europe, and was thus crucial in the development of Old World societies. Chronologies for the region, however, have lacked the definition achieved in surrounding areas. 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.

¶1329: Spice and rice: pepper, cloves and everyday cereal foods at the ancient port of Mantai, Sri Lanka

¶1330: Lying on the north-west coast of Sri Lanka, the ancient port of Mantai was ideally situated as a 'hub' for trade between East and West from the first millennium BC onwards. Excavations at the site were interrupted by civil war in 1984, delaying publication of these results and leading to the underestimation of Mantai's importance in the development of Early Historic Indian Ocean trade. Renewed excavations in 2009–2010 yielded extensive archaeobotanical remains, which, alongside an improved understanding of the site's chronology, provide important new insights into the development of local and regional trade routes and direct evidence for early trade in the valuable spices upon which later empires were founded.

¶1331: Alpine ice-core evidence for the transformation of the European monetary system, AD 640–670

¶1332: The seventh-century AD switch from gold to silver currencies transformed the socio-economic landscape of North-west Europe. The source of silver, however, has proven elusive. Recent research, integrating ice-core data from the Colle Gnifetti drill site in the Swiss Alps, geoarchaeological records and numismatic and historical data, has provided new evidence for this transformation. Annual ice-core resolution data are combined with lead pollution analysis to demonstrate that significant new silver mining facilitated the change to silver coinage, and dates the introduction of such coinage to c. AD 660. Archaeological evidence and atmospheric modelling of lead pollution locates the probable source of the silver to mines at Melle, in France.

¶1333: New evidence for late first-millennium AD stilt-house settlements in Eastern Amazonia

¶1334: Archaeological evidence for stilt-house settlements, or pile dwellings, has been recorded in diverse wet environments around the world. The first-millennium AD stilt-house villages in the Brazilian state of Maranhão, however, are poorly known. Difficulties in conducting archaeological investigations in seasonally flooded areas have restricted our ability to understand the societies that lived in these unique settlements. The results of recent fieldwork using non-invasive techniques to map, date and characterise these sites point towards a number of similarities and differences in their spatial organisation, material culture and social structure.

¶1335: Was there ever a Neolithic in the Neotropics? Plant familiarisation and biodiversity in the Amazon

¶1336: The Amazon is one of the few independent centres of plant domestication in the world, yet archaeological and ethnographic evidence suggest a relatively recent transition to agriculture there. In order to make sense of this time lag, the authors propose the use of the concept of 'familiarisation' instead of 'domestication', to explain Amazonian plant management, and the long-term relationship between plants and people in the region. This concept allows them to cast a fresh eye over ancient and contemporary patterns of plant cultivation and management that may be distinct to the ones described for the Old World.

¶1337: Timber for the trenches: a new perspective on archaeological wood from First World War trenches in Flanders Fields

¶1338: During the First World War (1914–1918), the construction and maintenance of the Western Front in North-west Europe required huge quantities of timber. Although archaeological investigations regularly uncover well-preserved wooden structures and objects, studies of the timber's provenance are rare. The authors combine archival research with wood-species identification and tree-ring analysis of a large assemblage of wooden objects excavated from former trenches on the Western Front. The results show that most objects and structures were made using fast-growing European species, with evidence for the small-scale but continuous importation of North American timber.

¶1339: Archaeological evidence of early settlement in Venice: a comment on Ammerman et al. (2017)

¶1340: In a recent *Antiquity* article, Ammerman et al. (2017) suggest that three radiocarbon dates on seventh- or eighth-century AD samples obtained by coring beneath St Mark's Basilica—including two peach stones—illuminate the earliest settlement of the historic centre of Venice. Excavations at several other locations, however, 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. Here, the authors summarise this evidence, and propose that a large area of the historic centre may have been settled by, or during, the mid seventh century AD.

¶1341: The Brexit hypothesis and prehistory

¶1342: Archaeologists have more opportunities than ever to disseminate their research widely—and the public more opportunities to engage and respond. 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.

¶1343: Public archaeology cannot just ‘fly at dusk’: the reality and complexities of generating public impact

¶1344: Power, knowledge and the past

¶1345: The Brexit syndrome: towards a hostile historic environment?

¶1346: Countering the Brexit hypothesis through solidarity, advocacy and activism

¶1347: Ancient China reconsidered

¶1348: These three ambitious, successful and highly rewarding books help us to rethink the archaeology of ancient China and its context. The work co-authored by Linduff, Sun, Cao and Liu is the most wide-ranging. It offers an overview of ancient Chinese interactions with Central Asian neighbours over more than two millennia, from the first beginnings of metal use up to the Iron Age. It also aims to change the narrative of this region by re-interpreting the ‘Inner Asian frontier’ as a multi-centred, dynamic, diverse and changing ‘contact zone’ unlike the uniform barbarian steppe set apart from incipient Chinese civilization that an earlier literature tended to imagine. The authors focus on distinct yet overlapping aspects of life and interaction on this frontier—‘technoscapes’, ‘individualscapes’, ‘lineagescapes’, ‘regionscapes’—departing from the Sinocentric view where the only interesting questions about ancient frontier peoples were how the barbarians contributed (or not), to the making of the (glory of the) Sino-centres. The recent exciting debates over the Shimao “city too far north” (Jaang et al. 2018) come to mind!

¶1349: Globalisation vs the state? Macro- and micro-perspectives on Roman economies

¶1350: There can be few topics in Roman archaeology and history that are contested with such vigour and widespread interest as the Roman economy. In part, this present situation arises as a legacy of older debates on the significance of ancient economic growth and long-distance trade, in which key twentieth-century figures such as M.I. Finley, M. Rostovtzeff and K. Hopkins continue to loom large and provide compelling insights. More recently, the debate has been re-cast around questions of state involvement vs free markets, and the extent of market integration, as this pair of edited collections demonstrates. On the one hand, *Trade, commerce and the state in the Roman World* (edited by Andrew Wilson and Alan Bowman, hereafter TCS) takes a big picture view on the role of the Roman state in long-distance trade, arising from a conference that took place in 2009 as part of the UK Arts and Humanities Research Council-funded project, ‘The Economy of the Roman Empire: Integration, Growth and Decline’. In contrast, *The economic integration of Roman Italy* (edited by Tymon de Haas and Gijs Tol, hereafter EIRI) brings together a series of typically smaller-scale studies focused on understanding the impact of economic changes on rural communities in Roman Italy. It emerges from another conference, held in 2013, this time as part of the Netherlands Organization for Scientific Research project ‘Fora, Stations, and Sanctuaries: the Role of Minor Centres in the Economy of Roman Central Italy’.

¶1351: Historical ecology and archaeology in theory and practice

¶1352: Although historical ecology has become a highly popular framework for contemporary archaeological research, archaeologists have always, in some form or another, been engaged with its study. Historical ecology and archaeology are inseparable; the techniques and methods of the latter are essential for accessing the deep time of human-environmental relationships, while interest in the former is implicated, whether explicitly or not, in all empirical, field-based archaeology. Two recent edited compilations, bringing together authors from a range of disciplines with a common interest in

historical ecology, contribute significant theoretical and practical insights related to its study for archaeologists.

¶1353: First islanders: prehistory and human migration in Island Southeast Asia.

¶1354: Daily life at the turn of the Neolithic. A comparative study of longhouses with sunken floors at Resengaard and nine other settlements in the Limfjord region, South Scandinavia.

¶1355: The donkey in human history: an archaeological perspective.

¶1356: Isotopic investigations of pastoralism in prehistory (Themes in Contemporary Archaeology 4).

¶1357: Dress and society: contributions from archaeology.

¶1358: A lake dwelling in its landscape: Iron Age settlement at Cults Loch, Castle Kennedy, Dumfries & Galloway.

¶1359: Writing and power in the Roman world: literacies and material culture.

¶1360: Rituals of the past. Prehispanic and colonial case studies in Andean archaeology.

¶1361: Recent investigations of the south Indian Middle Palaeolithic: the Middle Godavari basin

¶1362: This article focuses on the Middle Palaeolithic of a region of south India, highlighting diverse stratigraphic contexts and lithic reduction sequences suggestive of high mobility and planning in raw material usage.

¶1363: Microscopic examination of Mesolithic serpent-like sculptured stones from southern Ukraine

¶1364: Two ophidian sculptured stones have been recovered from Mesolithic stratigraphic units at the site of Kamyana Mohyla 1 in southern Ukraine. Microscopic examination revealed traces of shaping and intentional ornamentation on the stones when compared to experimentally worked sandstones of similar quality. The finds broaden the distribution of movable rock art objects in the European Mesolithic.

¶1365: Prehistory at high altitude: new surveys in the central-southern Apennines

¶1366: The 'Molise Survey Project' aims, through systematic survey, to document evidence for the prehistoric occupation and exploitation of the Apennine Mountains. Here, we present some of the first results of the archaeological surveys, with a focus on the evidence from the Middle Palaeolithic to the Bronze Age.

¶1367: The first human settlement of Formentera during the Bronze Age

¶1368: The ArqueoBarbaria archaeological project aims to characterise the economic strategies and environmental context of Formentera's first human settlers at two Bronze Age sites (Cap de Barbaria II and cave 127) using an interdisciplinary approach.

¶1369: Berenike Trogydytika: a Hellenistic fortress on the Red Sea coast, Egypt

¶1370: The ruins of Berenike Trogydytika have long attracted travellers searching for the remains of the famous Graeco-Roman port on the Red Sea. It was not until 2012, however, that the Berenike Project team were able to identify the location and size of the legendary Berenike of the Ptolemies.

¶1371: Myanmar's earliest Maritime Silk Road port-settlements revealed

¶1372: This article presents the results of the first excavations at Maliwan and Maliwan, the earliest port-settlements from southern Myanmar in the Isthmus of Kra, showing their involvement in extensive networks as far as the West and China during the last centuries BC.

¶1373: Archaeometry of Roman Aquitania-Tarraconensis coarse ware pottery from the northern Iberian Peninsula and southern Aquitania

¶1374: This project studies the early Roman non-wheel-thrown Aquitania-Tarraconensis-type (AQTA) pottery from the Bay of Biscay region. The 'ollae'-type AQTA ceramics display clear evidence of specialised production, consumption and interregional exchange by both terrestrial and maritime routes throughout the region.