

THE SUSTAINABILITY OF FILM HERITAGE:

CULTURAL POLICY, DIGITALISATION AND VALUE

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Contents	
THANKS AND ACKNOWLEDGEMENTS	6
LIST OF ABBREVIATIONS	8
LIST OF FIGURES	10
LIST OF TABLES	11
ABSTRACT.....	13
1. RESEARCH BACKGROUND AND RATIONALE.....	15
1.1 Research Rationale	15
1.1.1 Motivation and Problem Statement.....	15
1.1.2 Research Questions and Contribution	18
1.2 Historical Background and Terminology	19
1.2.1 The Formation of the Field and the Advent of Digital Cinema	19
1.2.2 Definitions: Film, Heritage and Digitalisation.....	22
1.3 Main Argument and Outline of the Thesis	30
2. A SUSTAINABLE STEWARDSHIP FRAMEWORK: POLICY, ORGANISATION AND OUTREACH	33
2.1 On Sustainability and Digital Preservation	33
2.2 Neoliberalism and the Cultural Sector	43
2.2.1 Neoliberalism	43
2.2.2 Managerialism.....	46
2.2.3 Instrumentalism and Innovation.....	50
2.2.4 Corporatisation.....	55
2.2.5 Summary of Section	59
2.3 Organising Film Acquisition and Preservation	60
2.3.1 Traditional Film Heritage Management	60
2.3.2 Digital Trustworthiness and Organisational Models.....	62
2.3.3 Sustainability of Digital Film Materials.....	69
2.3.4 Summary of Section	77
2.4 Film Heritage and Outreach	78
2.4.1 Digital Optimism.....	78
2.4.2 Academic Debates Surrounding Film Heritage.....	81
2.4.3 The Debate within FIAF	86
2.4.4 Summary of Section	90
2.5 Conclusion.....	90

3. METHODOLOGY	93
3.1 Outline and Purpose of the Chapter	93
3.2 Type and Approach of Research	95
3.3 Research Design	100
3.3.1 Elite Interviews.....	102
3.3.2 Policy Documents.....	109
3.3.3 Sample.....	111
3.4 Thematic Analysis	114
3.5 Ethics	117
4. THE INSTITUTIONAL ENVIRONMENT.....	121
4.1 Introduction	121
4.2 - Governments and Their Agendas.....	121
4.2.1 European Film Industry and the Economic Function of FHIs.....	121
4.2.2 From a Lack of Effective Communication to “Public Scrutiny”	125
4.2.3 Economic Instrumentalism and Digital Optimism	128
4.2.4 Mergers and Acquisitions (M&A)	134
4.2.5 Public / Private Partnerships.....	137
4.3 Sectoral Organisations, Peer Heritage Institutions and Higher Education	140
4.3.1 Weakness and Strengths of International Professional Organisations.	140
4.3.2 Relations with Other Types of Heritage Institutions and Higher Education	144
4.4 Summary and Ways Forward.....	148
5. ORGANISING AND MANAGING ACQUISITIONS AND PRESERVATION	157
5.1 Introduction	157
5.2 Analogue Film Collections.....	158
5.2.1 The Tsunami of Acquisitions and Conservation.....	158
5.2.2 Digitisation: Preservation, Access or Both	161
5.3 Born-Digital Materials	168
5.3.1 Deposit Legislation.....	168
5.3.2 Amateur Materials	171
5.4 Digital Preservation	172
5.4.1 Technology and Technical Infrastructure	172
5.4.2 The Economics of Digital Preservation.....	177
5.4.3 Organisation and Strategy.....	182

5.5 Labour	185
5.5.1 Digitisation Work	185
5.5.2 Integrating New with Old Competences in Precariousness.....	189
5.6 Technological Reductionism and Post-Custodialism	192
5.7 Summary and Ways Forward.....	195
6. DISSEMINATION, VALUES AND OUTREACH	203
6.1 Introduction	203
6.2 Copyright and Funding for Digital Dissemination	203
6.3 Economic Value.....	210
6.3.1 Non-Theatrical Dissemination.....	210
6.3.2 Theatrical Exhibitions.....	214
6.4 Way Forward: a More Complex Value Proposition.....	217
6.4.1 Historical Evidence: Authenticity, Integrity and Provenance	220
6.4.2 Social Education: Aesthetic Excellence, Historical Salience and Cultural Identities	223
6.4.3 Self–Emancipation: Learning Assistance, Community Building, Cultural Participation.....	227
6.5 Summary.....	230
7. CONCLUSION	233
7.1 How are FHIs responding to the changing technological and cultural landscape in which they operate?.....	234
7.2 How might FHIs achieve sustainability?	237
7.3 Limitations and Future Research	239
BIBLIOGRAPHY.....	243
APPENDIX ONE: THE INTERVIEWEES	265
APPENDIX TWO: THE QUESTIONNAIRES.....	267
APPENDIX THREE: LIST OF POLICY DOCUMENTS	273

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LIST OF ABBREVIATIONS

ACE - Association des Cinémathèques Européennes
AMPAS - Academy of Motion Picture Arts and Sciences
APARSEN - Alliance Permanent Access to the Records of Science in Europe Network
BRTF - Blue Ribbon Task Force
BUFVC – British University Film and Video Council
CCAAA - Co-ordinating Council of Audiovisual Archives Associations
CCSDS - Consultative Committee for Space Data Systems
CNC - Centre National du Cinéma et de l'Image Animée
CS - Corporate Sponsorship
DAEFH - Digital Agenda for European Film Heritage
DCI - Digital Cinema Initiative
DCMS - Department of Culture, Media and Sport
DCP - Digital Cinema Package
DFI - Danish Film Institute
DPC - Digital Preservation Coalition
DSA - Data Seal of Approval
DSM - Digital Source Master
EFG - European Film Gateway
FH - Film Heritage
FHI - Film Heritage Institution
FIAF - International Federation of Film Archives
BFI - British Film Institute
IASA - International Association of Sound and Audiovisual Archives
ISO - International Organization for Standardization
KDM - Key Delivery Message
LTO - Linear Tape-Open
MACE - Media Archive of Central England
MHS - Major Hollywood Studios
MPPAA - Motion Picture Association of America
NSFA - National Sound and Film Archive (Australia)
OAIS - Open Archival Information System

PPP - Public/Private Partnership

SFI - Swedish Film Institute

SIAE - Società Italiana degli Autori ed Editori

UNESCO - United Nation Scientific and Cultural Organization

UNIC - International Union of Cinemas

VoD - Video on Demand

LIST OF FIGURES

Fig. 1 - Types of Digitisation and Digital Restoration	30
Fig. 2 - Sustainability Framework	43
Fig. 3 - OAIS Functional Model	64
Fig. 4 - AMPAS Network (CouncilNet) (adaptation from AMPAS, 2010)	70
Fig. 5 - AMPAS ACCeSS System Components (adaptation from AMPAS, 2010)	71
Fig. 6 - Edcine System Architecture (adaptation from Foessel and Nowak, 2008)	74
Fig. 7 - Analytical Process	117
Fig. 8 - Classic Films Box Office	216

LIST OF TABLES

Table 1 - Infrastructure Design Typology 67
Table 2 - BFI Access Table 211

ABSTRACT

Digital preservation is posing major challenges to audiovisual institutions. However, debates surrounding infrastructural sustainability and stewardship in relation to film heritage (FH) are still underdeveloped. In light of this, the thesis examines changes in external relationships and the internal processes of film heritage institutions (FHIs). The methods used are document analysis and elite interviews. The former allows investigation of the broad institutional climate in which FHIs operate. The latter allows analysis of the insights and values of established professionals who are key figures in policy formation.

The findings of the thesis are structured in three blocks. Firstly, the institutional context. FHIs have been influenced by neoliberal cultural policies, in three main ways: (1) they are *de facto* asked to prioritise digital access over other activities; (2) they have been pushed towards collaborative provision to pursue economies of scale; (3) they have been pushed towards a more frequent use of public/private partnerships. Meanwhile, the relationships with other important institutional players (universities and the film industry), seem to remain substantially intact. Secondly, organisation. The rapid increase in preservation costs is not being met by public subsidy or other forms of income. Indeed, new economic resources are provided mainly to support digital access so that preservation solutions are, in most cases, temporary and fragmented initiatives. As far as the analogue collections are concerned, the readjustment of some archival practices does not correspond to substantial changes in archival principles. Thirdly, dissemination. Due to the configuration of the institutional context, online access, for the time being, is only offering limited opportunities. More opportunities, in the long run, might be offered by theatrical presentations due to lowering distribution costs.

The thesis offers three main proposals for action in relation to each of the previous blocks: (1) systematic lobbying and development of stronger relationships with academia to gain legitimacy and to encourage regulations for the IT sector; (2) setting up publicly-owned digital preservation infrastructures and, when possible, safeguarding analogue processing capacity to avoid mass digitisation; (3) elaboration of a richer articulation of the cultural and social value of film heritage.

1. RESEARCH BACKGROUND AND RATIONALE

1.1 Research Rationale

1.1.1 Motivation and Problem Statement

This thesis explores the current state and the immediate future of film heritage (FH) and film heritage institutions (FHIs). In general terms, these institutions are all engaged in collecting, preserving and disseminating film materials and film culture.¹ The main concern is that today, the digital turn in the film industry is causing a period of technological, organisational and cultural churn. These institutions might be forced to make significant changes that involve a broad range of their activities.

Since the beginning of the 1900s film has had a profound impact on society, influencing social habits, aesthetic tastes, language, and social and political consciousness (even unconsciousness). This is why film gained attention from academia. As acknowledged by UNESCO (1984), it cannot be doubted that FHIs have played a key role in providing access to film history and in fostering its understanding. We can say with some certainty that over the years FHIs have made an enormous contribution in the development of film culture, media studies and the European film industries (which have often redistributed materials preserved by FHIs).

As far as film culture is concerned, FHIs have functioned as an initial source of inspiration for artists who have then contributed to innovative film industry productions. One famous example is that of the *Nouvelle Vague* filmmakers, who came together thanks to their close relationship with the Cinémathèque Française (Roud, 1999). As far as the public is concerned, we can mention the thousands of films reissued on various forms of optical media (for example DVD), which have been preserved in public film archives at a time when the industry, before the advent of

¹ In the context of this thesis I shall use the term FHI to refer to non-profit and public film archives, museums, libraries and cinémathèques. A list of European FHIs is found here: <https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/institutions.pdf> (22/11/2016)

television, had no interest in preserving material with no commercial value (Pierce, 1997). Audiovisual materials preserved in archives have not only been important for film historians but for historians *tout court*. Famous examples include those studies conducted on propaganda in war times (Pronay and Spring, 1982; Chapman, 1998). In general, as Thompson and Bordwell (1992) have written, “[t]he world’s film archives are indispensable to the advancements of rigorous and detailed knowledge of film history” (43). As Enticknap (2009) has argued, FHIs are (and will potentially be) the only organisations possessing the knowledge to assess the authenticity, the integrity and provenance of film materials in the future. Their staff possess important technical and historical understanding of the development of film as a medium and as a complex artefact. For example, a lot of work on the aesthetic properties of cinematographic archival items has been done in the context of film restoration (Read and Meyer, 2000; among others see Enticknap, 2013) although theoretical debates still persist (McKernan, 2013).

What are the issues with film archives adopting digital technologies? The knowledge accumulated by these institutions, both technical and intellectual, has always revolved around photosensitive film (nitrate, acetate and polyester), as well as the equipment needed to handle, project and restore it. To date, polyester film is still the most reliable means of conservation in the audiovisual sector (FIAF, 2009). However, at the end of the 1990s the technological base of the film industry started to change and this change is now affecting film archiving. The digital intermediate process (DI)² started to go mainstream, high-performance digital cameras started to be used in film production, and finally 2K Digital Light Processing (DLP) projectors started to become available on the market thanks to the IT giant Texas Instruments. Cinema production and distribution started an irreversible process of digitalisation. Film stock manufacturers now seem to be leaving the market. Fuji left film stock production definitively in 2013³ and it is unknown whether the deal that Kodak has recently reached with some of the major Hollywood studios (MHSs) on the temporary continuation of film stock supply (Variety, 2015), or the re-launch of other enterprises

² The DI is a post-production process that consists of digitising a new motion picture film through a data scanner, editing and manipulating the images thanks to digital tools, and recording the data back onto film for distribution and projection.

³ <http://www.fujifilm.com/news/n130402.html> (27/02/2015).

such as the Italian Film Ferrania, will be enough to keep film stock available (and affordable) for the non-profit and public sector. As a consequence, FHIs are asked to acquire and preserve increasing amounts of digital material. However, the speed and complexity of such technological changes are shaking consolidated practices. It is therefore important for researchers to understand how FHIs are changing in response to the new ecosystem, as well as to ask what the consequences for FH might be. Digital preservation is surely the most critical challenge facing contemporary FHIs. The problems it entails can be summarised as follows: the short life expectancy of digital carriers together with the fast obsolescence of operating software and file formats, are leading to complex curatorial and maintenance challenges. In turn, such complexity translates into very high costs of ownership which are mostly driven by high power consumption and labour costs (Harvey, 2012, 39-55). I shall talk about this in greater detail in section 2.1.

Digital technology has of course already impacted on FHIs and has given rise to several (unstructured) interrelated debates. In my opinion, we can distinguish three main areas of those debates: a theoretical or ontological debate (Fossati, 2009; Cherchi Usai, 2002; Hediger, 2005; Costa, 2004, 7-10); a debate which revolves around issues of power relations which currently are focusing on, even if they are not limited to, accessibility and digital optimism (Gracy, 2007b; Popple, 2011);⁴ lastly, a debate surrounding the issues of infrastructural sustainability and stewardship.⁵ Among such debates, the latter seems to be less developed (unlike in related areas such as television and print libraries).

There are three significant studies published by the Academy of Motion Picture Arts and Science (AMPAS) that take into account the US situation. Another study was commissioned by the European Commission, entitled Digital Agenda for the European Film Heritage (DAEFH) and edited by Nicola Mazzanti (2011b). Mazzanti himself wrote that the study “[...] remains one of the only efforts, to analyse the

⁴ A classic debate in archival studies: “Effective democratization can always be measured by this essential criterion: the participation in and access to the archive, its constitution, and its interpretation” (Derrida, 1996, 11).

⁵ Here I take the Bastian et al. (2011) definition of stewardship: “[...] we noted why we decided to use the broader term *stewardship* rather than *curation* or *preservation*. Digital stewardship needs to be concerned with the broader issues that shape communities and should include a keen awareness of what users (the community) require or demand, as well as an appreciation of the historical influences of social and policy issues” (615).

systematic issues involved in conserving digital born works and ensuring accessibility to analogue films in the long run” (2015). As I will demonstrate in the thesis, even though my research focuses on sustainability and stewardship, this will have implications for the other debates mentioned in the previous paragraph.

1.1.2 Research Questions and Contribution

In light of the challenges to sustainability that the move towards digital practice seems to represent, this thesis will address the following research questions:

(Q1) *How are FHIIs responding to the changing technological and cultural landscape in which they operate?*

Q1.1 *How are external relationships being reshaped?*

Q1.2 *How are internal processes, from acquisition policies to dissemination strategies, changing as a consequence of digitalisation?*

(Q2) *How might FHIIs achieve sustainability?*

By answering these questions the thesis aims to achieve three main objectives: (1) to fill a gap in the literature concerning the sustainability of FH in the digital era; (2) to provide a normative account which I hope will stimulate debates among professionals and policy makers; (3) to encourage a new approach to the study of film heritage that focuses on public policy and management. As far as the first objective is concerned, the attempt to focus attention on infrastructural and managerial issues will, in my opinion, enhance debates that too often neglect the material constraints of such institutions by focusing on purely curatorial and/or purely technological aspects. As for the second objective, it is important because these institutions are almost entirely financed by public money and because they need legislative frameworks in order to form relationships with the film industry whose products they safeguard. As we will see in section 1.3.2, the importance of focusing on public policy is underpinned by the acknowledgment of the social value of culture and cinema (UNESCO, 1980).

The research is based in Europe, where a cultural policy paradigm in relation to FH digitalisation seems to be in the process of emerging, with the EU playing a role alongside individual countries. Also, in Europe such institutions operate in similar institutional contexts, where film and film preservation is largely supported by state funding. In some cases, public institutions are involved in major projects with pivotal roles and responsibilities (e.g. Images for the Future in the Netherlands). I will be using two primary methods to answer these questions, namely document analysis and elite interviews. The former allows investigation of the broad institutional environment in which these institutions operate. The latter allows analysis of the insights and values of reputable professionals who are key figures in policy formation. Before outlining the structure of the thesis, I will provide both a brief historical account of the field and some definitions of key terms with the aim of strengthening clarity and to substantiate the chosen approach.

1.2 Historical Background and Terminology

1.2.1 The Formation of the Field and the Advent of Digital Cinema

Before proceeding to the next chapter, it is important to outline the history of the field of film archiving and explore some terminological questions. The historical dimension is important given the overall aim of examining current or potential future changes and resistance. Providing some terminological definitions will help to avoid imprecisions and misunderstanding, and, to some extent, offer a more accurate understanding of some intellectual and methodological choices made within this thesis.

Film archives and cinémathèques were established in major European cities and in New York during the 1930s. As Borde (1983) and Hagener (2014) have noted, the institutional and cultural contexts within which they flourished are diverse. To some extent, this still has consequences for the configuration of the field in recent times. Two major institutions were created directly by the state, the Reichfilmarchiv in Berlin (in 1935) and the National Film Library (1935) in London. In Stockholm

and New York, films were collected by traditional art and science museums and preserved within specialised departments, respectively the MOMA's Film Library and the Filmhistoriska Samlingarn (1933). The remaining three important European institutions founded in Milan (Cineteca Milanese, 1935), Paris (the Cinémathèque Française, 1936) and Brussels (Cinémathèque de Belgique, 1938), were founded by private groups of cinephiles, leftist intellectuals and silent cinema enthusiasts. These institutional cultures manifested different priorities, curatorial values and managerial styles (the so-called Lindgren-Langlois debate that I will address in the next chapter expresses some of these differences). Despite this, on 17th June 1938 the main film archives (Berlin, New York, Paris and London) founded the Fédération Internationale des Archives du Film (FIAF). The first FIAF conference took place the following year in New York, which arguably marks the definitive establishment of the field of film archiving. As Eileen Bowser (2003) has argued, this coming together represents the moment when "people began to consider that film archiving was a profession and that their work should be done more professionally" (137). The field has continued to develop since the foundation of FIAF and has created its own knowledge and culture (i.e. technical and archival standards, codes of ethics and specialised vocabulary). Its value was recognised by the international community on the 27th October 1980, with the publication of UNESCO's *Recommendation for the Safeguarding and Preservation of Moving Images*.⁶

National film archives are currently found in all European countries, where we indeed find legal arrangements to acquire national film productions, to safeguard and disseminate them. Two important characteristics of the field are worth stressing here. The first is that the organisations that are part of this field are characterised by very differing organisational models and are acting in very diverse institutional contexts. The second characteristic, as Houston (1994) and Jeavons (2007) have pointed out, is that these institutions' concern for popular and mass culture did not help them to climb the hierarchy of social and cultural prestige, dominated by the more respectable traditional libraries, archives and, especially, fine arts museums.

⁶ Since 2005, the 27th of October has been chosen as the UNESCO World Day for Audiovisual Heritage.

As for other heritage sectors, it is useful to distinguish between large national and smaller regional or local institutions. A large institution like the BFI archive preserves around 60,000 fiction and more than 120,000 non-fiction films. It employs more than 40 people and has an annual budget of about £4 million. At the regional or local level the situation is more diverse. Here we can find very small FHIs that preserve a range of different types of materials from 8mm to 16mm or video materials with 4-5 permanent staff members. However, some regional or small archives have grown significantly and gained prestige (e.g. Cineteca di Bologna).

We can distinguish between a variety of organisational models and cultural missions both among national and regional institutions (Gracy, 2007a, 23-31; Cherchi Usai, 2001a, 1012-1020). They can be independent organisations like the Cinémathèque Française, or part of a broader organisation like the Swedish Film Archive (which is part of the Swedish Film Institute) and the British National Film and Television Archive (which is part of the British Film Institute). At the local level, there are a number of organisational arrangements that range from independent organisations financed by local governments to university film archives.

Besides the historical reasons just mentioned, this may be due to the consequence of the multifaceted nature of film, and the way in which different social groups attribute different values to it, for example artistic, documentary or economic (Fossati, 2009, 155). As a result an inherent uncertainty of mission, value proposition and policy principles can be found. If we look at the FH community of institutions, we have some that call themselves film archives, film museums, moving image museums, moving images archives, film libraries, cinémathèques, cinema museums (Cherchi Usai, 2010; Kula, 1995). In the context of this thesis I shall use the term Film Heritage Institutions (FHIs), most frequently used in the European context, to refer to non-profit and public film archives, museums, libraries and cinémathèques. In general terms, these institutions are, as mentioned above, all engaged in collecting, preserving and disseminating film materials and film culture. In Anglo-Saxon countries the term “film archive” dominates. However, due to the variety of their missions, principles and functions, the term “archive” seems to be reductive and somehow misleading.

As far as cultural hierarchies are concerned, they have obviously had an effect on the amount of public subsidies provided by governments to these institutions. The

first real struggle for film makers and cinephiles was to convince cultural elites and traditional heritage institutions that film was actually an important artistic expression and historical record (Gracy, 2013; Matuszewski, 1995[1898]; Bottomore, 1995). The difference between film and other established art forms has certainly softened since those days but elements still persist. This seems quite evident if we think, for example, that the budget of the British Museum is roughly ten times larger than the British National Film and Television Archive (the only national institution in Britain that systematically collects film material). I of course do not want to argue that too many resources are allocated to museums. This information only provides a measure of the gap between the institutions. One might counter-argue that governments, in the European context, generously subsidise the film sector. This is certainly true, but it must also be noted that only a tiny proportion of public resources devoted to cinema goes to heritage stewardship (European Commission, 2014, 29).

1.2.2 Definitions: Film, Heritage and Digitalisation

As briefly mentioned above, Fossati (2009, 155) wrote about the conceptual uncertainty with which the term film is used within the FH sector. The same conversation took place within heritage studies in relation to the very concept of heritage. The way I conceptualise those two terms has important implications for the focus and approach of the research as it relates to the question of what ought to be safeguarded by FHIs. In general terms I would like to emphasise (1) the social dimension of film and (2) the interpretative nature of heritage processes and its connection with power structures. The former point is at the heart of both my methodological approach (which relies on interviews with professionals) and the stress on the social value of film (see Chapter Six). The latter justifies the choice of devoting substantial space to broad political discourses affecting the cultural sector. At the end of this section I define several “digital” terms, as they are sometimes used vaguely in the literature. This can lead to misunderstandings of key arguments.

Film

As mentioned earlier, the advent of digital cinema has fostered what I referred to as an ontological debate in the film heritage community (however unstructured this may be). I think that these debates neglect the social dimension of film by taking, in different degrees and ways, “object-centred” approaches. Instead, I shall argue for a people-centred approach which draws on cultural studies in order to expand the boundaries of the debate.

The most extensive publication which addresses this ontological debate is *From Grain to Pixel: The Archival Life of Film in Transition* by Giovanna Fossati (2009). Fossati, grounding her analysis in film theory and semiotics, argues that film scholars and professionals are divided into two positions. On the one hand there are those who think that the technological turn constitutes a change of paradigm in media history, a profound rupture. This technological change informs creative processes, distribution systems, and cultural experiences. David Rodowick wrote: “[b]y “cinema” I mean a photographically recorded filmstrip in a theatrical setting” (Rodowick, 2007, 26).⁷ From this position then, digital technology has “executed” cinema as we knew it and has given rise to a new cultural form. Cherchi Usai (2001b; 2002) argues for a strong musicological approach to film heritage stewardship and encourages FHIs to act to avoid the discontinuation of photosensitive film as an indispensable tool to assure the authenticity of the film experiences. Such problems, which to some extent are nothing new in film archiving, are exacerbated, in Cherchi Usai’s opinion, by the advent of digital technology that is increasingly and unquestioningly considered as beneficial. In my view, it is hard not to detect clear traces of technological reductionism in this position.⁸

⁷ In Rodowick’s opinion, the way digital and analogue cameras record images, movement and sound has radical implications for cinema: “The analogical arts are fundamentally arts of intaglio, or worked matter – a literal sculpting by lights, hills and valleys in raw film whose variable density produces a visible image. But the transformation of matter in the electronic and digital arts takes place at a different atomic register and in a different conceptual domain. Whereas analogue media record traces of events, as Binckley puts it, digital media produces tokens of numbers: the constructive tools of Euclidian geometry are replaced by the computational tools of Cartesian geometry.” (Rodowick, 2007, 9). See also Streible (2013).

⁸ Technological *reductionist* analysis of this kind are rooted in a technological *determinist* conception of cultural change (the terms will be interchangeable in this thesis). “The basic assumption of technological determinism’, wrote Williams, ‘is that a new technology – a printing process or a communications satellite – emerges from technical study and experiment. It then changes the society or the sector into which it has emerged. “We” adapt to it because it is the new modern way.’” (Raymond Williams in Winston, 1996, 2). If one,

On the other side of the debate, scholars and professionals inscribe “digital technology in a broader media landscape where film is one of the participants” (Fossati, 2009, 16). For these writers (including Frank Kessler, Tom Gunning, and Thomas Elsaesser) the advent of digital technology, although provoking a profound change, “does not mark the end of film” (Fossati, 2009, 16). Instead, those that subscribe to this position encourage a deep engagement with new cultural forms and explorations of relationships between film and networked media. Fossati sympathises with the second of these two perspectives. She puts forward her own ontological model through which she aims to frame the multifaceted nature of film, claiming that “as a complex technological artefact, film has always been the site of interpretative contestation, and is now, once again, because of digitization” (2009, 155). Fossati defines four paradigmatic ways to look at film in the archival sector (in transition): “film as original”, “film as art”, “film as *dispositif*”, and “film as state of the art”. However, even this complex and compelling ontological model neglects the fundamental social dimension of film, focussing mainly on “objects” (physical or experiential) rather than “people”.

It is what has been called the “film as social practice” framework (Turner, 2006; Rosenbaum, 2012) that I am leaning towards and I am advocating for in this work. This approach derives from cultural studies as a school of thought which identified the importance of studying popular culture experiences as social phenomena (avoiding a critical celebration of popular culture). Raymond Williams (1977) famously argued “[l]anguage, then, is not a medium: it is a constitutive element of material social practice. [...] Language is in fact a special kind of material practice: that of human sociality” (154). More to the point, Graeme Turner, another major figure in cultural studies, has argued that “[f]ilm is a social practice for its makers and its audience: in its narratives and meanings we can locate evidence of the ways in which our culture makes sense of itself” (4). We have two elements here: the creative cinematographic labour process (film makers); and the experiences that film is meant to create for audiences, experiences which are mediated by distributors.

consciously or unconsciously, agrees with the above “basic assumption”, one will tend to make analyses overestimating technological aspects and underplaying other factors.

As far as creative labour is concerned, it has been usefully defined as “communication of experience through symbolic production” (Hesmondhalgh and Baker, 2011, 61).⁹ At the highest level of abstraction, creative cinematographic workers accomplish this by: (1) creating or capturing through a camera desired images normally dictated by a script; (2) processing and editing such images into a conceptual unit; (3) recording them back onto a meant-to-be reproducible support that allows their projection and the appearance of moving images on a screen. Film production takes place predominantly within an industrial context, from production to exhibition. This is a rather complex collective process that entails technical, managerial and intellectual work in which non-creative labour is also employed. This, following Hesmondhalgh and Baker (2011), is to be considered functional to creative labour which is at the core of cultural production.

As far as the film experience is concerned, Turner (2006) talks about the cinematic experience as holding peculiar features when compared to other moving image experiences. He stresses, referring to Andrew Tudor (1974), the non-ordinary nature of cinema experiences as often considered to be outdoor special “events” or “spectacles”. Each type of audience attaches or connects such events to other practices such as enjoying a drink in a café or bringing children to a restaurant. Film work materialises into moving images which are crafted to be *ideally* shown in designated spaces where the theatrical setting provides the ideal-type experience. These materials might also be experienced in a variety of different platforms and channels (DVDs, for example, might be regarded as the equivalent of fine art books in cinema). This is of course sociologically and economically fundamental but, as the substantial attendance at movie theatres appears to tell us, the theatrical is still considered the film experience *par excellence* (Belton, 2014, 466-467; 2002). Also, film materials are normally not *primarily* produced by their own creators to be broadcasted to or shared with dispersed audiences as other audiovisual products

⁹ From a Marxian perspective, labour refers to those activities in which “Man opposes himself to Nature as one of his own forces, setting in motion arms and legs, head and hands, the natural forces of his own body, in order to appropriate Nature’s production in a form adopted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature.” (Marx in Mitchell, 2003, 239). See also Banks (2007) monograph on cultural work.

(radio or television). So, in general terms, I refer to film as a synonymous with cinema and as a metonym for something broader: the social conditions thanks to which the culture, science and business of cinematographic labour have developed, have been perpetuated and came to be meaningful to people. The knowledge and diffusion of the value of this social phenomenon is the object of concern of FHIs.¹⁰ I do not intend to marginalise the importance of the physical manifestations of heritage. I simply mean to reject what one might call a “physicalist” approach to heritage as one primarily focused on the intrinsic characteristics of the medium or of aesthetic forms.

Another implication of “object-centred” approaches is the marginalisation of the political nature of heritage as “present-centred” processes of signification. Caroline Frick’s (2010) book is a notable exception. She draws on helpful discussions developed within the heritage studies community. However, I consider it useful to recapitulate them in the next section as I think Frick slides towards a purely relativist conception of heritage.

Heritage

The discussion regarding the nature of cultural heritage is substantial and major works have been published both by international organisations (UNESCO *in primis*) and academic circles (among others Lowenthal, 1996; Hewison, 1987; Harrison, 2013). However, it is not always obvious that heritage primarily refers to intellectual actions rather than objects inherited from the past (see for example UNESCO, 1972). It is important to explore briefly such debates to show why this work focuses so much on present political processes. As Harvey (2001) has pointed out in an influential paper, an “old model” of heritage is still present in current policy documents and publications. It is also rooted in “common sense” public debates. This model has two

¹⁰ More pragmatically film includes: features and short films and fragments; animation, factual, fictional or abstract works; industrial (independent or mainstream) and amateur works. Film and moving images do not include video installation (which I use here as synonym of video art). In a “video installation” moving images are only part of a broader work which includes “non-film” elements which are not reproducible (or are not meant to be reproducible). Indeed, the uniqueness of these tangible elements determines “its presence in time and space, its unique existence at the place where it happens to be.” (Benjamin, 2011[1936], 4). Live shows as 3D wall projections or “VJing” are also excluded.

main characteristics: it is both object-centred, as we have seen in the previous section, and past-centred. The latter refers to the tendency of many heritage writers to focus on the past as heritage has to do with something that past generations have left to us.

Harvey (2001) provides a very useful (critical) definition of heritage as a “cultural process [...] [that] is a present centred cultural practice and an instrument of cultural power” (336). He underlines the political nature of heritage identified in the action of subjectively assigning cultural values to “objects, places and practices”, to use Harrison’s triad (2013). Heritage appears as the process of shaping the present via establishing cultural relationships with other non-presents, pasts or futures (see Graham et al., 2000, 3, for a visualisation of the heritage process readapted from Hall, 1997). Heritage processes may therefore have social and political implications, in that they can be used perniciously in order to create “false traditions” in order to gain political consent (Hobsbawm, 1983), to encourage nationalism or social exclusion (Blake, 2000), or to be used as a commodity to serve economic interests (Hewison, 1987).

However, conceptualising the heritage process as simply subjective and inevitably instrumental to power is inaccurate. The relationship between the heritage process and history seems to be important to consider here. David Lowenthal, writing on this key topic, has noted that “[h]istory explores and explains pasts grown ever more opaque over time; heritage clarifies pasts so as to infuse them with present purposes” (Lowenthal, 1996, xi). He further argues that “testable truth is history’s chief hallmark” (the fact that in practice this is often difficult to achieve is another matter). So, as noted by Graham et al. (2000), heritage can function either as an intellectual tool to reaffirm power structures, or as a critical tool to reveal instrumental uses of “history turned into nature through an amnesia of genesis” (Bourdieu in Mitchell 2003, 241). The answer to purely ideological and instrumentalist uses of the past is well formulated by Hewison (1987):

The answer is not to empty the museums and sell up the National Trust [*because of instruments of power*], but to develop a critical culture which engages in a dialogue between past and present. We must rid ourselves of the idea that the present has nothing to contribute to the achievements of the past, rather, we must accept its best elements, and improve on them ... The definition of those values must not be left to a minority who are able through their access to the

otherwise exclusive institutions of culture to articulate the only acceptable meanings of past and present. It must be a collaborative process shared by an open community which accepts both conflict and change (1987, 144).

An example of the critical potential of heritage is the 1978 FIAF conference in Brighton, which brought together archivists and film historians of the calibre of Tom Gunning and Charles Musser. Thanks to this dialogue, a “revisionist history” of early film was written (Chapman, 2013, 12).

In light of the above, I distance myself from both a purely relativist and interpretative conception of heritage and the passive acceptance of existing canons and intellectual frameworks. It is the dialectical relationship between interpretative and factual knowledge of the past that is in focus here. This dialectical relationship is shaped and influenced by political processes. As we will see in Chapters Two and Four, an understanding of the cultural policy paradigm is indeed essential to comprehend such dialectical process.

A Dictionary of Digital Terms

In order to avoid potential misunderstandings and vagueness in the arguments presented, I will define a number of important terms which are associated with “the digital”. This vagueness is sometimes found in the literature and, more frequently, in policy documents. The term digitisation, for example, can be used to describe a wide range of activities, from telecine transferring, to high quality digital copies of analogue materials. Also, the term “digitisation” in some contexts is used as synonym with “digitalisation”, and in other contexts they mean different things.

Following Brennen and Kreiss (2014, no pagination) I consider the process of digitalisation to be “the material process of converting individual analogue streams of information into digital bits. In contrast, we refer to *digitalisation* as “the way in which many domains of social life are restructured around digital communication and media infrastructures.” Specifically in relation to FHIs, here I refer to the concept of digitalisation as the entire processes of adapting FHIs to a predominantly digital ecosystem. Paolo Cherchi Usai (2013, 11), in specific reference to FH, has distinguished between the terms *digitisation*, *digital restoration* and *digital preservation*. This categorisation is a useful starting point, however the term digitisation needs to be further articulated. So, building on Brennen and Kreiss

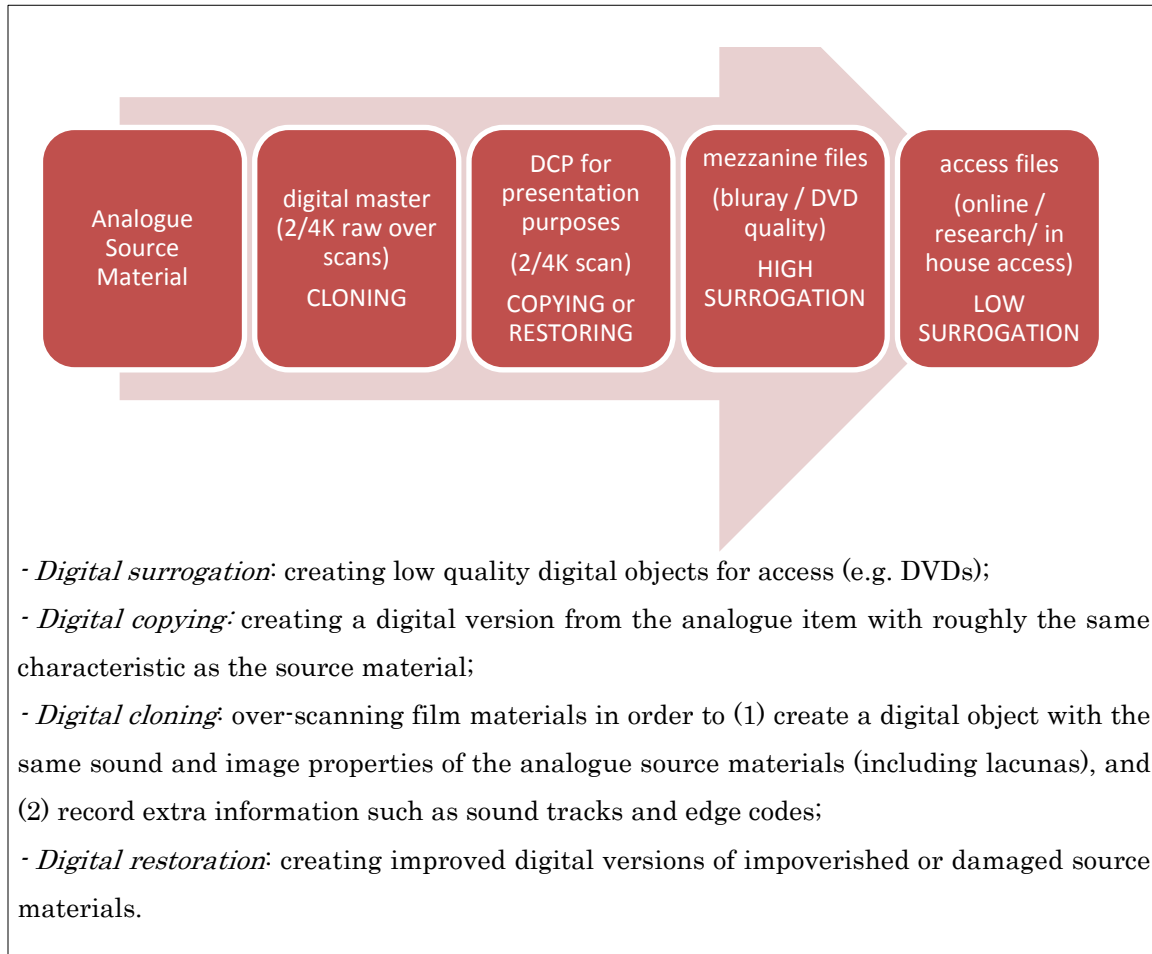
(2014) and Cherchi Usai (2013), in this context, I refer to *digitisation* as the act of creating a digital version of an analogue archival item. This can include three distinct processes:

- *Digital Surrogation*¹¹ (normally referred to simply as digitisation): Here I refer to the act of creating a digital deficient surrogate from an analogue object. This means creating an item with less audiovisual quality, normally for access purposes (e.g. creating a DVD from a 35mm film print).
- *Digital Copying*: The act of creating a digital version with equivalent audiovisual characteristics to the source materials normally for theatrical presentation. In terms of a 35mm archival element, this usually means 2K (2048 × 1080 pixels) or, better, 4K (4096 x 2160) resolution up to 32bit image depth.
- *Digital Cloning*: Here I refer to the act of creating a digital version of an analogue item for preservation purposes. It includes over-scanning the filmstrip beyond the edges of each frame (to record information about the film base), and it reproduces the exact aesthetic properties of the film artefact. Every form of enhancement or restoration of damages and defects must be avoided.

These three processes are not only intellectually different, but the practical consequences in terms of storage and preservation can be huge. As anticipated, *digital preservation* and *restoration* have been eloquently defined by Cherchi Usai (2013). The former refers to the long term process of safeguarding film materials in digital form. As we will see in the next chapter, this entails a number of complex operations. *Digital [film] Restoration* refers to the use of digital technology to improve deteriorated images or sound of analogue film items. It does not necessarily entail the creation of an archival digital master (even if it usually does). The files can potentially be recorded back onto film stock.

¹¹ I borrow the term *digital surrogation* from Brian Graney, Senior Archivist and Head of Public and Technology Services at the Black Film Centre/Archive at the Indiana University Bloomington. Available here: <http://www.neh.gov/divisions/odh/featured-project/odh-project-director-qa-brian-graney>

Figure 1 – Types of Digitisation and Digital Restoration



1.3 Main Argument and Outline of the Thesis

In Chapter Two I take into account the most relevant bodies of literature which directly inform my research, in order to contextualise its relevance and to explain my contribution. I provide a conceptualisation of sustainability in the context of film heritage. Sustainability refers to decision-making process that, by following a specific set of ethical principles, takes into account future generations' wellbeing without neglecting the present time. The bodies of knowledge that are suitable to properly frame the research have been identified in the areas of cultural policy,

information science literature (which includes context-specific literature)¹² and finally, audience outreach literature, with particular reference to digital optimism (with specific relation to digital optimism and accessibility).

In Chapter Three I describe the methodology that I used to conduct the research. I took a critical realist approach as a response to the limitations of both relativism and positivism. Critical realism acknowledges the capacity of social research to produce objective knowledge only if the complex and stratified nature of sociality is acknowledged by the researcher. Due to the time frame imposed on doctoral research, it would be impossible to conduct a full empirical audience research project. Instead, my research deals with questions of value and accessibility from the perspective of professionals. I used (1) elite interviews to obtain empirical information and (2) policy document analysis to delineate the broader discourses surrounding these institutions.

The findings are presented in three empirical chapters on institutional environment, internal processes, and dissemination and outreach. This structure seemed to be most effective, as it maps the dialectical dynamics of change – a process generated by the external institutional structures which clashes with the resistance of the field (to differing extents and in different ways). After taking the reader through the internal processes and organisational issues of FHIs, I will then return in the final section of the last chapter (and partially in the conclusion) to broad policy issues. In this way, I identify archivists as the main audience in Chapter Four. Film and media scholars might be considered the main audiences of the second chapter so they can have an insight into FHIs and appreciate the challenges FH is facing and the consequences for their studies. The final chapter will be of interest to policy makers (although to a lesser extent cultural managers are also among the audiences), as a discussion of the societal value of FH is initiated.

Chapter Four is the first empirical chapter, on institutional environment. As mentioned, I take into account the broader policy context in which these institutions operate. I argue that FHIs are effected by the Schumpeterian school of thought which brings together certain elements of digital optimism and economic instrumentalism.

¹² This provides information about the organisation of labour in relation to the film archiving building blocks, acquisition, and preservation and dissemination.

In order to oppose such tendencies, I argue that more lobbying activities are needed in the future and that FHI should pay far more attention to their relationship with the education sector.

In Chapter Five I focus on organisations. I argue that the process of digitalisation is increasing the operational costs of archival institutions. Governments are providing only “soft money” (project related) to finance digitisation for access purposes rather than “hard money” to sustain long term projects. Any sort of revenue from footage library sales is largely insufficient to finance the management and ownership of infrastructures for mass digital preservation. It is however possible for some archives to preserve a relatively small amount of digital data as a temporary solution. These institutions seem to suffer from an acute form of “Baumol cost disease” as their cost budgets are fast-increasing. They are indeed labour intensive organisations as it seems that technology advances are not helpful in increasing labour productivity or in making work processes more efficient.

In Chapter Six I provide evidence that the claim put forward by digital optimist and economic instrumentalist perspectives are simply too unrealistic. I argue that the demand for film collections was weak in the “analogue era” and it is still weak in the “digital era” (I use these terms provocatively). Also, many of the materials which are potentially marketable are usually protected by copyright. A problematic issue that I focus on is the lack of clarity or limited articulation of the social value of FH to the wider public. This is a real problem that, to some extent, impedes the important task of communicating a clear case for its safeguarding. I propose a preliminary articulation of such a proposition, drawing on the interviews in which such issues were discussed.

In Chapter Seven I conclude by providing a summary, a set of research limitations and a prospect for future research.

2. A SUSTAINABLE STEWARDSHIP FRAMEWORK: POLICY, ORGANISATION AND OUTREACH

2.1 On Sustainability and Digital Preservation

As anticipated in the introduction, the issues surrounding the cost of digital preservation are the starting point of this research. Publications about digital preservation began to appear at the beginning of the 1990s, stemming mainly from the research libraries community. The pioneering work of people like Besser (1994), Lynch (1994), Rothenberg (1995) and the important *Task Force on Archiving of Digital Information* (Task Force on Archiving of Digital Information, 1996) set the scene. As Jordan (2000) argues, before the 1990s other works on digital technology and heritage institutions were produced, however “[...] the majority of [these] works were published outside of the library profession” (7).¹³ They focused largely on the potential of digital technology more than on how, practically, it could be integrated into existing library workflows and organisational models. Since the early days it was clear that technological change was giving rise to a series of complex intellectual and curatorial questions which required complex answers. Since then the focus in many research papers was put on the interconnection of intellectual and technological questions, in that:

“...[t]he bottom line for all of us, however, may well be that, without improvements in intellectual [informed] access to microfilm collections that support subject oriented retrieval, digital conversion to this collection might prove to be quite feasible technically and quite untenable intellectually” (Conway, 1996, 75).

Unfortunately, as far as audiovisual is concerned, digital preservation is proving to be also technologically challenging. Howard Besser (2000) warned about the potential problems of digital preservation in the realm of images: *viewing problems*, which relate to format obsolesce and conversion problems (after which images can

¹³ Jordan refers to the work of Pearson (1992) and Bourke (1993).

look different); *scrambling problems*, which relate to lossy compression and encryption that might prevent future accessibility; *inter-relation problems* between the components of complex digital objects (which include multiple parts and multiple files formats); *custodian difficulties*, which relate to ethical and legal issues concerning how and who will preserve digital materials; and finally *translation problems*, which relates to the reinterpretation of artefacts produced in analogue formats in “the digital language”.

Besser wrote about the available remedies to such problems. He talked about techniques such as refreshing, migration and/or emulation (Besser, 2001).¹⁴ Indeed, there are several approaches to digital preservation. Here I will follow Ross’ (2012) categorisation, which draws on Rothenberg (2003) and Thibodeau (2002). Preservation *approaches* are the broadest technical categories. According to Ross, there are two categories which we can however articulate in three approaches: “technology preservation”, “digital object preservation” solutions and non-solutions (in Ross categorization included in “technology preservation”). Non-solutions include several strategies. The “*do nothing*” strategy refers to acquiring digital material and storing the physical object in uncontrolled storage conditions (for example, placing a hard disk on a shelf). The *analogue back-ups strategy* refers to the conversion of analogue resources into an analogue surrogate (printing out a digital book or producing a film element from a DCP). Improving physical conservation by either using ‘durable/persistent digital storage media’ (e.g. from CD to tape) or improving ‘storage [conditions] and handling practices’ (e.g. cooling down and drying up the storage room). The last non-solution refers to *digital archaeology and forensics*; the formation of a team of professionals trained to rescue information from obsolete hardware and software (Kim and Ross, 2012; Ross and Gow, 1999).

The “preservation of technology” approaches aim at preserving original software and/or hardware required to open certain digital files. In this way it is possible to preserve and access the digital files in their original format. The file is simply copied without being transcoded. The preservationist intervention is not

¹⁴*Refreshing* refers to the act of moving a file from one carrier to another due to physical degradation. *Migration* refers to the act of encoding file formats to a new usable one. *Emulation* refers to the act of recreating obsolete hardware in order to open an obsolete file format (software) (Besser, 2001, 12). This will be covered further in the next chapter.

carried out on the digital object, which survives untouched over the years. Often, software and hardware undergo the notorious process of *emulation* [see Rothenberg et al. (2000); Van der Hoeven et al. (2008)]. Software with similar characteristics is recreated so that obsolete file formats are accessible. This approach can be useful when working with complex digital objects that are difficult to migrate. It requires the work of experts who are able to write software or design computer platforms.

“Preservation of digital objects” refers to a number of approaches that are based on modifying the digital object rather than the technology to access it. The most popular technique among these approaches is known as *migration*. The digital object is transcoded (converted) in order to be readable via new software. This appears to be the most widespread technique in digital archiving, however it does not come without challenges. Complex objects are difficult to migrate as they are usually comprised of a number of different parts.¹⁵ When substantial numbers of files are migrated using automated systems (in order to save on labour costs) the power consumption can be extreme (Mills, 2013). Harvey includes *data refreshing* within the “digital object” approaches rather than the “technology” approaches. I find this dubious. He defines “technology” as both software and hardware (Harvey, 2012, 98). Data refreshing is defined as the process of moving digital files from one carrier to another with no modifying intervention on the file itself. This is to respond to the physical decay of the medium. So what one is doing with data refreshing is intervening on the technology side (hardware), while the digital object is moved but remains unmodified.

Such practices have proven to be costly. Studies in relation to cost models and economic affordability of digital collections started to appear at the end of the 1990s (Puglia, 1999). Since then, cost studies have multiplied. Recent studies on the cost of digital preservation have, alongside the issue of actual high costs, raised issues relating to cost models, as well as the challenge to determine the resources needed to maintain the infrastructure in the long run (Palm, 2006; Rosenthal et al., 2012; Wheatley, 2012; APARSEN, 2013). Rosenthal et al. (2012) in particular

¹⁵ For instance, an image is a simple object no matter the size of the file. A Word document can be considered a complex object. Indeed, it might contain text, images, tables and diagrams. When one migrates a complex object, one must consider all the components the object comprises, their formats and their renderings.

demonstrated that the validity of the so-called “Kryder’s low” is not to be taken for granted.¹⁶ The cost of digital storage is now decreasing at a slower rate than previous times, and in future could even stop decreasing (on the same line see also Mellor, 2014). In essence, the high cost of digital preservation appears to revolve around the need for frequent system upgrades and administration. According to Palm (2008) the Total Cost of Ownership Over Time (TCO) is proportional to the use of the collections and tied to labour cost.¹⁷ He argues that “[t]he costs of long-term storage are dependent on the rate of activity: the more the information stored is used, the higher the administrative costs” (Palm, 2008, 9).¹⁸ APARSEN (Alliance for Permanent Access to the Records of Science Network) tested all the major cost models and concluded that they might be useful if time-consuming and costly efforts are implemented to adjust the models to the specificity of individual institutions. The European 4C project coordinated by the Joint Initiative Systems Committee (JISC) reviewed all the cost models available. Bøgvad Kejser et al (2015, 76-77) conclude by stressing (1) “the general lack of usability of the models,” (2) “the lack of capability for expressing the quality of digital curation”, and (3) their limited adaptability to different contexts. Paul Wheatley (2012) , who is jointly behind one of the most sophisticated cost models available (see Hole et al., 2010),¹⁹ wrote a blog post with the telling title: Digital Preservation Cost Modelling: Where Did It All Go Wrong? In it, he wrote:

Name me a cost generalisation (e.g. probably the most well known: Ingest = costly) and I usually won’t have trouble coming up with examples that contradict it. This is because lifecycles are incredibly complex things and they depend on a whole host of variables. Attempt to model all these variables and you quickly find yourself at the other end of the cost modelling scale. Your model itself becomes bloated and complex. This makes it

¹⁶ Mark Kryder is an American academic, and Seagate Corporation’s Senior Vice President of Research and Chief Technology Officer. In 2005, Kryder devised the homonymous law according to which the storage device’s areal density doubles every 18 months (Walter, 2005). This implies an approximate simultaneous halving of digital storage cost.

¹⁷ This appears to be confirmed in the report released by Charles Beagrie Limited (2011): “Staff costs are likely to be the major cost in any preservation activity within an HEI. 70% or more of the costs of preservation services in the case studies relate to staff costs and historically these have always been seen as the major component of preservation costs” (2011, 14).

¹⁸ The cost of labour obviously follows the labour market trend.

¹⁹ The LIFE (life cycle information for e-literature) project was a joint initiative which brought together the British Library and UCL. The project ended in 2011.

difficult to understand, difficult to develop and even harder to maintain. And then your users struggle to make sense of it as well. (Wheatley, 2012, no pagination).

There are some technological solutions which overcome the physical media instability challenges (data migration and/or emulation), but at present they have not been commercialised. For example, *M-Discs* (which are similar to normal DVDs) engrave data onto “rock-like” materials known to last for centuries” (see the report by Svrcek, 2009), while *PiqI* stores data on photosensitive film. The Digital Optical Technology System (DOTS), allows users to inscribe information in binary form as small dots on a metal alloy tape, while *Cuneiform Technologies* aims to bring to the market a system which writes data onto a steel film roll. Researchers are also investigating the possibility of storing digital information on glass (Zhang et al., 2014) or even on synthesised DNA (see for example Goldman et al., 2013). However, at the time of writing, these products are still not in widespread use and the longevity of the companies producing them is questionable [DOTS, brought to the market by Group 47, seems to be the closest to commercialisation (Pennington, 2014a)].

In conclusion, the main problem that emerges, and which constitutes the starting point of this research, is the following: adapting to a totally digital environment requires substantial investment of resources, uncertainty of long-term results, and a broad organisational change. However, in the present economic and cultural context “[t]he amount of money and personnel necessary for such a daunting task goes way beyond the most optimist forecast of the financial resources available to the cultural sector” (Cherchi Usai, 2013, 13). In the field of library science this problem has been labelled as sustainability challenge (Lavoie, 2004). It seems that FHIs are facing the same problem.

Sustainability is sometimes used as a buzz word however, and, as far as cultural sustainability is concerned for example, it appears to be a concept whose meaning is still well under construction (Auclair and Fairclough, 2015, 210-211). In order to avoid conceptual uncertainty in the context of this thesis, I shall dedicate some space to explain what I mean by sustainability, and how this understanding is important to my research. In order to do this, I will first discuss the concept of sustainability in general terms and then I will illustrate how such discussion informs

the cultural sector and my own work. The conceptualisation of sustainability shapes the organisation of this chapter. I argue that in order to approach sustainability issues in the heritage sector there are three areas one should look at: cultural policy, organisation (film acquisitions and preservation in this case), and value proposition (i.e. presentation and outreach).

The term sustainability can be traced back to 1972 in *The Ecologist* journal with the publication of *A blue print for survival*, with the concept becoming popular in the 1980s. This is due mainly to the UN World Commission on Environment and Development report *Our Common Future* in 1987 (also known as the Brundtland report). This document deals substantially with environmental and macroeconomic issues which are largely irrelevant in the context of this thesis. However, the definition of sustainable development provided by the Brundtland report is widely used even in the context of culture and I argue that it may apply to FH:

In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. (WCED, 1987, 45)²⁰

This definition underlines the dynamic nature of sustainability. Drawing attention to the inherent vagueness of the concept of sustainability, the economist Robert Solow (1991; 1992) stresses the importance of a dynamic approach to the conceptualisation of sustainability. Solow argues for a usable and realistic definition of sustainability that goes beyond a pure “conservationist” approach: “[...] it [sustainability] is an obligation to conduct ourselves so that we leave the future the option or the capacity to be as well off as we are” (Solow, 1991, 181).²¹ A sustainable

²⁰ Many writers have quoted the first definition of sustainable development found in the document: “Sustainable development meets the needs of the present without compromising the ability of the future generations to meet their own needs” (WCED, 1987, 43)

²¹ The concept of sustainability put forward by Solow emphasises the moral obligation of providing future generations “the productive capacity” to build their own future. In his concept of sustainability, ethical issues are slightly downsized to give room to questions of efficiency. Ethics change over time, and it might actually be problematic to bound future generations too tightly to our own ethics (we don’t really know what the needs and wants of future generations might be). Also, his idea of sustainability has a strong bias on investments, sometimes “things are important for what they do not for what they are”, he writes. Through focused investments, productive capacity can be regenerated over time. For poor countries, for example, “temporary acceptance of less than best environmental

society cannot be a predefined “place” or “state” to reach. Rather it might more usefully be referred to as a method to provide effective responses to challenges, and to depict “[w]ays forward that are ethically based [...]” (Auclair and Fairclough, 2015, 205). Basiago (1995) shares the same idea, sustainability is a decision-making methodology:

It is as if ‘sustainability’ is not a tangible goal, but an organizing principle governing activity at all levels of a system, a quality that characterizes social alternatives that will yield vitality. (Basiago, 1995, 118)

What do these principles look like in specific relation to culture? In the 1990s, thanks to some international policy documents (UNESCO/WorldBank, 1998), the relevance of culture in sustainability discourse was acknowledged by the international community. As pointed out by some writers, there are several ways to approach what came to be called *cultural sustainability* (Duxbury and Jeannotte, 2010; Dessein et al., 2015). Drawing on Duxbury and Jeannotte (2010), it is possible to summarise the objects of study of such different approaches as follows: the sustainability of cultural capital, the value and the practical viability of heritage and arts policies; the culture of sustainability, the social negotiation of the meaning and the value of environmental sustainability among institutions and individuals (this includes the arts as vehicle to advocate for environmental awareness); culture in sustainable development as an essential element of societal wellbeing. I follow here the first if these approaches.

The work of the cultural economist David Throsby is useful in this regard, as it refers to the first type of sustainability described above. He uses the concept of sustainability in “its substantive intrinsic sense connoting long term self-supporting viability of any type of subsystem” (Throsby, 1997, 11).²² Furthermore, he refers to *culture* not as an anthropological concept, “as the aim and the result of *[material]*

conditions can be made more palatable if the rents from doing so are translated into productive investments [addressed at environmental repair]” (Solow, 1992, 172).

²² A similar definition is provided by Gilman (1990): “Sustainability refers to the ability of a society, ecosystem, or any such on-going system to continuing functioning into the indefinite future without being forced into decline through exhaustion or overloading of key resources on which that system depends” (Gilman, 1990, 10).

progress” (10), but as a delimited field in human society.²³ He provides a rich articulation of the concept of sustainability within the cultural sector, highlighting six guiding ethical principles:

- (1) Devising a clear value articulation, which refers to the necessity of drafting complex cultural missions including tangible and/or intangible benefits.
- (2) Intergenerational equity, which refers to the necessity of a long-term view that takes into account future generations (e.g. limiting access to master elements).
- (3) Intragenerational equity, the moral obligation to enlarge as much as possible the spectrum of potential audiences (e.g. excluding from copyright protection low-quality copies to certain holdings).
- (4) Maintenance of diversity, the need to pay attention to all varieties of cultural expressions manifested along film history and cultures (e.g. the choice to not exclusively collect national production).
- (5) Precautionary principle, which refers to the need to carefully and critically deal with decisions that may have irreversible consequences, and the obligation to document them (e.g. documenting film restoration).
- (6) Recognition of interdependence, which refers to the fact that the relevance of a single cultural item or expression is defined by the interconnection with other cultural items or expressions and other adjacent non-cultural systems such as economic or social ones (e.g. digitisation of corpora rather than single items to faithfully understand a given historical event).

Heritage institutions can assign different weights to these principles in accordance to their specific missions. For example, archives might prioritise intergenerational principles to intergenerational equity; museums, precautionary principles to interdependence.

It is not my intention to provide another definition of the concept, but I shall simply adapt such meta-definitions to the field of FH. Drawing on Throsby, Basiago, and Solow, I argue that FH sustainable stewardship must respond to the need to

²³ See for example the report of the World Commission on Culture and Development: *Our Creative Diversity* (WWCD, 1996).

keep the relationships between film, history and cultures indefinitely intelligible to the widest public, and contribute to the enrichment of film culture in order to avoid or compensate for potential memory losses or social and environmental harms. As with all human activities, cultural production and heritage stewardship should address the task of contributing to a better society. FH stewardship is no exception, in that the protection and dissemination of FH is arguably functional to the fostering of societal wellbeing.

In order to explore the practical implementation and implications of sustainable stewardship, it is useful to look at some of the work carried out by the information science community. Such literature is a response to the increasing pressure created by the complex process of digitalisation. As Hamilton (2004) has noted, “[t]he key to sustainability [...] is to reach a position where the digital library is no longer regarded as an add-on, but as part of this integral core” (392). Recently, there have been some important papers and studies on digital sustainability, although none of them deals specifically with FH. There are few good materials available about the sustainability of digital materials (Corrado and Moulaison, 2014; Bradley, 2007; Ng et al., 2010). The Blue Ribbon Task Force (2010) is probably the major work carried out within this context. The study focuses on an economic sustainability framework revolving around three major components: “1. clear value and benefits derived from preservation; 2. incentives to preserve; 3. Roles and responsibility among preservation stakeholders.” (13). As Besser (2016) has noted, the importance of the BRTF is the focus on societal and institutional environments in which digital repositories are built and operated. The downside of the report is that it adheres almost entirely to a mainstream economics approach where demand for access seems to be taken as the only rationale that can justify preservation, in that “[...] economists tell us that without the demand for access, there will be no preservation” (BRTS, 2010, 17). This risk is to overemphasise a market-like notion of value based on the willingness of users to pay or to “consume” archival materials. However, the BRTS writers have usefully identified a variety of sustainability factors, such as the adoption of selection and planned retention policies; assurance of reliable funding over time; elimination of barriers to access; development of effective business models; and finally cooperation among institutions. Chowdhury (2013) has attempted to develop a conceptual model which relies on three types of

sustainability: social, economic and environmental. Although this distinction might be useful to understand the variety of issues at play, it is difficult to use it in practice. In fact, social, economic and environmental issues are embodied in each stage of the FHIs value chain (acquisition, preservation and dissemination). Also, in that model, although cultural organisations are the object of the analysis, no reference is made to culture. In light of the discussion and the literature mentioned above, I argue that the three main areas to focus on when attempting to understand sustainability in the context of FHIs are institutional context, internal processes, and audience outreach (see figure 1). I further define these as follows:

Institutional Relations: policy makers are key players in shaping the priorities of FHIs as they often define their cultural missions. Here I refer to sustainability factors such as reliable funding over time, or appropriate legislative frameworks. In the European context, cultural policy appears to be an important area to explore.

Internal Processes: these involve processes such as acquisition, conservation and active preservation. Such processes are shaped by organisational models, labour processes, curatorial priorities and technological choices.

Audiences Outreach: this is the area where values (cultural, social and economic) are finally delivered to audiences. Here I refer to sustainability factors such as access strategies, consistent articulation of value proposition and effective communication.

I will organise this chapter in relation to these three areas. This structure, as noted in the previous chapter, roughly reproduces the articulation of the empirical chapters. The question of value creation is, unfortunately, only dealt with from the point of view of professionals, as the time and resources available for this research did not allow for a study of FH audiences. Firstly, in section 2.2, I shall describe the dominant policy and cultural paradigm within which FHIs operate, which some scholars and writers refer to as *neoliberalism*. Secondly, in section 2.3, I shall explore the internal processes in relation to acquisition and preservation. Thirdly, in section 2.4, I shall explore debates that relate to the issue of digital accessibility of FH, which connects with broader discussions of digital optimism.

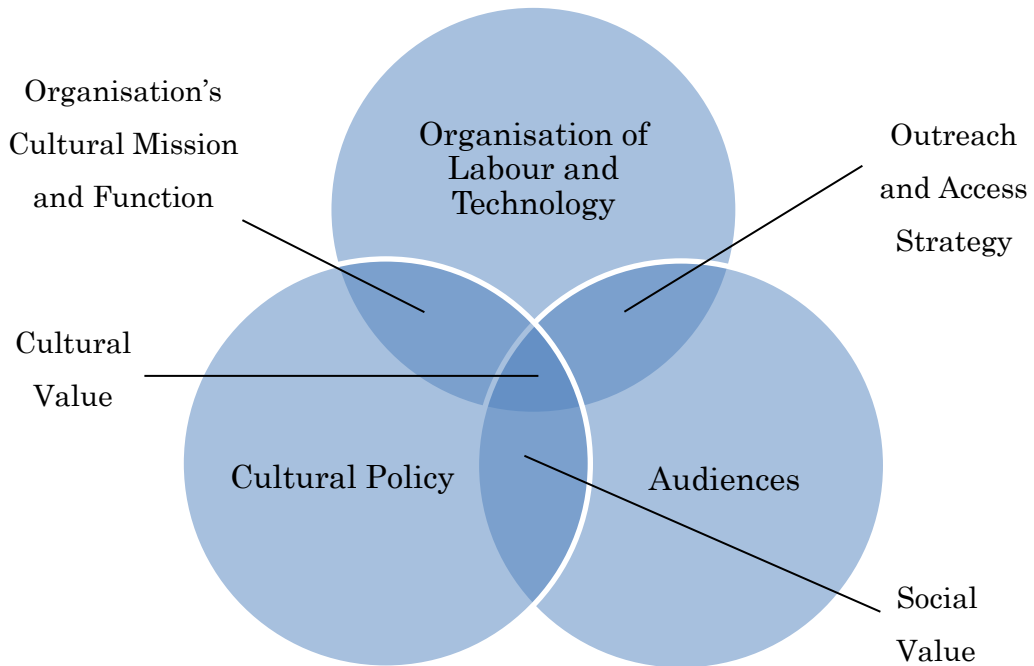


Figure 2 - Sustainability Framework

2.2 Neoliberalism and the Cultural Sector

2.2.1 Neoliberalism

In order to understand the institutional environment in which FHIs operate, it is useful to introduce what is meant by the oft-used term *neoliberalism* (Hesmondhalgh et al., 2015a). The spread of neoliberalism (as a political and economic ideology) is usually identified with the right wing administrations of Ronald Reagan in the US, and Margaret Thatcher in the UK in the early 1980s. Since then it has spread, in different ways and to differing degrees, across most of the Western world. Although a growing degree of scepticism exists with regards to the current relevance of the term (as some scholars have already celebrated its funeral - see Manne (2010), I

argue that the term still carries weight to represent the dominant economic and ideological paradigm of many contemporary democracies.²⁴ While there are numerous competing (even analogous) definitions of the term neoliberalism, here I use Gilbert's understanding that:

...neoliberalism, from the moment of its inception, advocates a programme of deliberate intervention by government in order to encourage particular types of entrepreneurial, competitive and commercial behaviour in its citizens, ultimately arguing for the management of populations with the aim of cultivating the type of individualistic, competitive, acquisitive and entrepreneurial behaviour which the liberal tradition has historically assumed to be the natural condition of civilised humanity, undistorted by government intervention (Gilbert, 2013, 9).

Many writers have described neoliberalism as a sort of brutal liberalism characterised by a push towards the privatisation and marketization of society. Although this is surely very often the case, there are numerous examples of governments frequently intervening (in various forms) within the private sector to avoid business disasters, or to help out a particular economic sector. In Britain for example, we have seen a spectacular increase of public spending in the cultural sector during the New Labour years.²⁵ If Gilbert is right, neoliberalism seems to be based on an individualistic and greedy anthropology where human beings are supposedly moved by self-interested behaviours and tend to avoid entrepreneurship and fair competition in favour of rent-seeking or favoured social positioning, to the detriment of others in society (*homo homini lupus est*). This substantially negative conceptualisation of human nature justifies the intervention of state power as an enforcement and disciplinary authority. Contradictions and incoherencies of such theories and the (immoral and noxious) concentration of wealth that such policies have generated over the last 30-40 years, have led reputable authors like David Harvey (2005) to argue that:

²⁴ A revealing indicator of this is the fact that many commentators, journalists, and bloggers consider Keynesian economic policy as radical leftism. On this see, for example, Blanchflower (2015).

²⁵ One might argue that the ideology behind New Labour cannot strictly be called neoliberal. Many commentators think that New Labour built a peculiar type of neoliberalism (Powell, 2000). On the other hand, right-wing commentators have blamed it for increasing public spending (Beckford, 2010).

From this account we can clearly see that neoliberalism does not make the state or particular institutions of the state irrelevant, as some commentators on both the right and the left have argued [...]. At the heart of the problem lies a burgeoning disparity between the declared public aims of neoliberalism – the well-being of all – and its actual consequences – the restoration of class power (78-79).

As far as cultural policy is concerned, its recent developments have been grounded, as in other areas of public policy, on a general (subtle) distrust of the public sector (unfair domination by intellectual elites, the proliferation of lacklustre bureaucrats, and inherent systemic inefficiency and waste). In an early paper, Palmer (1998) argues that three debates have been generated by the spread of an ideology that he calls managerialism: (1) the constitution of the arts as an industry where cultural policy is mainly economic policy; (2) the diffusion of the management discourse as ideologically-free science which allows its application, with some minor corrections, to every social context including arts policy (this entails the adoption of private sector accounting, managerial control processes, cost/benefits analysis techniques, the tendency to fix targets, deadlines and evaluative processes); (3) the pressure of policymakers to develop partnerships with the private sector and to expand sponsorship through fundraising activities.

More recently McGuigan (2005) and Hesmondhalgh et al. (2015a), with respective differences and distinctions²⁶, identify three tendencies of recent cultural policies (which will function as a theoretical model here): (1) the adoption of managerialist cultures deriving from neoclassical economics (New Public Management); (2) a push towards corporate private sponsorship – although this does not necessarily correspond to a decrease in public funding or increase in privatisations; and (3) the diffusion of *instrumentalism*, which one might define as the justification for public spending via predominantly social, often economic, rationales rather than cultural and artistic ones.

Instrumentality and corporatisation are not strictly “neoliberal” phenomena however. As far as the latter is concerned, the shift from traditional philanthropy

²⁶ Such writers specifically refer to the UK but their reflections, at the most general level, can be applied to the whole European context.

and sponsorship in the US took place some 20 years before the Regan administration (Rectanus, 2002).²⁷ Instrumentality within the cultural sector, in different ways and degrees, might be traced back to cultural traditions that appeared in the 60s and 70s. Those were generated by anti-traditionalist and anti-elitist sentiments towards public arts institutions, coming both from (poststructuralist and libertarian) left and liberal thinking.

2.2.2 Managerialism

In this thesis the term managerialism is used synonymously with the concept of New Public Management (NPM) doctrines. Managerialism is an ideology that overemphasises the relevance of management in the arts by generalising “the language of business” (Deem and Brehony, 2005, 223). Such ideology developed and spread in the 1980s outside of academia, where it crystallised in bestselling books such as *Reinventing Government* (Osborne and Gaebler, 1992). However, the term NPM appeared a year previously in a piece by one of its main critics, Christopher Hood (1991). The NPM paradigm has started to gain influence in Anglo-Saxon countries across the western world. As anticipated in the previous section, NPM might be defined by: (1) the adoption of managerial tools used in business management by public administrations (often driven by the binary principles of efficiency/effectiveness and incentives/disincentives); and (2) bringing market-like competition to the public sector. As a result of this, the characteristic of NPM [drawing on Lapsley (2009), Gray 2008, 212 Dunleavy et al. (2006, 470)] can be summarised as follows: (1) fragmentation of large administrative units in order to allow competition among service providers and different kinds of services; (2) greater autonomy to managers and the establishment of internal incentives/disincentive mechanisms (here the stress is on output more than on processes and the use of tools such as performance-related pay); and (3) increased focus on measurable

²⁷ In Europe, despite a steady increment of sponsorships since the 1980s, public expenditure is generally not decreasing. This money seems to be added to that expenditure rather than replacing it.

performances via the establishment of market-like targets, standards, and evidence-based evaluation techniques.²⁸

Some interesting papers have been written about the impact of these issues on the cultural sector. Belfiore (2004), borrowing the term “auditing” from Power (1997), talked about an auditing culture spreading in cultural policy. She focusses on the fixation for evaluation and the increase of auditing practices within the cultural sector. She writes:

Public “investment” in the arts is advocated on the basis of what are expected to be concrete and measurable economic and social impacts. Moreover, this shift has been accompanied by growing expectations that such beneficial impacts ought to be assessed and measured before demands on the public purse can be declared fully legitimate. (189)

The monitoring process, Belfiore argues, is made particularly difficult by the subjective nature of aesthetic tastes, feelings and emotions engrained into cultural production and experiences. These issues have been substantially marginalised, often totally excluded from cultural policy documents, and have been considered subject to interpretation and ideologically biased. This, in Belfiore’s opinion, is to encourage “systematic attempts to de-politicise the public realm” (192) or, as Palmer (1998) puts it, to remove ideology from decision making so that complex discussions on what is meant by “cultural value” can be reduced to “objective” technical discussions (the “toolkit approach” as Belfiore and Bennett (2010) have called it). In this manner, at least in principle, the way institutions spend their money can be properly policed and controlled from the top down.

²⁸ Political scientists and public management studies writers have pointed out that defining managerialism and assessing its outcome is a difficult task. Hood (1995) for example writes: “[...] it might be argued that NPM has been adopted in some contexts to ward off the New Right agenda for privatization and bureaucide and in other countries as the first step towards realizing that agenda. Much of NPM is built on the idea (or ideology) of homeostatic control; that is, the clarification of goals and missions in advance, and then building the accountability systems in relation to those present goals (cf. Dunsire, 1990). But if NPM has itself been adopted for diametrically opposite reasons in different contexts, it may, ironically, be another example of the common situation in politics in which it is far easier to settle on particular measures than on general or basic objectives.” (107)

There are also ways to achieve neoliberal objectives that involve the internal processes of organisations. Jo Caust (2005; 2003) has illustrated how governments can encourage arts organisations (explicitly or implicitly) to hire personnel or board members with a business background. Although the distinction between public arts and other policy sectors might be acknowledged, it appears that some policymakers fail to acknowledge this in practice.²⁹ Clive Gray (2011) wrote that:

Whether those who go to museums are seen as ‘audiences’, ‘visitors’, or ‘customers’, and whether they are understood as being ‘citizens’, ‘consumers’ or ‘learners’ can have a considerable impact upon what roles museums and galleries are expected to undertake in terms of meeting their requirements, and this, in turn, can affect the forms of representation and display that are provided. (11)

However, in the cultural sector, precisely as in other public policy sectors, it is still very difficult to identify clear trends, as Gray himself recognised (2008, 212). Gray (2008) acknowledges “some anticipated improvements in public sector operations and service delivery” (213) but, he adds, no real clear radical positive change is taking place. Shifting focus to the drawbacks of NPM, Gray emphasises the problem of coordinating heritage institutions in that “there is the possibility, if not the probability, that contradictory policies may be created where the interests, expectations and intentions of policy actors at different levels and in different organisations not only fails to meet but actively oppose each other” (Gray, 2008, 12). The second problem has to do with the increased difficulty of implementing evenly central government policies due to the difficulty of controlling the myriad of semi-autonomous units, so “[...] major policy demands are operationally vacuous or are simply impossible to control and manage effectively” (215). Also, the parameters, targets and standards for evaluation of cultural institutions often differ, therefore meaningful comparisons to measure or assess the value created are still very difficult to achieve (O'Brien, 2010).

The only study which (partially) relates to managerialism involving FHIs is Ray Edmondson’s PhD thesis (2011). This is an historical study of the birth and

²⁹ One of the consequences, as Glow and Minahan (2008) have pointed out, is the degrading conditions of work created, in some arts organisations, by prioritising managerial goals over artistic or community values.

development of the Australian FHI now called the National Film and Sound Archive (NFSA). Edmondson criticises the managerial approach that has been taken in his country. He takes a critical stance towards the rebranding of the institution, which was primarily pushed by its CEO in order to increase the visibility and recognition of the organisation. The project was led by a private sector approach, focusing exclusively on the relationship between the organisation and their “customers”. As Edmondson (2011) notes,

[t]his one dimensional approach is risky for non-profit institutions, which are only partially market driven. Other dimensions like professional reputation and recognition, stakeholders relationships and professional nomenclature, are crucial parts of institutional identity (338).

The project, at a cost of \$1.8 million in Edmondson’s account, was a total failure, characterised by serious mismanagement that did not bring about any substantial benefit to the institution. The merger that was implemented with the Australian Film Commission in early 2000 was also deemed unsuccessful. “It [*the government*] opted for what MP Michael Organ termed a “quick and dirty solution” to get the NFSA off its hands by the end of the financial year” (346). Merging the two institutions created problems at all levels (besides being an expensive operation): it created problems in relation to institutional identity, caused frictions between managerial cultures and between different cultural mandates. Managerialism contributed to downplaying curatorial and archival values and somehow impeding the senior curatorial and management personnel from being “assimilated into the global audiovisual archiving profession” (370). Edmondson’s findings confirm the quote that he takes from an editorial in a local newspaper:

It [the NFSA] has also suffered from managerialist views in the formal arts bureaucracy, which had thought there to be too many independent “artsy” bodies about, with the taxpayer likely to benefit from “rationalisation”. Such rationalisation rarely proves rational. (*Canberra Times* editorial in Edmondson, 2001, 229).

The merger was then followed by a demerger in 2004 and the NFSA gained a statutory status four years later.

2.2.3 Instrumentalism and Innovation

In public policy one normally refers to instrumentalism as the tendency towards “[...] a diversion of the primary intention away from the core specifics of a policy sector towards the interests and concerns of other policy sectors all together” (Grey, 2008, 211). With specific reference to culture, instrumentalism refers to the specific kind of cultural policy that systematically prioritises non-cultural objectives (e.g. urban regeneration) over intrinsic (e.g. aesthetic values) and institutional values (e.g. number of admissions) – see John Holden (2004). In general, instrumentalist claims in relation to the subsidised cultural sector are revived during economic downturns. The sector is normally asked to justify its very existence by providing evidence of its impact on the communities it serves (e.g. urban regeneration, economic benefits as externalities, community regeneration).

Instrumentality is however nothing new (Gibson, 2008, 249-250). It has a long tradition in left wing circles and it developed as a reaction to conservative paternalism and to the unaccountability of powerful elites operating in the arts sector (Hesmondhalgh et al., 2015a, 108-109). This tradition owes a great deal to the diffusion of cultural studies and cultural populism, and their stress on the value of popular cultural forms conceived for mass consumption (in some cases over-celebrating it – see McGuigan (1992) for an exhaustive discussion). However, instrumentalism of the neoliberal variety has peculiar characteristics.

As far as the broad context of cultural production is concerned, it will be useful to focus on the diffusion in the arts of Schumpeter’s concepts of innovation and entrepreneurship as a form of economic instrumentalism. Schumpeter argues that “technological innovation is the motor of competition in capitalist economies” (Winseck, 2011, 25), in that such innovations can generate big profits for those who own or control them. This process is triggered by the process of “creative destruction”: the act of destroying the “old” and replacing it with the “new” by asking original questions, and answering them using new ideas (Howkins, 2011). Schumpeter thinks that economic changes are generated by the activity of entrepreneurs, a special class of individuals who, driven by consumption motives (rather than accumulation), are keen to “overcome the psychological and social resistance which stand in the way of doing new thing[s]” (Sweezy, 1943, 94). Thanks

to such individuals who are willing to take managerial risks, innovation occurs, competitive advantages may be gained and economic surpluses may be generated.³⁰ The main argument supporting economic instrumentalism can be articulated on two different levels: that the culture of innovation is good for the arts because it might enhance their societal and aesthetic values and secondly, that arts and culture are good because they nurture creativity which is key to stimulate innovation which is ultimately good for the economy.

An early and somehow revealing paper on technology and the arts (Wijnberg, 1994), theorised that arts policy might “become a subspecies of technology policy” (3). Wijnberg starts from a Schumpeterian notion of market failure, which occurs when “the "perennial gale of creative destruction" as Schumpeter described it [...]" (6) stops. He concludes:

Applied to the art industries, this [*policy*] would mean: support for art education and conservation, support for highly innovative art which may not yet be fully marketable and from which high positive externalities are expected to derive, and general measures to lower barriers to entry to the art industries, especially by facilitating information diffusion. [...] Thus, it seems that a specific arts policy is unnecessary. Technology policy intelligently applied to the art industry would suffice (12).

Support for education and conservation is justified via the public good argument: the arts enhances quality of life, but market failures are frequent because of the non-rivalry and non-excludability of their consumption. The positive externalities argument sustains the support for innovative arts (whatever innovative might mean). These types of productions are important to stimulate other artists and to stimulate the production of innovative goods, Wijnberg maintains. However, the

³⁰ Sweezy (1943) agrees that innovation determines economic development to a relevant extent, but he contests that it is the entrepreneur who is the trigger of such processes. On the contrary, he argues that the entrepreneur becomes a tool for capitalists, used to innovate and to help capitalists to maintain their position of power: “The alternative view maintains that profits exist in a society with a capitalist class-structure even in the absence of innovation. From this standpoint, the form of the profit-making process itself produces the pressure to accumulate, and accumulation generates innovation as a means of preserving the profit-making mechanism and the class structure on which it rests” (96). In Sweezy’s opinion profit-making does not stem from the desire of opulent consumption. It is to be seen as a tool of political dominance: “[...] the capitalist must adjust himself to a life of continuous change or run the risk of losing which gives him social prestige and power” (96).

market can take time to recognise the value of such artworks so that the government is entitled to intervene. The merit good argument applies only to the circulation of information in order to make people aware of the extent to which the arts might be important in their life. Any other intervention to influence tastes or free choices is an illegitimate political intervention. A more recent and refined version of this approach is found in Potts et al. (2008) and, more extensively, in Potts (2011). Novelty somehow stems from “core creative activities”, such as literature, music, performing arts and visual arts, and spreads into society, including the industrial activities that relate to the arts (Throsby, 2008). These writers argue that creative industries cannot be defined as a traditional industrial system. As Justin O’Connor has put it while criticising such argument, the creative industries are conceived by those writers as a “[...] part of the innovation system of the economy” (O’Connor, 2010, 65). So creative industries produce social novelties, however the market does not really understand their values. By bringing novelties into the social-network market, and through the process of circulation, such products accumulate value which is given by the members who participate in the network. Again, the central point of the argument is that the arts are important because of the positive externalities they create. This is at the core of public support for the arts for Schumpeterians.

Some scholars have criticised what they consider to be an overestimation of what the arts can do for innovation and economic growth. Kate Oakley (2004; 2009), for example, argues that this stress on innovation in the arts sector has developed from the diffusion of debates surrounding the concept of “creativity” (Oakley, 2009, 406-407). Creativity is conceived as the capacity of cultural activities to (1) foster social cohesion and economic development via “new ideas” and (2) act as a problem-solving tool for social issues. However, she argues that this essentially constitutes a form of economic instrumentalism and is based on dubious evidence. Oakley sees this as not only ethically questionable but, she argues, may also be strongly counterproductive:

Innovation is increasingly being seen as a primary, if not the primary reason for support, particularly of the creative industries, but also of other cultural and arts activities. Much of this rests on a rather untested set of assertions about the links between innovation in the cultural sectors themselves and in the wider economy. The danger here for the cultural sectors is that if no such links can be

clearly demonstrated (and there are already sceptics in some finance ministries, including the UK Treasury), then the arguments for supporting the cultural sectors themselves have already been weakened. (Oakley, 2012, 65)

As Galloway and Dunlop (2007) have argued, two factors “define the distinctiveness of cultural products”, one being the “political/ideological” component of such goods, the other being the particular “economic” properties stemming from “the market failure in the market of culture” (26). Schumpeterian economists neglect or underplay the political/ideological argument, focusing exclusively on rather shaky economic arguments (so that cultural policy becomes the same as industrial innovation policy). The result is that the non-economic and the aesthetic value of culture is marginalised (Selwood, 2002; Belfiore, 2002). More recently, referring to the British context, Belfiore (2012) has talked about “defensive” instrumentalism as an attempt to precisely preserve such thinking, instrumentalism, from critiques. Consequently, cultural policy was deprived by any argument that specifically referred to cultural and aesthetic values. This shifts the debate towards defence of utilitarian rationales for public aid to the arts, overemphasising economic goals and conferring to the arts an almost magical ability to solve numerous social problems. However, if positive externalities arguments are lost, as Oakley reminds us above, the policy consequences might be that one ends up on the one hand with predominantly market-centred approaches to popular cultural production, and on the other, with conservative patronage for “elitist/high-art” productions lavishly sponsored by corporations.

As far as single institutions are concerned, Throsby and Bakhshi (2008) argue that innovation can be articulated at four different levels:

- (1) Innovation in audience reach – deepening, enlarging and diversifying audiences (e.g. using web platforms to make marketing strategies more effective);
- (2) Art form development (e.g. using digital video technology to enrich live performances);
- (3) Innovation in value creation (e.g. broadcasting theatre performances);
- (4) Business management and governance (e.g. developing new business models to monetise over online access to collections).

They see great potential in a managerial culture that favours risk taking and which challenges the conventions of the cultural sector (the mind-set of curator and professionals) and, through such attitudes, increases the public value of the arts. In a subsequent paper, Bakhshi and Throsby (2012) deal specifically with digital technology. As has been done in other papers (Peacock, 2008; Dawson, 2008), the writers put forward the idea that digital technology offers substantial opportunities to increase audiences and contribute towards the production of “innovative art”. They suggest that governments should establish funds in order to help institutions to develop R&D facilities, as well as to develop research projects that gather meaningful data regarding what is “good and bad” about digital access and what is viable or not in given contexts. They underline the necessity of being prepared for failures, to favour research that can be useful *ex ante* rather than function as an *ex post* evaluative tool, and to encourage collaboration between different kinds of organisation, acknowledging the current process of technological convergence. All of these propositions are reasonable and of course sharable. Who in principle might have argued against the development of new digital platforms to publicise the new activities of museums? Who could argue against encouraging the development of new art forms using digital tools?

Problems arise when things are put into context. For example, how much of a museum’s budget should be spent on developing a digital strategy without threatening traditional activities such as conservation, historical research, and educational programs? To what extent does the process of moving increasingly more materials to digitally mediated platforms really contribute to the valorisation of the arts and of meaningful artistic experiences? Such questions have already been approached in the literature. For example, Oakley (2009) sketches what might be the cultural consequences of prioritising “innovative art” in the cultural sector mentioned by Wijnberg (whatever innovative art might mean). Oakley argues that “[i]n this account, past cultural forms no longer inform the development of new ones in a fruitful dialogue across time, but instead fracture into “old” and “new” cultures [...]” that, in Oakley’s opinion, might lead us to “a sort of a perpetual present; a culture without memory” (2009, 410). Oakley’s words are even more relevant if we look at memory institutions, and FHIs as a subgroup of these, whose role is precisely

to link our lives with our past.³¹ Shevlin (2012), writing about paper archives, confirms Oakley preoccupations “[...] grant bestowers have also favored the funding of start-up projects as opposed to supporting the further development and maintenance of these projects” (online). We will see in Chapter Five and Six if and how such policy tendencies have impacted FHIs.

2.2.4 Corporatisation

In the last few decades we have seen a substantial increase in relations between the public and the private sector. In general terms, by corporatisation I mean the use of organisational and financing solutions such as corporate sponsorship (CS), public/private partnerships (PPPs), and various forms of privatisation and outsourcing. CS refers to financial donations to arts organisations to comply with perceived social responsibilities in that the former is “[...] a business relationship between a provider of funds, resources or services, and an individual, event or organisation which offers in return some rights and association that maybe used for commercial advantage” (Sleight in Scaltsa, 1992, 387).³² In Europe, even if corporate arts contributions still represent a relatively small portion of the funding available for arts institutions, it is on the rise.

The benefits of such initiatives, in principle, can be grasped by both the industry and the public sector. Corporations normally use these projects to ameliorate their reputation or to market their brands, while public institutions, in general terms, use them to save resources (or to consolidate available funds). Kirchberg (2003) identifies several conditions that might push an art organisation towards CS: (1) shrinking subsidies; (2) increased competition with other organisations; (3) financing cutting-edge projects or special events; (4) mimetic adjustment “to display business capability” to public or private funders; and (5) financial emergencies.

³¹ The fact that the arts might help the non-cultural economy is not under question as Oakley herself has demonstrated (Oakley et al., 2008). The real object of debate is the extent to which the arts can be an agent of economic growth.

³² We therefore need to separate sponsorship and philanthropy as the latter is legally different.

On the other hand, it has been argued that corporations are not interested only in marketing and branding. Several potential motivations are identified by O'Hagan and Harvey (2000); (1) promoting sales and increasing profits; (2) promoting the reputation of a “good corporate citizen”; (3) making an impact on the political life of local communities; and (4) entering networks with other corporations or stakeholders.

PPPs are more difficult to define in practice. Reynaers and De Graaf (2014) point out that there is a general confusion between privatisation, contracting out and PPPs. Contracting (outsourcing) is carried out by an institution in order to benefit from private companies managing infrastructures, or to offer services on their behalf. Privatisation means transferring ownership or control over assets or activities. Reynaers and De Graaf argue that in contrast, “ownership, control, and decision making authority remain with the procurer in PPPs” (122). Acknowledging the confusion in relation to defining the term PPPs, Hodge and Greve (2007) talk about a “language game” played by governments to avoid using the unpopular term *privatisation*. The cultural sector is not alien to such “language games”. Macdonald and Cheong (2011) offer a broad classification that goes from privatisation, to contracting out. The Buy-Build-Operate (BBO) model, “the closest to privatization [in which a] [p]rivate or third party sector purchases the heritage asset outright with strict requirements or maintenance standards” (898). At the far end of the spectrum, the Operational License, where the “private or third sector operates a service under contract or license at the heritage asset for a fixed term” (899).

However, the real discussion around both CS and PPPs revolves around regulating the power relation between the private and the public. Some writers, given some general regulating principals, argue in favour of the value of PPPs and CS, and even encourage them. After having defended CS as engrained in contemporary liberal democracy – imperfect but acceptable – Scaltsa (1992) argues:

The state has the obligation, deriving both from its audit and social role, to monitor carefully the results of sponsorship of the arts so that it can readdress the inequalities of opportunities for these artists and these forms of art not favoured by private sources or by the mechanisms of modern art worlds as whole. (390)

Other writers express much more critical views. They argue that control and assessment processes are hardly found in practice. Some talk about a risk of commodification of public assets, while others simply think that if such control were to be exercised by the public sector we might see a decrease of such collaborations. For example, Hodge and Greve (2007) call for a more realistic approach, stressing the excess of optimism with which a lot of writers have dealt with the topic:

PPPs promise much. But careful evaluation, away from the loud noise of cheerleader squads, is now needed to ensure that governments maintain their high standards of policy effectiveness while continuing to harbor the desire to look good to voters and the business sector by building infrastructure. (554)

What are the problems that have been caused by corporatisation? There are administration and managerial problems that can be observed, and ethical implications. When large public services companies are engaged in long-term partnerships, problems in terms of accountability, transparency and democracy are revealed (Reynaers and De Graaf, 2014). The issue of transparency is connected mainly with the confidentiality with which agreements are treated. And from this accountability problems arise. Writing about the public-private telecommunications company Telstra in Australia, Wettenhall (2003) argues that: “Telstra management claims that its accountability to government costs millions of dollars and forces it to expose confidential information, giving its competitors a significant advantage [...]” (95). It also appears problematic to place the burden of accountability too heavily on politicians who, in many cases, are detached from decision making. This is where the democratic problem stems from. In reference to local authorities, Bloomfield (2006) argues that “local governments can enter into long-term leases without having to obtain voter approval, comply with statutory debt limitations, or report the long-term lease obligations as debt” (403). Hodge and Greve (2007) explore the differences between PPPs and traditional models of privatisation and outsourcing. They see two main characteristics that stand out: (1) preferential use of private finance arrangements and (2) long term and complex contractual arrangements. They observe that: “[t]he availability of private financing for major infrastructure projects has essentially given governments a new capacity to use a “mega-credit card” with which to charge infrastructure deals” (552). They further argue that, in countries

where such projects are governed by huge centralised entities (UK and the Netherlands), this poses huge political problems. To put it crudely, citizens, on behalf of whom governments supposedly work, de facto transfer their political power into the hands of corporations (who buy it) via financial credits to governments.

As far as the subsidised cultural sector is concerned, we can observe (1) an increasing concentration of cultural activities and resources in certain regions or institutions, and (2) an increasing access inequality. Most of the sponsoring companies invest in and collaborate with well-known organisations. This increases geographical concentration (increasing gaps between regions), institutional concentration (leading organisations to become even more influential and powerful), and cultural concentration (prioritisation of middles classes and upper middle class tastes and preferences). This creates moral problems in terms of cultural diversity and access equality, where the tastes of metropolitan upper middle classes are favoured over other social groups who equally pay their fair tax share (for example ethnic minorities or those considered working class). This might even conflict with those policies specifically directed towards mitigating such inequalities. So, while the sector is bringing in private resources, it may at the same time be wasting public money (Hesmondhalgh et al., 2015b).

We also find problems in relation to the offerings of arts institutions. These often revolve around the genuflexion of cultural and aesthetic priorities in favour of business objectives (Saha, 2007). Even Colin Tweedy (1991), at that time Chief Executive of Arts & Business, concedes that: “[...] if you work in galleries you resent being called a product. You are not prostitutes, you are not selling your bodies, even though when you go away from a meeting with a business you often think that is exactly what you have done” (163). Presenting the findings of a research project which explored a PPP relationship between the State Hermitage Museum in St. Petersburg and IBM, Morbey (2006) writes:

There are three areas in which cybercolonizing aspects of IBM's work with the Hermitage website can be demonstrated. These include: (1) the subtle shaping by a US corporation of the structure and ideas underlying the website, (2) the changes ICT and the website have brought to ways people experience (and think about experiencing) the museum, and (3) the question of language choice and usages, including corporate e-business language, as well as American English branding on the website. (277)

Some writers have emphasised that, in the long term, an overreliance on private unregulated sponsorship and partnership can lead to a process of commodification of public culture, which might become largely instrumental to private business economic gains (Chong, 2013).

2.2.5 Summary of Section

In this section I have sketched out the policy paradigms in which FHIs are operating. The distrust of public sector efficiency is the core assumption from which neoliberal policy stems. The outcome of managerialism, in the face of substantial resources spent on implementing the sector readjustments, is difficult to grasp and to assess. Given that such assessments were one of the key objectives of NPM, we can talk about a failure rather than success. Instrumentalist mantras, increasingly served with economic aromas, are touted with weak supporting evidence. The substantial significance that the arts might have in generating novelty for non-cultural industries, increasing social inclusion or justice, or creating substantial economic gains for local economies, has yet to be demonstrated. Corporatisation (CS, PPPs) appears, in some contexts (especially the Anglo-Saxon countries), to be closer to privatisation than anything else, as private funding for some institutions is becoming fundamental. Although, as recalled by Gray (2008, 213), service providing has improved in some cases, this comes with all of the problems related to the privatisation of public assets, conflicts between private/public organisations, increment of access inequalities, and cultural homogenisation.

So, in terms of cultural sustainability, as defined in the first section of this chapter, neoliberal policies pose some evident challenges. We see risks in relation to cultural diversity as often only the “innovative” projects get financed. Also, we see funding only for products that can be marketable and appeal to current mainstream tastes. Instrumentalism and corporatisation might also clash with the cultural missions of public institutions that may force them to pursue value propositions that are alien to public policy objectives. We will see in Chapter Four and Chapter Six how such tendencies and debates are impacting FHIs and what repores are in place or could be put in place. Those two chapters will also bridge a gap in the academic

literature. Indeed, the vast majority of the academic references cited made specific reference to, or even mentioned, FH.

I shall begin the next section by talking briefly about traditional FH management. It is a well-established practice and I will not devote too much room to describe the details of the process. It is however important to understand existing practices on top of which the digital infrastructure might be installed. I then review the literature in regard to digital preservation at the highest level of abstraction. This is needed to contextualise the literature that specifically deals with FH, which I will analyse in the third part of the next section.

2.3 Organising Film Acquisition and Preservation

2.3.1 Traditional Film Heritage Management

As historical change can be path dependent, I deem it useful to briefly recap in this section what the existing literature tells us about film heritage. Film collection management, even if relatively new compared to museum or archival management, is now a mature practice. Polyester film, if stored and handled properly, is a very reliable preservation medium (FIAF, 2009). Archivists now have more than eighty years of experience, and they have developed a wide body of technical knowledge and specific archival cultures.

I will therefore summarise very briefly the issues involved in analogue film heritage management. Every major or medium sized institution is organised around the following functional entities: management and administration; acquisition and selection; collection management and curation; cataloguing and documentation access; and, less frequently, a research and development or fundraising department (Cherchi Usai, 2001, 1020-1027). More concisely, one could conceptualise the practices of FH management in three building blocks: acquisition, preservation, and presentation (Edmondson, 1995; Goldman, 1994).

There are four main acquisition routes³³: donations (where the donor loses the rights over the materials); exchanges between archives; purchases; and, as far as professional productions are concerned, deposit (FIAF, 1991). As for the latter, we have three main arrangements: legal, contractual and voluntary deposit. The detail of the arrangements can vary from country to county. However, broadly speaking, legal deposit is the obligation to deposit in a public repository every work of the national film production (although defining “national” is increasingly difficult in a European context as many audiovisual works are produced through coproduction). The contractual deposit obliges only producers who have received public financial aid to deposit their productions at a public repository. On the one side, archives receive materials that they can make accessible in compliance with copyright legislation; on the other side, rights holders can benefit from the proper preservation of their films. The acquisition process concludes when the item is properly catalogued (Yee, 2007). Relevant non-filmic materials, received from the producer or created by the research of the archive personnel, are also securely stored.

Preservation normally includes conservation, duplication and restoration.³⁴ Conservation (or passive preservation) entails the provision of proper storage conditions and periodic inspections of the chemical stability of the films.³⁵ Duplication (or active preservation) mainly refers to the creation of preservation film items from prints or, vice versa, access copies from items designated as preservation items. The enhancement intervention on the images are minimal (the image quality slightly decreases in each new generation). Restoration, on the contrary, is the practice of creating enhanced and/or reconstructed versions of film works from deteriorated, damaged, incomplete or wrongly edited materials. Restoration projects are not carried out on a daily basis as they are normally long, complex and expensive

³³ More extensively acquisitions might refer to: “donation, purchase, transfer, exchange, copying, recording, deposit or loan” (British Film Institute, 2011, 9).

³⁴ Some consider restoration as part of the presentation building block as the initiative is meant to create a film work to be shown (Fossati, 2009). Surely this is the phase where the two building blocks overlap. However, I consider restoration as a process of “compensation for degradation” (FIAF, 1991, Cherchi Usai, 2000) so, in my view, this falls into the realm of preservation.

³⁵ This boils down to having storage systems which can assure stable temperature and humidity conditions. The chemical stability of polyester film is impressive. If kept at an appropriate temperature (5°C) and humidity (35% relative humidity), it can carry photographic images for up to 500 years with no significant degradation (FIAF, 2009).

initiatives (Read and Meyer, 2000). Historical and archival research is entailed in all the above processes and, to some extent, those same work processes can produce new knowledge if information is properly gathered and recorded (Cherchi Usai, 2000).

In-house access to collections is normally permitted under appointment. Low quality digital copies might be created for researchers. Films are normally screened at the institution's premises and circulated within networks of institutions, normally FIAF members or independent film theatres (FIAF, 2015b). Good relationships between institutions are important because they allow loans and exchanges, which are vital to insure diverse and rich film programming. Some institutions, both regional and national, also release DVD series and license footage to filmmakers or broadcasting companies. As we have seen above, digital versions of film materials are created thanks to professional film scanners which are now able to produce images that accurately imitate the quality of the source materials. The image quality of modern 35mm film stock is approached by 4K digital images. However, the quality of such images might decrease if projected via DCPs as they need to be scaled down (Digital Film Technology GmbH, 2012). As Cloonan reminds us:

A current assumption among preservation administrators is that in the analog world the original has more integrity and veracity than a copy. In the digital world, this assumption suggests that technology transforms the concept of format. The concept of a physical object is seen as having less importance because "digital texts are neither final nor finite, and are fixed neither in essence nor in form except when a hard copy is printed out for they can be changed easily and without trace of erasures or emendations" [16, p3]. (Cloonan, 2001, 236-237; internal quote is Abby Smith).

We will see in the next section to what extent this is true in the existing literature, in order to visualise the debates in the community and to identify where problems may lie.

2.3.2 Digital Trustworthiness and Organisational Models

In order to understand what has already been done to respond to the challenges of digital preservation, I shall start by talking about standards and organisational arrangements. The call for standardisation at all levels of the archiving process has

been a redundant issue in the literature on digital sustainability at the workflow, organisational and file level. Reaching a certain level of standardisation allows an assessment of costs and the identification of key issues.

The Open Archival Information System reference model was proposed by the Consultative Committee for Space Data Systems (CCSDS) in 2002. An updated version was released in 2012 (CCSDS, 2012) and recently became ISO standards (ISO 14721:2012).³⁶ OAIS, if adopted, may have an impact on organisational choices. However, as Giaretta (2011) reminds us, the word “Open” refers to the fact that it was “openly” developed by experts with different backgrounds and it is therefore “open” to interpretation in relation to contextual needs (13). The OAIS reference model is articulated at three distinct conceptual levels: (1) environmental, (2) functional, and (3) informational. The OAIS environment maps the relationships of four components: the Producer, the Archive, the Management, and the Designated Communities of users. The central unit here is the management. The manager regulates the relationships between the Archive and the other three components in order to ensure that the fundamental responsibilities are fulfilled.

We can now bring our focus into the archive. At the functional level, we have six main organisational functions that might assure the trustworthiness of the archive: (1) ingest, the process of checking, accepting and including information in the archive; (2) archival storage, the process of storing, maintaining and retrieving information for long term access; (3) (meta)data management, the process of keeping or creating descriptive and administrative metadata to keep data meaningful to future generations; (4) preservation planning, to respond to potential external threats (via technology-watch reports, for example) or to foster system ameliorations (updating preservation policies); (5) access, the process of engaging with communities and shaping dissemination strategies; and (6) administration, which refers to coordinating and overseeing the previous functions on a day-to-day basis interacting with Management, Consumers and Producers (see figure 3).

³⁶ For a list of changes between the two versions see Barbara Sierman’s blog post: <http://www.digitalpreservation.nl/seeds/oais-2012-update/>

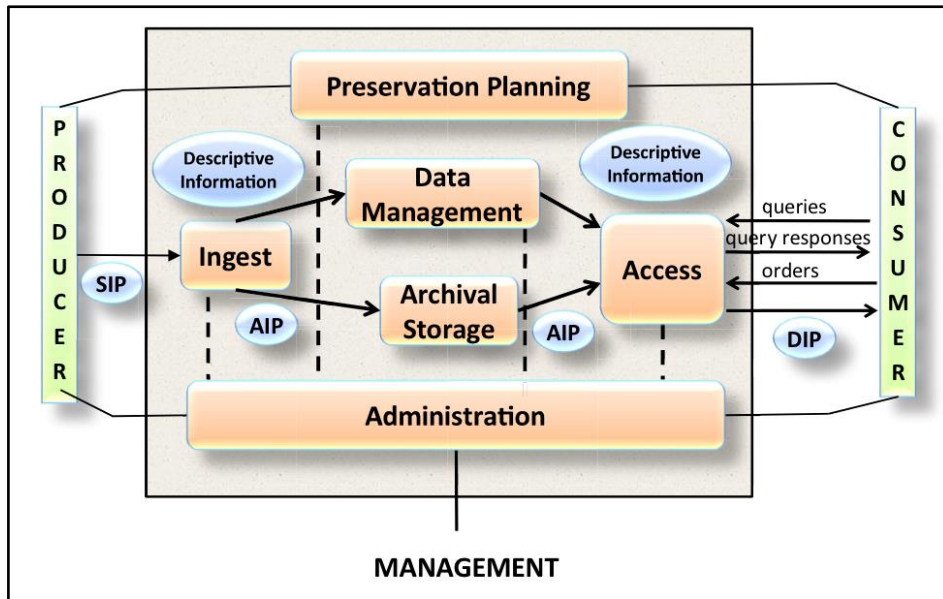


Figure 3 - OAIS Functional Model

This is the context in which important technological and organisational solutions are discussed and implemented: storage technology and architecture, access platforms design, selection policies for digitisation. Indeed, it is worth stressing again, that the OAIS functional units are conceptual and might be embodied in the same department, or, vice versa, one function can be carried out by more than one department.

The last level of abstraction of the OAIS is the informational model. Its goal is to standardise the formats of the units of information that archives preserve and handle. At the highest level, a distinction is made between the Submission Information Package(s) (SIPs) provided by the Producers, the Archival Information Package(s) (AIPs) created by the archive for preservation, and Dissemination Information Package(s) for access and presentation purposes (DIPs).

Writing from an archival science point of view, Christopher Lee noted that “much of the value of the Reference model comes from its coherence, clarity, and synthesis of ideas” (Lee, 2010, 4029). It provides a “vocabulary” through which professionals can talk about organising digital archiving. Indeed, other writers have pointed out that the OAIS model does not really solve any interoperability and/or increase standardisation as it constitutes too loose a model (McDonough, 2008). So, if in practice two archives build their infrastructure over the OAIS model, this says

nothing about interoperability and other key long term choices such as file formats or metadata schemes (McDonough, 2008). The recent discussion that took place on the Wikipedia page of the Digital Preservation Coalition between two key figures in the field, David Rosenthal and David Giaretta, is worth noting.³⁷ Rosenthal called for a revision of the OAIS. Giaretta responded by arguing that the model is coherent enough and, in order to move forward, one might simply need to move the conversation from the abstract level to the practical task of implementing the models.³⁸

The OAIS model has been taken as reference to build another important ISO standard: the *Audit and Certification of Trustworthy Digital Repositories* (TRD/ISO 16362). This is used to assess the trustworthiness of digital repositories and consequently allows the development of auditing techniques.³⁹ Despite these advancements, trustworthiness might still be a loose term. Indeed, if one acknowledges the infancy of digital preservation solutions, then one should also recognise that the audit processes suffer the same weaknesses. To quote Brian Lavoie, one might say that:

Given the very high-level nature of the OAIS conformance requirements, it is perfectly feasible that another OAIS-based effort to standardize repository certification could arrive at a very different set of specific criteria, which could nevertheless be rolled up into the same broad conformance requirements on which TRAC is based. [...] It is still an open question whether an external audit and certification process based on TRAC, or another standard, offers significant benefits over self-declared OAIS compliance. (Lavoie, 2014, 24)

In conclusion, we are seeing positive steps towards standardisation at various levels, such as organisation technology and metadata, however more work is required to

³⁷ The discussion is available here:

http://wiki.dpconline.org/index.php?title=Comments_on_David_Rosenthal%27s_%E2%80%9CThe_case_for_a_revision_of_OAIS%E2%80%9D (15/05/2016)

³⁸ For an example of customisation see Hitchcock et al. (2007). See Allinson (2006) for a positive assessment of OAIS in practice and Recker and Schumann (2012) for a more prudent account.

³⁹ We find a series of auditing standards. They are extensively described in Corrado and Moulaison (2014) 95 – 107). At the time of writing, there is one basic certification, the Data Seal of Approval (DSA), and two extended certifications, (1) the *Deutsches Institut für Normung* (German Institute for Standardization - DIN 31644) and (2) the *Audit and Certification of Trustworthy Digital Repositories* ((TRD/ISO 16362, see Consultative Committee for Space Data Systems, 2011) based largely on the *Trustworthy Repositories Audit & Certification: Criteria and Checklist* (TRAC).

make preservation processes more stable, less complex and cheaper. A lot depends on various associations of professionals that have the responsibility to translate OAIS into implementable archival solutions. We shall see how the FH community is trying to achieve this in section 2.2.2.

At a more pragmatic level, the issue of infrastructure design has important implications in respect of archival control of film collections. I will explore these debates in the following section. Drawing on Ng et al. (2010, 40) we can identify six organisational repository models (see table 1):

1. Centralised repositories for all public television materials within the public television system;
2. Centralised repositories for all public television materials via third parties;
3. Individual producing stations maintain their own repositories;
4. Decentralised disaggregated repositories shared between public television entities;
5. Decentralised disaggregated repositories that rely on third-party services;
6. Decentralised repositories shared among public television entities and administrated by a third-party.

A distinction must however be made when we talk about public and private third parties (e.g. Amazon and Microsoft). I refer to the latter as the *Cloud*. Cloud storage is becoming more and more popular as a storage medium and has been marketed strongly. Essentially, the notion of cloud computing in the context here refers to outsourcing, partially or totally, the computing infrastructure of a company. In so doing, the company can benefit from services that it otherwise could not afford to buy outright, or that it would need to develop in-house. As Mell and Grance (2011) tell us, there are several operating models:

1. *Private Cloud*, the cloud infrastructure is provided for use to a single institution (it can be located at the client's premises).
2. *Community Cloud*, a collective effort addressed to preserve the collections of a group of organisations.

3. *Public Cloud*, this is normally the solution for the general public or small businesses. The infrastructure is open for use to whatever customer.
4. *Hybrid Cloud*, the infrastructure is a combination of the above models. The infrastructures remain distinct but interoperable.

The services that cloud providers offer can go from the so-called Infrastructure as a Service (IaaS), where the customer deploys their own (compatible) application and operating system; Platform as a System (PaaS), where the provider offers a customised application and operating system in relation to specific needs of the end user; and finally Software as a Service (SaaS), where the provider offers pre-made rather than bespoke software and application solutions (Marinos and Briscoe, 2009; Mell and Grance, 2011).

Table 1 – Infrastructure Design Typology

	<u>Independent</u>	<u>Centralised</u>	<u>Decentralised</u>
<u>Inourced</u>	An organisation preserves its assets in its own repository.	A single infrastructure is built to preserve the assets of a group of organisations under their direct management and ownership.	A network of individual repositories which share materials and resources.
<u>Outsourced</u>	A third party organisation, public or private, takes care of the content of one organisation.	A group of organisations outsources the full range of preservation activities to a third-party (public or private).	A network of third-parties run repositories which offer complementary services.
<u>Mixed Solutions</u>	An organisation preserves materials in various repositories (e.g. a copy of a given item is preserved in its own storage, a copy is preserved in centralised-outsourced facilities).		

Mosco (2014) has written about the political economy of cloud computing. He argues that the corporate marketing strategies adopted by the IT giants offering cloud services paint an overly positive picture of what outsourcing to third party vendors can do for the economy of an organisation. We are a step forward from the traditional technological sublime of *networks of participation*, often decorated with images of

“[...] hard-edged data center(s)” (207). Breezy images and cheerful values such as lightness, naturalness and fertility are attached to the metaphor of the cloud, so that it “contains a critique that challenges utopian visions, finding transcendence, if not the divine, in new technology” (208). In Mosco’s view, such images try to hide the political and economic implications of the unhealthy concentration of power that corporations like Amazon and Oracle are accumulating by managing and controlling the technological infrastructure of companies and public institutions. Mark Andrejevic (2007) describes a similar process in relation to general public, *digital enclosure*, the goal of which is “to separate the users from the means of interaction, transaction, communication and expression [via] [...] [t]he construction of privatised infrastructures for ubiquitous computing” (304). If these writers are correct, the “fog”, rather than *the cloud*, might be a better metaphor to refer to this phenomenon. The work of these writers allow us to assess the implications of mass cloud computing and it allows a serious discussion about the extent to which outsourcing digital storage might be a viable solution.⁴⁰

As far as cultural organisations are concerned, some writers have written about the long term cost of cloud storage, arguing against the cloud as a long-term preservation solution (Rosenthal and Vargas, 2013). That is why cloud storage solutions have been described as “locking in” solutions by David Rosenthal (2014), in that it is easy to upload materials but, due to high costs, it is difficult to provide access to them. Others have expressed more optimistic views based on the belief that the expansion of cloud computing will result in lower price levels and appropriate long term preservation services (Wright, 2014). What Besser points out in relation to online platforms managing visual collations (e.g. Flickr) can be extended to cloud storage in that “[...] having for-profit managing such collections (as opposed to cultural institutions that managed image collections during prior decades) raises serious issues in terms of sustainability (particularly if these someday become less profitable to operate), privacy, and copyright issues” (Besser, 2016, 104).

⁴⁰ Worth noting are the serious environmental implications of cloud computing as a server farms’ electric consumption is remarkable and on the rise (Cubitt et al., 2011).

2.3.3 Sustainability of Digital Film Materials

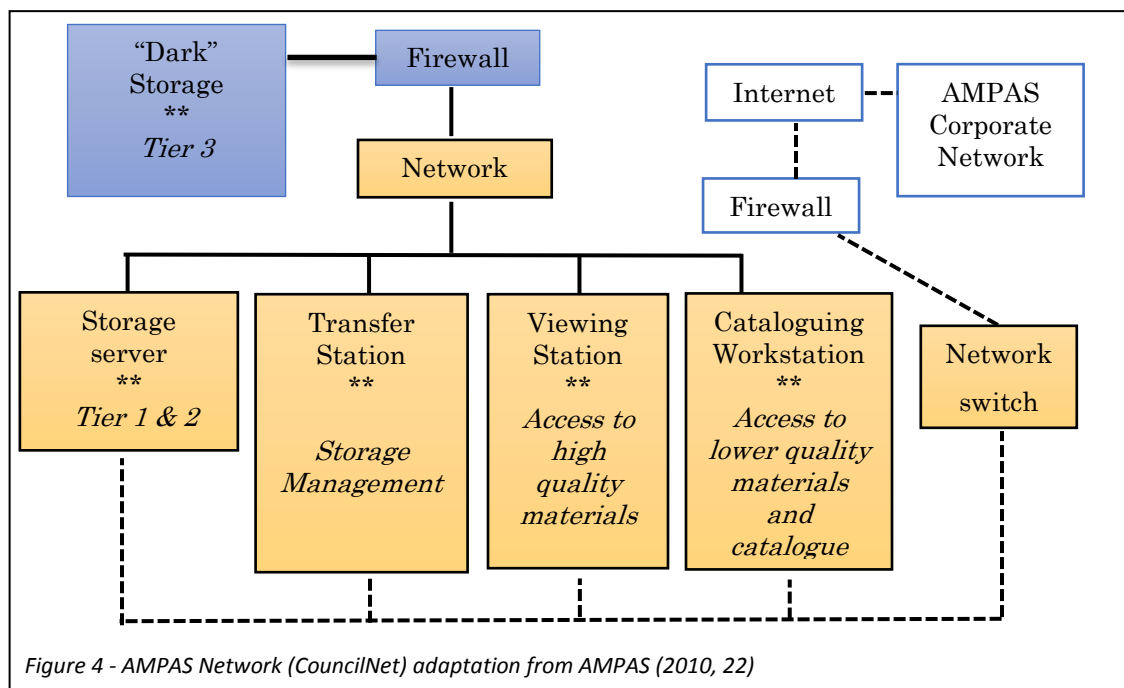
As anticipated in the introduction, three important papers have been released by the American Motion Picture Arts and Sciences (AMPAS) specifically in relation to cinema. I have already mentioned the first document (Academy of Motion Picture Arts and Sciences, 2007) in Chapter One, the *Digital Dilemma* (TDD). This paper assesses the problems of digital preservation in order to provide some guiding principles that might inform future research and development of digital storage studies. The second paper *The Long-Term Management and Storage of Digital Motion Picture Materials* (Academy of Motion Picture Arts and Sciences, 2010) presents the findings of a practice-based research which describes the construction of a small-scale digital preservation infrastructure within the AMPAS corporate network. The third paper is a study (Academy of Motion Picture Arts and Sciences, 2012), the *Digital Dilemma 2* (TDD2), conducted among North American FHIs which concludes with some proposals for actions that address the challenges of digital preservation, which I will expand on later in this section.

The basic argument of all of these documents is that “digital archival systems should be at least as capable as the film preservation system it replaces” (AMPAS, 2007, 49). In summary, this means: (1) planning for an archival life of at least 100 years; (2) to be solid enough to face times in which funding might sensibly decrease; (3) guaranteeing the usability of the material in the long run (access and duplication); (4) assuring a reasonably good image quality (as close as possible to 35mm for analogue materials, and assuring the distribution quality for native digital materials); (5) assuring a relative independence of the technological infrastructure from shifting technological and commercial patterns.

The *Digital Dilemma*, published in 2007, was the first publication which warned the community about the problems of digital preservation specifically in relation to film. This widely discussed document put forward for the first time calculations of the costs of preserving the digital equivalent of a 35mm archival element.⁴¹ The long-term cost of a digital preservation can be up to 11 times more expensive than analogue film preservation: 1.059\$ for an analogue preservation item

⁴¹ By digital equivalent I mean a digital element with a 4K image quality.

(one feature film) against 12.514\$ a digital preservation item (AMPAS, 2007, 43). Even if the study has been criticised by some,⁴² it has been generally welcomed as a major contribution to the field of film preservation. In AMPAS (2010) we find a very useful description of the practical challenges of building up a digital repository for motion pictures. The configuration of the archive is visualised in figure 4. The materials are stored in a three layer storage system: *Tier 1* is a high performance storage (online or active storage); *Tier 2* is a high reliability storage for the storage of in-process materials that are waiting to be definitively ingested; and *Tier 3* is a high reliability off-site storage (“dark archive” or off-line storage). The repository is part of a broader network that allows professionals to manage and to access the archive online. This is allowed by a high-performance computer network (see figure 4).



⁴² See for instance Addis and Wright (2010). In this work the writers remind us that in the AMPAS study, “analogue preservation items” refer to colour separation masters. The two crucial critiques put forward by Addis and Wright are that (1) the cost of access is not included in the calculation (this involves the scanning of the three separation masters); (2) the decreasing cost of digital storage is not considered in the calculation. In order to question AMPAS (2007) they refer to Cavena et al. (2007). However, this study, sponsored by Sun Microsystems (since acquired by Oracle), provides a very superficial calculation of digital preservation costs (21-22).

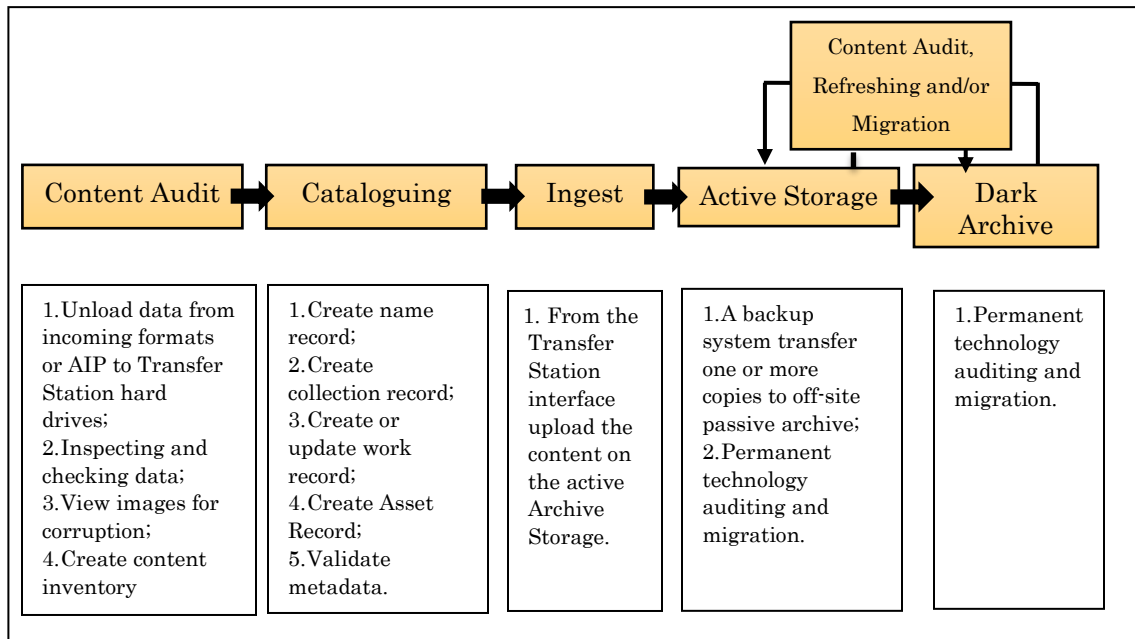


Figure 5 - AMPAS ACCeSS System Components

The central challenge that the authors seem to put stress on is “customisation”. They underline the necessity (and the complexity) to devise complex ad-hoc technological and organisational solutions. The AMPAS (2010) team built a software system which comprises four main components (27):

- (1) *Cataloguing Application* to handle and describe digital objects;
- (2) *Digital Repository* for long term storage organised on three levels;
- (3) *Media Ingestion System* able to import both information into the catalogue and digital materials into the repository;
- (4) *Media Transformation Framework* to convert format from ingestion to preservation and finally to access formats.

Testing, selecting and/or customising software, hardware and file formats was previously a daunting task which required the work of highly specialised personnel and the contribution and expertise of a large community of people and organisations. The cost of planning and implementing such prototypical systems cost \$600.000 (AMPAS, 2010, 52). The storage space is however really small, 76TB, and the system was only meant to be an “interim solution,” and is “likely to be replaced with a longer term solution” (3). The peculiarities of digital cinema preservation, they write, might

be identified. In relation to television stations, these “generally do not have the same level of technical complexity as digital motion picture” (AMPAS, 2010, 10), which normally require a higher level of curation. The main issue seems to be the relatively large number of large digital complex objects which distinguishes this both from libraries (relatively large number of small files) and museums (relatively small number of large files).⁴³

TDD2 presents the finding of a survey conducted on 21 non-profit archives, local collections and university film archives. The report identifies three key challenges: rapid changes in technology; tensions between IT minded personnel on the one hand and archivists/curators on the other; and tight budgets and inappropriate funding strategies. The report concludes with a set of recommendations:

- (1) More has to be done in the archival community to standardise software, hardware and practices (from adopting portable file formats to developing similar metadata schemes);
- (2) More collaborative efforts are needed to share the efforts of such initiatives in order to both share knowledge about in-house solutions and to develop community systems;
- (3) More cooperation with IT departments if the archive is part of a larger group of organisations;
- (4) More education and training in audiovisual preservation. Also, the study found that practically all of the desirable objectives set by TDD were unmet, which largely corresponds to the suggestions put forward in TDD2 (see above).

In all the above documents, there emerges the will to stress the autonomy that the film sector should maintain from the IT sector. These documents seem to question the increasing dependency on the digital assets of major American studios, in that “the design emphasis is on applying film preservation best practices and data curation practices rather than forcing these practices to fit available technologies”

⁴³ One digital film can take up the same storage space of the entire digitised museum collection.

(AMPAS, 2010, 3). More explicitly, “[w]hile it is true that end-users benefit from new features and cost efficiencies that generally come with new products and technologies, the economic benefits of technological obsolescence are accrued primarily by the hardware manufacturers and software system developers” (AMPAS, 2007, 56). The contribution of these publications is important, but it is also important to acknowledge their political economic value and bias.

With regard to Europe, there seems to be much more of an optimistic point of view, or at least more optimistic views are implied in the arguments in the literature. Acknowledging that funding is a problem, the general mainstream message is that digital preservation, although onerous, is certainly a surmountable challenge. One important initiative was the EDCine project, funded by the European Commission. This project had three main areas of exploration: “content streaming to cinemas, advanced movie experiences, digital archives and access to archives” (Foessel and Nowak, 2008). The storage architecture is presented in Mazzanti et al. (2008). The authors propose a two layer architecture to digital preservation, consistent with the OAIS model. In one layer, materials are archived via Master Archive Packages (MAPs) in a high image quality. In the other storage layer, data are preserved in Intermediate Access Packages (IAPs).⁴⁴ The institution creates Distribution Access Packages (DAPs) from both MAPs and IAPs (this could entail file format conversion, compression or decompression). For both the archival packages, MXF (Material eXchange Format) is proposed as the *wrapper* format, while JPEG2000 format is proposed for images. This is only a “[...] proposal which is being discussed and reviewed, so details can obviously change” (134). In a recent paper prepared in the context of EFG1914, more information has been provided to organise the digitisation workflow based on EDCine (Christensen et al., 2012).

⁴⁴ The key features of the images in the MAP packages are: resolution up to 16K, 32bit depth, any colour space. In the IAP we have images up to 4K, 12bit depth, any colour space.

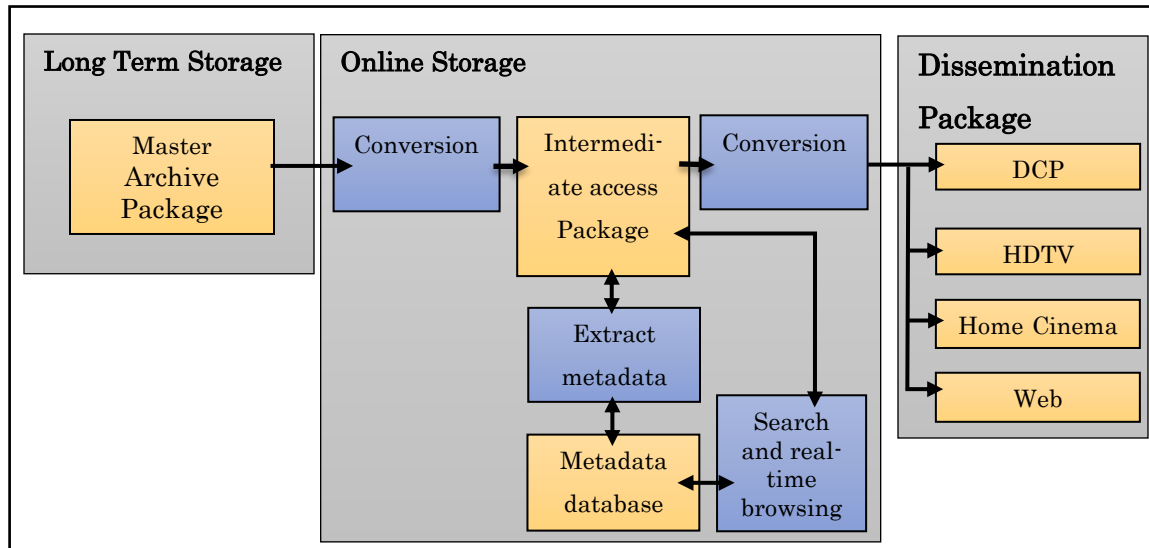


Figure 6 – Edcine System Architecture adapted from Foessel and Nowak (2008)

As mentioned in the previous chapter, the most complete and relevant empirical study is the DAEFH report (Mazzanti, 2011c) commissioned by the EU and published in 2011. The report denounces a budgetary insufficiency for FHIs in Europe which impedes these organisations from sufficiently facing the challenges of the digital era, and from benefiting from the opportunities it creates. This negatively affects the whole spectrum of activities from acquisitions to access. The study points to the French institutions INA (Institut National de l'audiovisuel) and CNES (Centre national d'études spatiales) as examples to imitate. The former has the merits of (1) having set up an education branch for emerging technologies and (2) to have sorted out appropriate acquisition policies and archival standards in collaboration with relevant stakeholders (in particular the importance for archives to determine the formats that producers deposit is stressed). The latter can provide important insights into the technical and organisational infrastructure of digital preservation. The merit of these two organisations summarises the long list of recommendations that the study concludes with. The study calls for a united European strategy that might allow for the construction of a shared European digital preservation infrastructure. As far as the digital preservation costs are concerned, we find a much more optimistic calculation than AMPAS. According to data provided, the cost of a one TB would be between €145 and €250, so that one feature film archival digital

master (3 copies) would cost only between €2000 and €3750 per year (Mazzanti, 2011, 82).

Although one must surely recognise the significant contributions to the field,⁴⁵ it seems that there are three key points that needed to be better evidenced in relation to the DAEFH report. There seems to be a great deal of vagueness in, firstly, the calculation of the amount of data created as a consequence of the digitisation of the whole European heritage; for example, what resolution for what kind of items, and how many copies for each item? Secondly, in the calculation of the amount of resources needed to preserve all these data in the long run: what cost model has been used to calculate this? What preservation strategy has been hypothesised?⁴⁶ Also to be noted is a lack of evidence provided to support the estimation in regard to the availability of film scanners in the market.⁴⁷ In the report, the market appears to be shrinking incredibly fast, but other writers have argued that it is instead quite stable (Pennington, 2014b).

Wengström (2013) has written a useful paper summarising the issues related to FH in the near future, largely basing his consideration on the DAEFH report. In Wengström's opinion, "digitisation can't wait", not only because labs are closing down and equipment will not be available on the market, but also in his opinion "the supply of high quality digitisation equipment will soon cease to exist" (126). Wengström brings about a calculation of costs and an estimation of the amount of data that the potential digitisation of the entire collection of the Swedish Film Institute could create (roughly £2.3 million to preserve 25PB of digital material per year). However, due to the complexities of digital storage systems, and the unreliability of cost models for digital preservation, Wengström should have provided more details about digitisation and preservation standards; for example, what model has been used to calculate this, and whether the calculation is based on

⁴⁵ David Bordwell, for example, acknowledges the report as one of the main sources of his last book on digital cinema (2012, 232).

⁴⁶ The section called "cost modelling" (Mazzanti, 2011, 41) does not really define a cost model. One would have expected references to existing cost models and criteria to choose one but in that short section the authors seem to only describe a set of issues and criteria in data collection.

⁴⁷ This is important because the presence of film scanners on the market, or digitisation services, would provide to FHI's the possibility to slow down and stretch their digitisation processes over longer timeframes.

the actual prices charged by vendors. In his work, Gaustad (2012) seems to move along the same line, although he finishes his paper with more questions than answers. Walsh (2013) outlines a series of difficulties which non-profit institutions may run into when they start digitisation projects. Not only in regard to economic resources and technical matters but also consequences of organisation and curatorial issues. His contribution to the *Journal of Film Preservation* is a good introductory paper to the OAIS model (Walsh, 2014). Fairall et al. (2013), have described the digital workflow at the BFI, the organisation they work for. They identify key sustainability factors in the internal coordination between departments, collaboration with internal clients, and staff training and education. In general, like Walsh, the authors underline the fact that “expectations that digital equates to “fast and easy” proved challenging” (133).

Another important paper to be mentioned here is the study by Broca and Traisnel (2011) for the CNC in France (*Le Centre national du cinéma et de l'image animée*). They suggest that “celluloid” film should be maintained as a principal means of preservation. It is possible, in fact, to record digital data back onto film and use it as a preservation element (a non-solution approach as defined in section 2.1). In their opinion, if a preservation process involves frequent migration or emulation cycles, it is not acceptable for archival purposes. This approach does not cope with the potential disappearance of film stock from the market in the next decades, nor does it take into account its increasing cost.

Another important body of literature is provided by the Presto 4U project, funded by the European Community. The reports are very useful to map out the main trends in the field of audiovisual preservation. The project attempts to bring together the research community, the archive community, and industry. This was a valuable attempt; however, as sometimes happens when industry is involved, some of the research data remains confidential: “[...] these tests (LTO6 and Optical Drive) will be presented as a separate document and will remain confidential until it is approved by the commercial entities for public consumption.” (Presto4U, 2014b, 134). Improvements are identified in terms of standardisation but most of the problems are still there:

Among all communities the most homogeneous is probably the one composed by public and commercial film archives. Every stakeholder here has similar problems and issues with digital content preservation, but nobody yet has a long-term strategy or solution that does not require significant and on-going capital investment and operational expenses. (Presto4U, 2014, 40)

Consortia, like such as Presto itself, are described as “brokers” whose role is to overcome barriers to research output adoption and to build connections between researchers, vendors and the archive (Presto4U, 2013).

2.3.4 Summary of Section

In general terms, a proactive, action-focussed approach is advised. What “action” might mean is certainly open to question though. It is suggested by AMPAS that small scale digitisation projects and pilot projects can be extremely useful to put into focus (sometimes unexpected) problems and potential solutions. As far as acquisitions are concerned, it is considered important to engage with producers in order to discuss possible deposit agreements which must include technical and metadata standards. Receiving materials that are ready to ingest can save a lot of work, time and money to the archive in question. The materials do not have to be transcoded, and metadata does not have to be added.

As far as preservation is concerned, the key words seem to be training, collaboration and reorganisation. New expertise is needed. Internal initiatives such as staff retraining are essential. Reorganisation might be useful as digitalisation indirectly involves all departments of an institution. Developing stable relationships with IT vendors seems to be fundamental to establish fruitful and trustworthy relations (see for instance the example of DIAMANT software). Collaborations with other institutions which share similar challenges are also important. Indeed, developing insourced infrastructures is generally suggested, as well as developing shared research projects via R&D departments. In summary, we can see a move towards the standardisation of technology, organisation and practices such as the widespread use of the OAIS model and standardised audit processes. This is an important step towards sustainability, but it is merely the first one. The literature remains quite vague and no shared solutions are found within. The absence of long

term effective organisational responses to the cost and complexity of digital preservation seems to be a serious threat to intergenerational equity (see section 2.1), and the risk of losses are real.

The TDD2 research allows American archivists to speak about such issues; in Chapter Five, and partially in Chapter Four, we will hear European archivists talking about such issues so that we will see whether, in a different institutional context, problems, challenges and solutions present discrepancies or similarities. This will also help us to understand what archivists think in relation to such a volatile technological context, and to perhaps explain why such discrepancies of data in relation to preservation costs and technological solutions are occurring. Indeed, in those sections I shall talk about how FHI's are dealing with organisational issues such as acquisitions and management. We will also see whether the above recommendations have been somehow followed and what archivists think might be the further actions to be taken.

In the next section, I shall deal with questions related to accessibility and value creation. The impact of digital optimism has been substantial in the debates. I shall first present an overview of digital optimism and then focus on relevant academic and professional debates.

2.4 Film Heritage and Outreach

2.4.1 Digital Optimism

The development of digital technologies and the discourses and theories developed around them have strong implications for the cultural sector, including FH. In an influential article Nicholas Garnham (2005) mapped the intellectual provenance of the strands of thinking that have generated the concept of creative industries. In particular, he mentions the “technology of freedom” tradition (Pool, 1983). This last debate is the most relevant in the context of the accessibility and outreach and has been rebranded under the term “digital optimism”.

Digital optimism is a form of technological reductionism that became popular in the 2000s thanks to the work of writers such as Henry Jenkins (2006; 2014) and

Manuel Castells (2007; 2011). Both Jenkins and Castells believe that the technological advances brought about by the ICT are radically changing the way we use media. Such technologies, applied to mass media, allow more interactivity among individuals and foster the creation of grassroots social movements; they can therefore empower socialisation and enhance access to culture and its emancipatory potentials. The basic idea is that thanks to this increasing connective capacity, dispersed (and therefore difficult to control) countercultural power centres can flourish. This might challenge mainstream power structures (and cultural canons) so that people can create a more participatory and democratic society. In the past, they argued, such potential was obstructed by the essentially top/down nature of old media. So, the new type of communication channels that new media and networks allow appears to have changed audiences. In Jenkins' (2006) words:

If old consumers were assumed to be passive, the new consumers are active. If old consumers were predictable and stayed where you told them to stay, then new consumers are migratory, showing a declining loyalty to networks or media. If old consumers were isolated individuals, the new consumers are more socially connected. If the work of media consumers was once silent and invisible, the new consumers are now noisy and public. (18)

What seems to be the key theoretical assumption of these writers is that they unquestionably see communications as the key site of power in society. This is implied by Jenkins:

Rather, for me, the fight for a more participatory culture has to do with insuring as many people as possible to have access to the platforms and practices through which future struggles over equality and justice will take place. (Jenkins, 2014, 285)

Castells further offers that:

Politics is based on socialized communication, on the capacity to influence people's minds. The main channel of communication between the political system and citizens is the mass media system, first of all television. (Castells, 2007, 240)

It should be stressed that Jenkins distances himself from some of the writers who have uncritically celebrated digital technology, what he calls the "digital revolution approach" (2006, 5), for example Negroponte (1996). Curiously enough, these writers

put forward such compelling theories with a great deal of assertiveness, at a time when the internet was yet to become a mass phenomenon and “where 80% of the [world’s] population [had] never even made a telephone call” (Tanner, 2005, 6). Some writers have explored the grand and prophetic narratives of some “vulgar” digital optimists (see the account by Mosco, 2004). These writers have demonstrated how digital gurus/prophets/visionaries have contributed to the creation of the myth of digital panacea, or digital sublime in Mosco’s words, “which IT and the consumer electronics industry have a great deal of interest in promoting” (Hesmondhalgh, 2013a, 339). In their opinion, as a result of a vicious circle, the industry instrumentally used such ideas by pushing them through their communicative channels (e.g. Wired Magazine) and some writers uncritically took up digital utopianism to please powerful circles of the ICT industries. This has led to a general overestimation of what digital technology, social media and innovation can really do for society.

Although Jenkins (2006) acknowledges the above mentioned prophetic and too optimistic stance of certain writers, he heavily marginalises the risks and drawbacks of digital technologies in his book. As many writers tell us, technological development is shaped by society, and is to some extent determined by power and economic structures that allow or deny “inventions” to be employed in certain ways and in certain contexts (Winston, 1996; MacKenzie and Wajcman, 1999). So, the room for critique is to be found on two different levels in my view: on the one level sociological critiques, on the other political economic critiques. As for the sociological questions, one might ask on what basis one can argue that contemporary audiences are more or less active or critically engaged than pre-digital audiences and users. Hesmondhalgh notes that “[f]or some conservative proponents of the internet [...] the individual consumer could rule in the cyberspace. The problem is that where we go will, to a significant degree, be determined by our existing knowledge and inclinations. So how do we know where to go?” (328). This issue is at the core of the problem that has been called the *digital divide*, which relates to inequalities in skills and education that the internet seems to reinforce.

Secondly, the argument that the control of communications among individuals is the fundamental site of power and the primary vector for social change is far from being conclusively demonstrated. For example, Marxian writers, although

acknowledging the power of the media, might argue that power still relies on the control of means of production and labour forces (Maxwell & Miller, 2011). In many of the writings of digital optimists, the political primacy of communications among individuals is assumed and rarely discussed in depth. This assumption, might have led to the unplaying of issues related to the excessive concentration of power in the ends of few commercial internet giants (e.g. Google, Amazon and Facebook) and/or their political relationships with other large traditional media giants and non-communications economic and political forces (e.g. governments, cultural industries). Why, therefore, would these corporations allow the internet to be used to challenge the same power structures and institutional relationships that allow their very existence (and their profits)? Indeed, such corporation do exercise power to shape their users behaviours. A number of problems have been identified with the expansion of the internet industry, such as surveillance practices and the concentration of control over information (Andrejevic, 2007), commodification of social relations (Jakobsson and Stiernstedt, 2010), and control over web site visibility (Hindman, 2008, 38-55). These are real problems that, when mentioned, are underplayed in the work of digital optimists. The implications of such critiques are generally that to exploit the emancipatory potential of a particular means of communication, our focus should be shifted away from the “mass self-communication” (Castells), to media and culture policies implemented using state power or politics. The fascinating ideas put forward by digital utopians have influenced, in different ways and degrees, not only academia but other institutions and influential political circles. The message that is heard loud and clear is that digital technology is good for society. This techno enthusiasm has impacted the arts and cultural sector, including FHIs, especially in relation to the potential enhancement of access to collections. In the next sections I will turn to this issue.

2.4.2 Academic Debates Surrounding Film Heritage

This debate has huge consequences regarding how to efficiently invest the resources that archives have at their disposal. The main question at this level is whether, via the use of digital technology to increase accessibility, FHIs could potentially see their role and cultural function fully recognised within the broader context of cultural

heritage.

Leo Enticknap (2009) has pointed out that this discussion seems to develop along the line of the so called Lindgren/Langlois debate. Ernest Lindgren was previously the Head Curator at the British National Film Archive (NFA), and Henri Langlois was Director of the Cinémathèque Française (CF). A lot has been said about these two protagonists of the archival movement regarding the conflicting personalities and the different philosophies they embraced, as well as the different histories of their respective institutions. Generally, the crux of the debate is identified in the tension between, on the one hand, the value of preservation, and on the other the importance of access and acquisitions.⁴⁸ Langlois believed in the absolute priority of indiscriminate acquisitions of films and in its presentation, offering that “films are like Persian rugs: you keep them at their best by using them” (Langlois in Barlow, 2005, vi). Lindgren was instead a more rational and rigorous type, and was a brave and stubborn advocate of the primacy of preservation. He was one of the first to feel the need to establish rules, principles and ethics in the field of film archiving (Jacques Ledoux was also an important figure in this respect – see Thompson and Bordwell, 1989, 5). This, in some cases, included access denial. As David Francis (2006) notes, he “stuck grimly to the idea that a print could never be projected until a preservation master of the title had been made” (40). Similarly, master elements, in Lindgren’s opinion, were untouchable. They were in the vaults only to eventually create projection copies (McKernan, 2004). Lindgren believed that, just as other forms of museum “had similar rules for safeguarding their collections, [...] if film archives were to receive the same respect, they would have to follow their lead” (Francis, 2006, 40). Langlois’ position on this is different. Enticknap observes that he “argued that the funding and the will to carry out preservation work could only be secured by generating interest in film heritage” (Enticknap, 2007, 13).

Now, leaving aside Langlois’ eccentric personality and the way his

⁴⁸ Dissemination as well as acquisitions can be antagonistic to preservation for two different reasons. Indiscriminate acquisitions can create problems of storage space and consequently lead to either a potential increase of preservation costs or to a decrease of preservation standards. As far as dissemination is concerned, every time an analogue film is projected, the quality of images decreases slightly. Also, films can sometimes be damaged by human mishandling (e.g. the film can get stuck in the projector if not properly loaded, and can break or get scratched). For more on this see Read and Mayer (2000), Cherchi Usai (2001), Farinelli and Mazzanti (1997).

administrative conduct exposed the CF's vaults to danger, the pivotal issue for the community relates to archival control over the collection, which is purely a political question. The answer to these questions obviously influences the collection policy and the priorities of a given institution,⁴⁹ who is in control of the collections, audiences or curators, and to what extent accessibility can be prioritised over activity such as preservation and research? As we will see in the following paragraphs, this debate, as note by Enticknap (2007), is now being revitalised by the recent technological shift.

"Free Archive" Movement

A critical approach that contests the traditional perspective, which is often too narrowly focused on preservation, can be found in the publications of some North American professionals and scholars such as Karen Gracy (2007b), Caroline Frick (2010) and Rick Prelinger (2009; 2007).⁵⁰ The main argument these authors put forward (with a touch of Foucauldian flavour) is that the traditional principles and ethics of FHIs have been deeply influenced by broader power structures (traditional heritage institutions) and, even if archives tend to consider them as golden rules, are historically determined and ideologically biased (e.g. the FIAF Code of Ethics adapted in 1993). Therefore such golden rules, including the supposed primacy of preservation, need rigorous critical analysis (if not dismissal), and the issues which are raised by the impact of digital technology on the sector offer an unmissable chance. Only through discussions regarding the ever-increasing digitisation of collections, prioritisation of access over preservation, and a confrontational attitude towards copyright legislation can it be possible to reveal the value of heritage (to engage the so-called "general public"). This is not just beneficial to initiate a process of democratisation of FHIs (even though there seems to be no exact definition of what

⁴⁹ Lindgren had a pretty clear idea of the *raison d'être* of film archives: "Films can only be preserved permanently in the national interest by a national organization which has itself some assurance of permanence, which enjoys the confidence of the film industry, and which is endowed with the resources to bestow on its films the special technical care which their preservation requires. Herein lies the justification for a national film archive" (Lindgren in Jeavons, 2007, 32).

⁵⁰ Karen Gracy is the only pure academic here. Caroline Frick is both an academic and director of institution, she is in charge of The Texas Archive of the Moving Image. Rick Prelinger is the founder of *Internet Archive*. <https://archive.org/index.php> (22/05/2014)

those writers mean by “democratisation”), but it is also essential for archives to survive within a digital age where participatory culture seems to be intrinsically related.⁵¹

Simon Popple (2011) holds an optimistic (yet realistic) take on film heritage in the digital era. He stresses that “the emerging landscape offers both challenges and opportunities in equal measure” (319). By ‘challenges,’ he mainly refers to validation of user generated content, metadata standards, and a potential lack of contextualisation of online visual experiences. Consequently, he stresses the importance of scholars and curators as key figures to accompany users and audiences towards authentic and meaningful uses and experiences. In an earlier article, in which they present a digitisation project developed in the context of the UK regional archives, Gray and Sheppard (2004) share the same vision as Popple.

Other professionals and scholars are more sceptical though. They basically do not believe that there are currently the conditions (legal, economic and political) to consider digital technology as a driving force towards a new, more democratic, archival paradigm. In an influential publication, Cherchai Usai addresses the problems of authenticity and film experiences generated from the fact that films lack the same social status as other artworks (e.g. sculptures and paintings). He argues that this is exacerbated by the advent of digital technology (and of the web) that are unquestioningly considered by many as beneficial. Inauthentic film experiences generated by integrity losses and by the marginalisation of historical context (the *de-historicisation of film experiences*) will potentially be more of an issue in the digital future. This is, in his opinion, the major threat caused by the discontinuation of film stock production, and what he calls the “ideology of digital technology” (unquestioning trust). In his view, this could force archives to preserve and show

⁵¹ According to Enticknap (2013) and Horak (2012), Caroline Frick (2011) commits a number of historical mistakes. The most relevant criticism made relates to Ernest Lindgren and his role at the BFI. She describes him as only a strict bureaucrat serving the government interests. She also thinks that his thinking shaped the archival ethics of the whole community. Enticknap contests this, denying the description of Lindgren only as someone who was executing orders, mentioning his proven love for film. In his book review, Horak (2012) notes that Frick forgets to mention that before her generation of archivists, others had already tried to point out the importance of ephemeral (orphan) films (174). Despite this, Fricks’ book is regarded as a major work which has contributed to foster original discussions and to bridge the field with other heritage fields.

films through different media, and to downplay the role that the physicality of the medium has had throughout cinema history. Enticknap puts it in a more pragmatic fashion. Referring to Cherchi Usai's book, he states that de-historicisation of film experiences provokes the "potential loss of provenance, understanding of cultural context, artistic intent and aesthetic properties" (423) of archival items. A film, in an archival context, is not only a conceptual object, its existence cannot exclude the physical carrier in which such a concept is embedded. Also, as Luke McKernan (2016a; 2012) has noted, online content often disappears as online platforms do not comply with ethical codes as cultural institutions do. He questions the long term viability of using commercial online platforms in the context of heritage institutions, arguing that "YouTube exemplifies an impatient world which wants that which is immediate and forgets that which is not" (McKernan, 2016b, no pagination).

Horak (2007) shows scepticism, reminding us that the volume of film materials available on DVD has shrunk when compared to VHS. In his opinion, this has been caused by the high cost of both digitisation and copyright clearance for non-profit organisations. He concludes by arguing "whether lower costs for digital technology will ultimately lead to more democratic policy regarding our collective moving image is unclear" (Horak, 2007, 40) In his view, "the trend seems to be moving in the opposite direction, so that economics will continue to hinder progress" (Horak, 2007, 40). Claudy Op den Kamp (2015a) has talked about film history "digital skews" created by stringent copyright legislation and consequent circumvention efforts. One of the pivotal issues, in her view, is created by the tendency of non-profit organisations to digitise works which are primarily in the public domain. On the other hand, profit-oriented organisations prioritise digitisation of copyrighted content. She argues that this creates an online "freak show," an expression borrowed from Thomas Christensen from the Danish Film Institute. By "freak show," she means a selection of online films that fail to give a meaningful account of film history as a whole. In the European context, according to the European Commission (2014) only 21% of collections are "orphan" (35), and only 15% of collections are commercially exploitable (European Commission, 2012, 23) If that is the goal of FHI activities, the fact that an artefact is or is not under copyright protection (and the subsequent circumvention stratagems) should not be the only principle that guides access or presentation policy. In her PhD thesis Op den Kamp (2015b), she analysed

the role of the archive as a mediator between copyright legislation and film historiography, underlying the unexploited potential of film collections as a consequence of the severity of copyright restrictions.

In brief, in the opinion of those who are part of what I have called the “free archive movement” (an expression borrowed from Popple (2011), the answer to sustainability issues revolves around enhancing accessibility to collections. However, as noted by others, these answers are problematic because they ignore the material and legislative context in which FHIs operate. In the literature previously mentioned (especially in Frick’s case), relations between FHIs, the state and the film industry are rightly put at the centre of the analysis. However, an analysis of online access to cultural heritage, and the consequent analysis of power relations existing in that context, is overlooked. This appears to somehow imply an idea of the internet as a power-free zone. Also, issues related to authenticity and integrity of film collections (with the exception of Popple) appear to be marginalised.

Prelinger has argued that due to an “absent [...] aggressive and enthusiastic populism, the archives risk irrelevancy and increased marginalisation” (2007, 118). With *populism* Prelinger refers to the need to put stress on the possibility of giving access to culture to a larger portion of the general public. Even so, calling for a populist approach is still a risky move. As Hesmondhalgh (2013) has pointed out, as far as cultural analysis is concerned, populist approaches can, in some cases, result in an “uncritical celebration of popular culture,” and “risk massively overstating the democratisation of the media that was made possible by the expansion of the cultural industries and by associated developments in information technology” (54). It is certainly true, as Uricchio (2007) notes, that “[a]rchives reflect the environments in which they are situated, and new environments require new policies” (24). The extent and the depth of such changes is yet to be defined.

2.4.3 The Debate within FIAF

Another group of professionals, mainly working in institutions that are part of the FIAF, have been involved in a slightly different debate (even if the general themes and directions are practically the same). The difference lies in the fact that their debate is framed within a more institutional context. Concerned about the de-

historicisation of film, they have expressly pointed to the dangers of trivialisation and de-contextualisation in the digital /internet era. This process, they claim, would contribute to an increased marginalisation of film within the field of cultural heritage. Institutions should maintain the control of decision making (including access denial). Curators, as FH stewards, should impede the process of its trivialisation and liquefaction of cinema in the ocean of online digital data and unmediated access. Some of the key figures of this group have jointly published a book, *Film Curatorship: Archives, Museums and the Digital Marketplace*,⁵² as well as putting forward their views elsewhere. As far as the aforementioned book is concerned, the unstructured and peculiar way in which it is written has both positive and negative aspects. Among the latter is the lack of coherence and rigour. Among the former remains the fact that it allows us a comprehensive overview of the most relevant current issues professionals are discussing.

David Francis (2010) sees substantial practical problems surrounding digital technology. The first relates to the lack of knowledge in relation to digital preservation,⁵³ while the second is the lack of a strategic view. In his paper, he puts forward a series of actions to be taken (including strengthening archival control) in order to push the public sector to provide funding for preservation. This interesting piece calls for professional activism along the line of other prominent professionals in the field (Edmondson, 2013). However, what strikes here is that this stress on increased archival control seems to be less directed towards improving FHIs' cultural value than to defining a political strategy. The concern relates to being recognised by others as more prestigious, "to convince our funding agencies" (11).

Loebenstein (2012) has instead further tried to explore the value of FH and its

⁵² The authors of the book are: Paolo Cherchi Usai, already mentioned several times in this chapter, Senior Curator at the George Eastman House in Rochester (NY); David Francis, former archivist at the Library of Congress and previously head of the NFA in the UK; Michael Loebenstein, CEO of the National Film and Sound Archive in Australia; and Alexander Horwath, Director of the Austrian Film Museum. The book is an interesting conversation between the authors but lacks evidence, clarity and coherence. In each section the authors engage with key questions, however they only manage to clearly answer a few of them.

⁵³ He wrote: "What I am really trying to say is that I am extremely worried about making a move into the digital environment, for the most important reason, because I think there are a lot of issues that need to be solved before one makes a major step like entrusting your national/international film culture to the digital environment" (Francis in Cherchi Usai et al 2008, 78).

relevance to contemporary society. He stresses the importance of offering film experiences and historical evidence, and fostering the re-use of collections. These three goals need to be pursued simultaneously and can be achieved only by preserving and giving access to both the analogue and digital artefacts, in both “old” and “new” ways.

The most interesting discussion about the issues in questions, to my knowledge, is the Horwath/Mazzanti exchange of opinions which took place in the pages of the *Journal of Film Preservation* in 2005. Horwath’s (2005) position has been developed in Cherchi Usai et al. (2008) and, more clearly, in an article that appeared in the *Journal of Film Preservation* in 2012. For the first time, to my knowledge, in 2005 the term *neoliberalism* was brought into the discussion of the community in relation to a discussion which revolved around the question of VoD and online accessibility. Horwath (2005) attempts to describe the effect of this “new” economic and cultural paradigm on film heritage. He identifies the adoption of a new vocabulary which has spread around the community (words such as “user”, “content”, “access” used by Mazzanti) with the advent of a “neoliberal” era. Horwath draws parallels between the flow of capital and the flow of digital data. In his view, they both tend to destroy whatever obstacles stand in the way of their own circulation. The aggressiveness with which this affects any form of mediation between the “user” and the “content” is seen as a potential risk. This impedes the contextualisation that only curators can offer to the public, as mediators and gatekeepers. Horwath (2012) has more recently argued that FHIs should try to build up infrastructures which incorporate equipment and expertise which the industry (film labs) will soon be dismantling. FHIs should also consider producing film stock. This, he claims, is the best way to contest the commodification or exploitation of FH.

Mazzanti, in his reply, recognises a certain degree of truth in Horwath’s argument. However, Mazzanti (2005) adds that, in his opinion, the *raison d’être* of FHIs is multifaceted. Horwath indeed talks about FHIs exclusively as museums and adopts a language and a mind-set derived from museology. Mazzanti is convinced that this is key for FHIs but underlines the equal importance of what he calls the “library function” of the archive, which is associated with “access on demand” (14). This is indeed key to a legitimate archive’s funding, which is required to face the digital era. Mazzanti is very aware of the challenges ahead, but is convinced that

without making more visible all their functions, FHIs risk marginalisation in the cultural sector, as well as impotence in facing the challenges of the digital era.⁵⁴ Also, Mazzanti is profoundly aware, in agreement with Horwath, of the importance of keeping analogue expertise both for practical reasons (we will still have to deal with the analogue collections) and cultural reasons (the capacity to explain to future generation what “analogue” film culture has meant for past audiences and users).

Hediger (2008) has also commented on Horwath’s article. According to him, Horwath confuses digital utopianism⁵⁵ with neoliberalism. The cause of this confusion, in Hediger’s opinion, is that “both celebrate individual liberty in terms of freedom of choices” (14). The possibility of circumventing the curator using digital technology to access collections is seen by both as an enlightening possibility. This is also demonstrated, I would add, by the fact that the words “access”, “content”, and “user” are found in library science. They have been partially adopted from the industry, which however keeps largely using words such as “consumer” (or clients), “product”, and “market opportunity”. Hediger stresses the importance of keeping a realistic idea about the emancipatory potentials of the web in which, “for lack of time or better clues, users will access content as advertised, both “new” and old” (15).

This again is nothing new, but answers are becoming urgent due to increasing technological shifts. As Lindgren wrote to Langlois, “[s]urely our dilemma is encapsulated by the fact neither you nor I had the means to collect or store all the films in existence, or to copy and distribute those we did have” (Lindgren in Beale, 2011, 17). In recent years FHI professionals are interrogating themselves on how to

⁵⁴ There is no time to find ultimate solutions: “The danger is that we implement solutions only post-factum, which would result in a certain amount of losses – again, nothing new for archivists, just something we are not so excited to see happening yet again!” (Mazzanti, 2011a, 10).

⁵⁵ Hediger uses the expression “late-Gramscian techno-euphoria”. It seems to me curious to define as Gramscian something that “celebrate(s) individual liberty in terms of freedom of choice” (Hediger, 2008, 14). It might be that Hediger refers to that branch of cultural studies (here the reference to Gramsci) that even when the field was declining (here “the late”) became influential in emerging fields of study. This might be true, as Hesmondhalgh (2013c) has pointed out, “especially of course in internet and web studies, where the populist wing of cultural studies found a very comfortable new home, and where the endless creativity of prosumption, co-creation, etc. could be celebrated” (Hesmondhalgh, 2013c, 3). However, this branch of cultural populism can hardly be associated with Gramsci. As Hesmondhalgh points out in the same paper, their roots seem to be closer to Foucault, “though the Foucault bit has gradually been dropped in favour of Schumpeter and others” (3).

invest resources within a very unstable technological and institutional context.

2.4.4 Summary of Section

The debate surrounding the potentials of digital technology has been relevant in the field of FH (as in other heritage sectors such as librarianship). There are three basic approaches. The first one is highly influenced by utopian, poststructuralist and populist claims. Digital technology can provide tools for achieving sustainability mainly through the enhancement of accessibility. The second approach accepts digital technology as an integral part of film history, and therefore suspends any optimistic or pessimistic judgments. These writers simply stress the need to immediately deal with technological change and to find realistic ways to integrate new technologies into existing workflows. This pragmatic approach does not seem to celebrate the potential of digital access strategies. Another more critical perspective is based on the belief that digital technology, in this institutional context, can potentially have negative impacts on FH by commodifying it and trivialising its aesthetic and cultural value. It does not seem that the conversation has developed into a structured and clear debate though. As far as sustainability is concerned, the question seems to revolve around the capacity of new access strategies to somehow reinvigorate interest in film collections, to enrich their cultural value, and to provide a more solid social legitimation for FHIs. Are the claims of digital optimists realistic, and if so, to what extent? Is digital technology and digital optimism threatening the integrity of the cultural value they deliver? In Chapter Six, and partially in Chapter Five, I shall assess this.

2.5 Conclusion

At the beginning of this chapter I offered a definition of FH sustainability as an organising set of principles which governs the decision making of the field. I identified three overlapping areas of analysis which I consider relevant to explore decision-making formation: institutional environment, organisation of labour, and audience outreach. I provided an account of both relevant academic and non-

academic debates in relation to those areas. This conceptualisation offered a good framework within which I could build my argument. It is indeed around these three areas that the empirical chapters are organised. Each chapter responds to the debates found in one of those areas. This framework also offers, in my view, good guidelines to organise future research.

As far as the first block of the framework, cultural policy, is concerned I explored neoliberal programmes since neoliberalism emerges as the most prominent force impacting the cultural sector. As for organisation, I explored the publications in specific relation to digital preservation as a key factor in FH sustainability. I finally talked about digital optimism and how this thinking is penetrating the field in specific relation to access and outreach.

Before exploring the empirical study, in the next chapter I shall provide an account of the research methodology. After that, in Chapter Four, I will present the findings in relation to the first block of the framework described above, cultural policy. Chapters Five and Six will explore the remaining two blocks.

3. METHODOLOGY

3.1 Outline and Purpose of the Chapter

As argued in the previous chapter, the aim of this project is not only to provide a general overview of current trends in infrastructure management of FHIs, but also to provide a normative account that I hope will stimulate debates among professionals, policy makers and academics. In Chapter One, I defined my research questions as: *(Q1) How are FHIs responding to the changing technological and cultural landscape in which they operate?* and *(Q2) How might FHIs achieve sustainability?* In this chapter, I shall describe my methodological approach, providing a detailed description of theoretical choices and practical matters. I will then define the nature of my research, and justify why I deem my approach a critical realist approach. I shall argue that a quantitative study seemed unrealistic due to the fast-changing technological landscape and its complexity in relation to the timeframe of the research. For example, studies on cost modelling of digital preservation, led by groups of qualified experts, revealed the difficulties in defining and quantifying the cost structure of digital preservation. It seems therefore important to involve the leading figures of the field as key decision makers in order to understand their dilemmas and their motivations. In other words, a more interpretative approach was needed that could allow us to grasp the potential responses to the change of the technological ecosystem. I will then describe the architecture, the sample and the analytical method (thematic analysis). The last section is devoted to ethics.

The main goal of this chapter is to address the issues related to validity, reliability and generalisability of the research. This is essential to assess the value of any research attempt, although some writers have raised doubts about the usefulness of such concepts in the context of qualitative research (Flick, 2009). This subdivision is found in Merriam's (1995) article from which I paraphrase definitions and provide theoretical synthesis.

Validity, called *internal validity* by Merriam, is defined as the extent to which the findings congruently describe reality. Merriam proposes a series of strategies to achieve validity, such as triangulation and peer reviewing. I would identify the bulk of them with one word: *rigour*, which we can define as the strict observance of informed procedures and principles devised in the research methodology (principles are discussed primarily in section 3.2). I tried to guarantee validity using triangulation (see in particular 3.3.2). I also tried to experience directly the corners of the field that were still relatively unknown to me. In particular, one missing experience which I deemed a serious lack, was the fact that I had no working experience at a large FHI. I filled this gap by undertaking an internship at the Cinémathèque Royal de Belgique (CINEMATEK). This experience was not meant to be participant observation research, however it was important to obtain a more complete picture of the social reality I was investigating.

Reliability poses the question of the reproducibility of the research, raising the question: “if the inquiry is replicated will the findings be found again?” (Merriam, 1995, 55). In this case, the writer puts forward a series of strategies to achieve reliability that to a large extent overlap with the aforementioned strategies to achieve validity. Again, I would use one word to link them all: *transparency*, which can be defined as the detailed documentation of research practices. This is one of the main objectives of the present chapter (see also the information provided in the appendix).

*Generalisability*⁵⁶ is defined as the extent to which the conclusions arrived at can be extended from the sample to the entire population. In qualitative-focussed

⁵⁶ Particularly fascinating is the concept of *concrete universals* that Merriam (1995) borrows from Erickson (1986). Erikson claims: “The search is not for *abstract universals* arrived at by statistical generalization from a sample to a population, but for *concrete universals*, arrived at by studying a specific case in great detail and then comparing it with other cases studied in equally great detail. The assumption is that when we see a particular instance of a teacher teaching, some aspects of what occurs are absolutely generic, that is, they apply cross-culturally and across human history to all teaching situations. This would be true despite tremendous variation in those situations (130)”. He continues: “The task of the analyst is to uncover the different layers of universality and particularity that are confronted in the specific case at hand- what is broadly universal, what generalizes to other similar situations, what is unique to the given instance. This can only be done, interpretive researchers maintain, by attending to the details of the concrete case at hand” (131). In my view, this is a very useful concept in the context of critical realism because it acknowledges the existence of a universal ontology of the social being. At the same time, the possibility of grasping that

research, this is less important than the other two above principles, in that “[t]he goal of qualitative research is, after all, to understand the particular in depth rather than what is generally true for many” (Merriam, 1995, 57). However, thinking of a description of the phenomenon under study (see Chapter Two), together with a diverse and carefully described sample and sampling method, allows the researcher to generalise findings (see section 3.3.3).

3.2 Type and Approach of Research

It is sometimes hard to attach a precise meaning to words while writing about research methodologies. If one looks at the myriad books on research methodologies, it is difficult to clearly distinguish between *research designs*, *types* and *approaches*, for example. Many textbooks use slightly different definitions, sometimes overlapping with other concepts such as *research methods*, or simply *methodology*. I refer to *research design*, treated in the next section, as the strategy and the architecture of an enquiry (Why was the research conducted in a given context? Why were certain methods selected?). With *research methods* I refer to: (1) the research techniques (surveys, interviews, participant observation, focus groups etc.); (2) the type of data collected (qualitative, quantitative or mixed); and (3) the type of analysis that will be carried out on that material (e.g. content analysis, discourse analysis). As far as *types of research* are concerned, I refer to the purpose of the research, as well as what type of knowledge one is engaged in producing.

A classic distinction in empirical social research is between applied and basic (or pure) research. “Knowledge use” research, applied research, is put against “knowledge production”, pure research (Bickman and Rog, 2009, x). If *pure research* goes from the particular (e.g. case studies) to the general, *applied research* offers solutions to a pragmatic problem that is found in the “real world,” going from the general to the particular. Some writers add a third type of research: *evaluation*

universal is put in a dialectical relationship, a necessary relationship, with particular social and historical conditions. This, in my view, is the bulk of critical realism on which I will expand later in this chapter.

research (Miller and Salkind, 2002). This type of research focuses on an action or a process which already took place and assesses its effectiveness, its pros and cons (an economic policy programme, an urban planning project). Patton (2002) usefully divides evaluation research into *summative*, or pure evaluation of the actual or planned social action studied, and *formative*, which has the purpose of shaping the same social action or process. The *raison d'être* of evaluation is “that it is possible to research and learn from social policies, programs and initiatives in order to modify and improve their effectiveness” (Pawson and Tilley, 1997, xii). This is exactly what I have attempted to do with this project; evaluating the state-of-the-art in the matter of digitalisation within the FH sector in terms of infrastructural sustainability and management (even if I am well aware that this is not unrelated to theoretical and ideological issues). The research I am presenting here is therefore defined as a *real-world evaluation research*, meaning pragmatic research conducted with a critical realist approach addressed at assessing the effectiveness of policy initiatives.

As far as the research approach is concerned, I refer to theoretical approaches that relate to broader philosophical issues: the nature of knowledge in social sciences, the epistemological process, and the researcher’s *worldview*. As pointed out by others (Pawson and Tilley, 1997; Ackroyd, 2010; Robson, 2011), in the social sciences we can distinguish three main research approaches: realist, relativist (or subjectivist) and positivist.⁵⁷ I opted for a critical realist approach which allows us, as I will argue in the following paragraphs, to understand the complexity of social reality, and considers normativity as among the natural objectives of research. In philosophy, critical realism is a well-established tradition. It is of course beyond the scope of this chapter to provide a purely philosophical account of critical realism.

Positivism is based on the idea that social sciences are methodologically equal to natural science and that universal truth is achievable through deductive or inductive processes of enquiry. As pointed out by Wicks and Freeman (1998), if one takes this approach to the study of society, s/he would tend to use quantitative methods which often rely on big data sets. The avoidance of interpretation is an

⁵⁷ There is of course a myriad of other subgroups and classifications, for example neo-positivism (Wildemuth, 1993), post-positivism realist (Guba and Lincoln, 1994), and critical relativism (Anderson, 1986).

absolute pillar for positivists. As reality is an object “out there” to be discovered, interpretations of social phenomena, both by researchers and participants, can potentially pollute the research with subjectivity and bias. The results of such research projects tend to be presented in a very unengaged way by the researchers who aim simply to report “[...] in an unbiased way what empirical forces are to be reckoned with in a given context” (Wicks and Freeman, 1998, 125). Such approaches have been strongly criticised on the basis of the impossibility of equating nature with social reality and, as far as the latter is concerned, stressing the need to take into account various systems of values, conceptions of the world and cultures (of which both participants and researchers are part). Indeed, in the social sciences, “theory is underdetermined by data,” therefore “there is no data-based algorithm that unequivocally dictates theory selection” (Fletcher, 1996, 413). In other words, one could argue that data collection strategies are inevitably theory-laden, or at least influenced by the researcher’s knowledge and culture.

Subjectivist approaches are instead based on interpretivism,⁵⁸ and developed as critiques of positivism. The understanding of social phenomena is mainly related to a given cultural context (or to individual interpretations) that the researcher can grasp, becoming part of it through ethnographic methodological techniques. As Robson puts it:

Reality is represented through the eyes of participants. The existence (or accessibility, which has the same consequences) of an external reality independent of our theoretical beliefs and concepts is denied (Robson, 2002, 25).

The study of society, from the viewpoint of relativists, is precisely the study of particular cultural or ideological constructions. An example of this approach in the FH sector is found in Caroline Frick’s (2005) PhD Thesis. Frick draws particularly on the work of Michel Foucault “in viewing film preservation and archiving practices as *discourse*, or significant body of statements, in which “heritage” emerges as a key “discursive formation” (32-33). Such an approach is not exempt of limitations though. According to Stuart Hall (2004), the thought of Foucault has often been

⁵⁸ One famous quote that is often used is found in Nietzsche: “Against that positivism which stops before phenomena, saying “there are only facts” I should say: no, it is precisely facts that do not exist, only interpretations.” (Nietzsche, 1976, 458).

misinterpreted by some of his followers, giving light to various forms of radical interpretivism:

Is Foucault saying that – as some of his critics have charged – that nothing exists outside of discourse? In fact Foucault does not deny that things can have a real material existence. What he does argue is that “nothing has any meaning outside of discourse” (Foucault, 1972). (2004, 346)

Social phenomenon is subject to interpretation and has personally been given meaning through classes of judgments, and is historically and socially determined by the dominant discourse, or “system of representation,” created by power structures. Qualitative methods are usually preferred by those researchers because they can provide an account of intrinsically mediated “experiences” of social reality. The critiques that are levelled at such approaches are of two kinds: (a) the marginalisation of concrete conditions of social reproduction in their analysis (issues such as exploitation of labour and political-economic analysis); and (b) a tendency towards radical relativism where, to quote Foucault, “truth isn’t outside of power” and therefore is to be found *only* within dominant discourses (Hall, 2004, 348). One of the most noticeable consequences of these issues is a diffuse reluctance in providing normative arguments (perceived almost as an authoritarian act, akin to imposing another discursive paradigm).⁵⁹

In light of such concerns, I opted for a critical realist approach. There seems to be, in my view, three key characteristics inherent to critical realist approaches. Firstly, (1) in the realist’s view, objective accounts of social reality are achievable.

⁵⁹ David Hesmondhalgh and Sarah Baker (2011) wrote that usually this lack in constructivist approaches is to be explained by going back to Foucault’s objective to “concentrate on how power operates” (49). In function of this attempt, Foucault seems to suspend any normativity. However, this does not justify the total abdication of any kind of normative effort by some of Foucault’s followers, who are often even considered “critical thinkers”. As Hesmondhalgh and Baker wrote, “[w]hen we undertake criticism, we presumably do so because of some kind of belief that life might be made better” (49). Also, equating discourse and truth or discourse and reality, entails an idea of humans as passive beings that obey power with no resistance. By contrast, realists put forward the argument that individuals are neither active nor passive entities; neither formations resulting from conscious explicit choices, nor mere products of mechanisms of social reproduction. As Bourdieu (1988) has argued, individuals are guided by a “practical sense”, a *melange* between conscious and unconscious behavioural conducts, “that is the product of a lasting subjection to conditions similar to the ones they are placed in” (783).

Participants are not always promoters of power discourse (not even in the case of elites), or unconscious victims of social structures, so that their perception of reality is always “polluted” and their faculty of judgement always functional to such structures (see Bourdieu in note 72). Now, if universal truth exists (although complex and difficult to grasp), and if judgements are not always subjective, the evaluation of social facts is possible and, consequently, normativity is also to be expected from research. Research is about knowing reality of course, but it is inevitably part of a broader social process that fosters people’s self-awareness and human happiness. This does not mean that every form of research has to be explicitly normative or immediately emancipatory, but that the role of the critical researcher in society is to make society better. This is pursued by incorporating a deliberately normative research question (Q. 2), which I will answer at the end of each empirical chapter. This is also reflected in the questionnaire via questions that deal with future possibilities and useful initiatives to be undertaken (see Appendix A).

(2) Secondly, realists think that in order to provide an objective account of reality, mapping its empirical manifestation is simply not enough. Reality is stratified and complex, therefore the penetration of its surface is necessary to understand its functioning and its processes of causation. This differentiates realists from positivists who think “that things cannot be real if we cannot observe them” (O’Mahoney and Vincent, 2014, 3). Truth can be different from what people believe or *prima facie* say it is. Understanding participants’ interpretations of social reality and providing interpretation of data collected through existing theories is essential to go beyond simplistic research results. However, interpretations do not need to involve personal and perhaps spontaneous reading of the data but, for example, a discussion of the alternative potential explanations that similar data could equally support. When providing interpretation, it is therefore key to acknowledge the complexity and the potential controversy of such efforts, specifying “by whom, for whom and of whom they are made” (Sayer, 2010, 225). In the context of this research, this goal is achieved by triangulating data collected from interviews with participants operating behind the curtains of institutional spectacles (they therefore defined “elite interviews” – see 3.3.1).

(3) Thirdly, the importance of the material side of society, the “structure of the system of interest” (Sayer, 2010, 91), needs always to be taken into account, and the

research situated within it. Taking into account this material side helps to explain “under what conditions, to what extent and with what effects” concrete conditions of social reproduction came into being and why certain worldviews and ideologies appeared and spread (Sayer, 2010, 28). This seems to lead Sayer, and other realists, to define the process of knowledge production as necessarily starting from the analysis of the historical and concrete configuration of a given field of activity: “In other words, the understanding of concrete objects involves a double movement, concrete → abstract, abstract → concrete” (783). This is why Sayer (2010) criticises methods relying on *ideal types* used to reduce the complexity of reality, to “isolate phenomena according to their [researchers’] interest and values” (237). So, it is very important to start inquiries from the analysis of the field as the product of its own history (as an aspirational objective reconstruction of its past). As far as this thesis is concerned, an historical account is in fact provided in the introduction, in particular in 1.3.1. Most importantly, in Chapter Four I provide an account of both the institutional environments in which FHIs operate, and of the surrounding social conditions at play. More broadly, this research is to be considered as the first inevitable step towards a potentially larger process that might take into account audiences, deepening the topic of the value of film collections (see section 2.1).

3.3 Research Design

Research design refers to the strategy and the architecture utilised in order to collect the data needed to answer the research questions. Following Harré (1980), we can distinguish between intensive and extensive research designs. Intensive research focuses on explanations, evaluations or normative perspectives of specific phenomena taking place in specific contexts. Extensive research takes into account larger samples and tries to identify common developments, regularities, and general trends. Often, extensive research is conducted by distributing surveys or closed-ended questionnaires among a sufficiently wide portion of the relevant population. Extensive research is usually conducted using quantitative methods. It is also true, as Robson points out, that “using a pragmatic approach [...] provides one way of

justifying bringing together quantitative and qualitative approaches” (Robson, 2011, 30). So, especially in applied research, qualitative and quantitative approaches are often mixed. Even if this rigid dual division has been criticised and updated (Ackroyd, 2010; Sayer, 2010), this categorisation, with its limitations, still constitutes a meaningful way to frame any disquisition on research designs. I opted for an intensive research design as here I am focussing on specific cases.

Regularities are identifiable only among the sample which has been selected. In this research, I am trying to draw a picture of what is happening within European FHIs which are involved to some extent in digital projects, and to indicate potential best practice.

As often with intensive research, I shall use qualitative methods. Quantitative research methods are those where the researcher tries to answer the research questions primarily through the production of statistical information. On the other hand;

Qualitative research uses non-standardised methods of data collection and interpretative methods of data analysis, where the interpretations are not only related to generalizations and conclusions, as in most quantitative methods, but also to the individual case (Oswald in Kuckartz, 2014, 6).

The main difference that distinguishes quantitative from qualitative methods is not only the presence of numbers and statistics on which a researcher builds up the answers to his/her questions. What is also important in quantitative research is that these answers are primarily based on the accumulation of a sufficiently extensive data set. In qualitative research instead engagement with participants is key as the researcher tries to provide an account of the processes of causation at the micro level. This is what I wanted to explore with my research, indeed, as it appears from the history of this field that it is impossible to neglect the driving force of single individuals. Also, in this unstable context it seemed very complex (or perhaps even impossible) to use quantitative methods. In these years of transition, “measuring” the future often means just guessing (take for example the impossibility of calculating the long term cost of digital preservation). Interviews are therefore an essential tool to investigate the field as pointed out by Caroline Frick (2005):

Film archiving exists as a highly specialized field with a fairly closed network of participants and players. Semi-structured interviews with the curators and staff of selected national, regional, and local archives are necessary, indeed imperative, to elucidate the realities behind textual documentation and to indicate more clearly how human agency has played a key role in the development of these institutions (Frick, 2005, 35).

Interviewing elites would also be appropriate given the research approach chosen in this research (critical realism). Interviews have been used both to provide an account of the stratified and complex nature of social reality, and to gain information, in combination with policy documents, about what has been in the previous section defined as “the system of interest” within the field. Indeed, the data gathered from the interviews has been integrated into the data set alongside policy document analysis. The reasons I chose policy documents as secondary data are essentially linked to the fact that documents allow for the possibility to understand the official positions that FHIs and policy makers are taking with respect to digitalisation, so as to provide “data on the context within which research participants operate” (Bowen, 2009, 29). Comparing this data with the data obtained interviewing professionals working in the field enables us to read such documents much more critically, identifying interstices between official positions and the personal position of key figures.

3.3.1 Elite Interviews

Interviews are one of the most popular tools in qualitative research, and there are numerous different approaches to collecting interview data. Before zooming in on the concept of “elite interviews,” Kvale (2007) provides a good definition of what is meant by interviewing in the context of social science, arguing that the interview itself “is a specific form of conversation where knowledge is produced through the interaction between an interviewer and an interviewee” (vii). In less general terms, the kind of epistemological process we are really referring to is less evident. For some, interviewing provides the possibility to assess the discourse the interviewees are stuck in by challenging it; interviewers can therefore prise out answers that are found within the gaps between dominant and alternative discourses generated

during the interview (Holstein and Gubrium, 1995). The interview, in the opinion of the writers, is therefore an action, an active process that is addressed to provoke the interviewee's reaction to a stimulus, and is somehow a process of meaning creation:

Treating the interviews as active allows the interviewer to encourage the respondent to shift positions in the interview so as to explore alternate perspectives and stocks of knowledge. Rather than searching for the best or most authentic answer, the aim is to systematically activate applicable ways of knowing – the possible answers – that a respondent can reveal, as diverse and contradictory as they might be (Holstein and Gubrium, 1995, 125).

However, this approach seems to neglect the objective social conditions and context that the research should also give an account of (at least before stepping in with stimulus to challenge the discourse that they are part of). In other words, these approaches seem unable to provide an account of the stratification of the social reality that seems so important to understand processes of causation, and also to achieve any realistic normative proposition.

One differentiation that reflects such conversation is the use of interviewing as *topic* or as *resource* (Taylor, 2001). Constructivists often prefer to see interviews as “discourse,” and therefore focus on the language, words and narratives. In this way, an understanding of the dominant ideological “discourses” which participants obey is revealed. Instead, one might use interviews as *resources*, so that they constitute data in specific relation to the social phenomena that the participants described. As Smith and Elger (2014) argue:

[...] interviews do not simply generate narrative accounts, but can provide insights into substantive events and experiences and thus form the basis for analysing the interplay of social contexts and generative mechanisms (128).

A key issue here is the distinction between interviewing experts, as in the current case, and interviewing people whose experience we might not be aware of. In light of this need, which reflects on the research questions (which are mainly addressed at describing concrete issues and shaping policies), elite semi-structured interviews have been used to penetrate the surface of FH discourse, as well as to assess the material and concrete conditions in which these organisations operate. Thanks to the practicalities of the interviewing method, it was possible to bring about during the conversation information which in some cases contradicted their statements.

When for example some of the archivists mentioned the DAEFH report to evidence their statements, I tried to move the focus of the interview towards the limitations of the study (see section 2.2.3) to provoke a reaction.

As far as elite interviewing is specifically concerned, one might start by defining the term “elites”. In the literature there is no precise definition of the concept of “elite” (Bygnes, 2008; Aberbach and Rockman, 2002). Dexter (2006) provides the definition that elites are “the influential, the prominent, the well-informed” (19), a definition which I feel is rather vague. For Harvey (2011), elites are “these people [who] have significant decision-making influence within and outside of the firm” (433). An interesting contribution to clarify these issues comes from Littig (2009). She tries to fulfil the need to define three social groups that need to be kept separate to some extent, but that are sometimes confused: experts, elites, and specialists. She argues that these three groups can be distinguished in terms of the type and degree of power they exercise. Specialists have only procedural power (know-how) and are able to make certain processes work. Experts also have interpretative power (know-why), the power to define and determine “the good” and “the bad” of a given process, as well as how it can potentially change. Also, experts have, to some extent, the capacity and the authority to concretely change such processes, so they hold what Littig (2009) calls “formative power” (107-108). Elites, as a subcategory of the broader category of experts, hold both know-how and know-why and, most importantly, they are the main holders of formative power; that is, the power to concretely shape a given process, organisational model, or the shape of an entire field of activity. As for Harvey (2011), it seems that for Littig (2009, 107), elites are formed by those people who are also influential, to some extent, outside of a given institution or organisation. That is to say, they have a voice within networks of organisations and they liaise with other influential economic or governmental circles (socialising with elites from other fields). Drawing on Lettig (2009), I define elites as a restricted group of people with (1) specialised expertise and competences [well-informed] and (2) with key political influence in the decision making both in terms of an organisation’s internal processes and within broader networks of organisations. This means that I tried to involve in the research people with roles that entail a high degree of formative power within their organisations, but that are,

to some extent, influential outside the boundaries of the organisations they work with (this is especially true at the international and national level).

Following Hochschild (2009), elite interviews can be used with one or more of three purposes:

- (1) To study historical policy changes and their relation to power relations;
- (2) To identify the salient processes and agents of change to be taken into consideration;
- (3) To provide valuable information from insiders that can improve past research focused on the same “institutions, structures, rule-making, or procedural controls” (Hochschild, 2009, 127).⁶⁰

Goldstein (2002) similarly identifies the goals of elite interviewing in getting information about a certain group of people to create generalisable knowledge about them; discovering hidden information; improving past research work conducted with alternative methods. In the context of this research, which again takes the critical realist approach, I decided to use elite interviews primarily because the second point in Hochschild’s list, identifying the agents of change and internal processes, is indeed among my research aims and objectives. This is specifically linked to the fact that critical realist research approaches see social truth as a complex layered entity, which conversation with insiders might bring to the surface. An at times superficial debate surrounding “pro vs. anti” digital factions will be enriched with information coming from the experience and vision of professionals in the FH sector who have contributed to the development of the field during the last decade.

There are several potential pitfalls when conducting elite interviewing. One of the main challenges, as noted by Lesley Dexter, stems from a particular relationship between the interviewer and the interviewee:

In elite interviewing [...] the investigator is willing, and often eager to let the interviewee teach him what the problem, the question, the situation, is – to the limits, of course, of the interviewer’s ability to perceive relationships to his basic problems, whatever these may be. (Dexter, 2006, 19)

⁶⁰ On the same line see Tansey (2007).

What Dexter is arguing is that this position of subordination is difficult to deal with in two ways. The first is that the interviewees might “insist on explaining to him how they see the situation, what the real problems are as they view the matter” (Dexter, 2006, 19). This can lead to conflicts if the interviewer does not exercise diplomacy and shrewdness. Blakeley (2012) gives an example in her chapter about interviewing elites:

The first time I argued with an interviewee was during a telephone interview. My interviewee was making an argument in defence of torture as a tool for securing intelligence in the face of terrorist threats. I could not contain my own ideological commitment to the absolute prohibition of torture, and expressed my disgust at the interviewee’s position. The interviewee ended the interview almost immediately (164).

Secondly, Dexter (2006, 19) notes that the competence, prominence and communicative capacities of the interviewee can really undermine the interviewer’s confidence and reduce the interview to a sterile monologue.

In order to cope with these challenges in my own research, a great deal of information had to be collected regarding the field of study, conducted through reading widely on the topic. In addition to this, the knowledge gained during various work experience and internships before and during the PhD bolstered my understanding of the research area. Also, as much information as possible was collected about the interviewees before the interviews were conducted. Their publications were read, public speeches were attended, and (when available), recordings and online videos of speeches were accessed. When such information was available, personal and professional background information was evaluated both before the sample selection and before the interviews themselves. This work was undertaken in order to develop a psychological understanding of the interviewee, in order to be able to adjust the tone, vocabulary and communicative strategy in relation to each interviewees’ cultural and professional background and personality. This allowed me to develop a more effective strategy to obtain relevant information.

Another aspect to deal with, as anticipated in the literature (Dexter, 2006; Aberbach and Rockman, 2002; Morris, 2009), is that elite members are often annoyed by structured close-ended interviews. However, although this has been avoided, I

have also avoided totally unstructured interviews, instead opting for a semi-structured format.⁶¹ I used a checklist of topics and sub topics in order to avoid going ‘off-track’ during the interview. This also helped me to compare the answers and easily elaborate results at the end of the process. I prepared three different kinds of questionnaire (for technical people, heads of institutions, and those working in the private sector). Each questionnaire was structured into different sections. As far as technicians were concerned, one section related to analogue material and one to digital material, as the issues involved are substantially different. As for heads of institutions, one section was more focused on internal processes, the other on external and contextual ones. As suggested by Pawson and Tilley (2000), accurately devising the structure of the interview does not invalidate the objectivity of the research.

Another difficult decision I had to make was about the interview duration. Harvey (2011) and Mikecz (2012) suggest that one needs to take into account the very busy work schedule senior managers and experts tend to have, and not ask for more than one hour of their time. I asked for 45 minutes – and this very often stretched to more than one hour. Asking for more at the outset could have been risky in the sense that potential participants could deny their availability because of time constraints.

The interviews were conducted in a variety of locations and on Skype. I did not notice any substantial difference in interviewing people in person or on Skype. In that respect, this confirms Hanna’s (2012) argument. In some cases, Skype interviews have revealed deeper insights than those conducted in public spaces, where sometimes the noises provoked by surrounding conversations can either create problems at the moment of transcription, or interrupt the flow of conversation.⁶²

⁶¹ One participant explicitly asked me to send him a questionnaire via email since he did not have the time for a Skype call. I insisted on a Skype call because I believed that using varying methods of data collection could potentially limit the comparability between that interview and the rest.

⁶² In one case, I had to conduct the interview twice. That was the only interview that was (originally) conducted by phone. I placed the recorder close to the phone, but the electromagnetic waves of the mobile made the recording completely useless. I contacted the participant and asked him to repeat the interview and I offered to reach him in person. He

Another potentially big issue with elite interviewing is that of gaining access to participants (Goldstein, 2002). I tried, when possible, to attend events where they were present or where they were giving talks. I tried to approach them and to very briefly introduce myself and my research. I thought that this could have shown my determination, and would demonstrate that I knew key events and discussions that the potential interviewee had taken part in. Also, I thought that saying “no” in person to a relatively young researcher was much more difficult than ignoring his emails.⁶³ This strategy apparently helped since the majority of the people I approached decided to take part in the research.

After this brief preliminary talk, an email was sent to the potential interviewee containing an information sheet. In the email, I asked the interviewees to provide at least two alternative dates for the appointment. In some instances, I myself proposed times and dates (usually when an important event in which I knew they would be taking part was approaching). I recorded all the interviews, as I thought that having the possibility to hear several times the same recording might have helped in grasping the sense of certain sentences, and enabled me to go beyond the surface of certain statements. Also, as Harvey (2011) has pointed out, “the interviewer can focus more on engaging with the respondent” (436) instead of writing down information when an interview is recorded.

As noted by Lapadat (2000), when the interest of the researcher is mainly content, as in this case, “it might not make sense to do a narrow transcription inclusive of overlaps, pause length, and so on” (214). So, although I and a professional transcriber transcribed the whole conversation, we kept the transcription simple by focusing on the “content” of the conversation. The interviews were all in English. Even then, in order to cope with the flaws of spoken language, I have modified slightly or added text in squared brackets. I transcribed 10 out of the 27 interviews, leaving the rest to a professional transcriber. In order to benefit from the reputation

was understanding and he accepted. In a second case, due to the poor quality of the Skype connection, the data collected was unusable.

⁶³ Among the people that I approached in person, there was only one case of receiving an initially positive response, yet being ignored when attempting to follow up and arrange a time for the interview through electronic communications (in this case email).

and the prestige of the interviewees, I did not anonymise the interviews (more on this in section 3.5).

3.3.2 Policy Documents

Document analysis is a relatively unexplored field, especially in the social sciences (McCulloch, 2004). There are however several articles (Bowen, 2009; Prior, 2008), as well as a number of books (Scott, 2006; Prior, 2003; McCulloch, 2004) and book chapters (Macdonald, 2008; Atkinson and Coffey, 2004) that have been useful as guides to explore this new research territory. Also, a systematic analysis of policy documents in relation to FH has yet to be performed by researchers.

Many authors (see for example Webb and Webb, 1975) distinguish documents from contemporary literature that they identify as newspaper articles, sermons, and film scripts. There is little point in starting a theoretical discussion on the definition of what a policy document is here, since Webb and Webb's definition suits the research as it puts stress on the social action embodied in such evidence. According to them, a document can be defined as "an instrument in language which has, as its origin, and for its deliberate and express purpose, to become the basis of, or to assist, the activities of an individual, an organisation or a community" (Webb and Webb, 1975, 100). Prior also stresses the fact that documents need to be considered as "active agents in the world [...] as a key component of dynamic networks" (Prior, 2008, 821). So, this is what I tried to look for in the documents reviewed as part of this research, with regards to the social action they were seeking to exercise. This means that documents need to be critically read, and that every document needs to pass through a diligent scrutiny process in order to be put into the context of its production. Said documents also need to be interpreted keeping in mind who the document was written for and for what purpose. This might be understood during the interviews for example. I tried to grasp this in the words of the participants and their tones. Off the record, one participant affirmed that a particular policy document was issued with "vastly underestimated figures in order not to scare the politicians too much". That changed the perception of the document and helped to put it into context.

Macdonald (2008) argues that “unlike surveys or questionnaire research, the data [in the documents] are not shaped by the research’s questions,” and are “whatever has been committed to documentary form, for purposes that may have little to do with the researchers’ objectives” (301). This means that sometimes it is difficult to extract the information one is really looking for (see also Bowen, 2009, 31).

Prior (2003) talks about the influence that designated audiences inevitably play in shaping these forms of documents, so that we can consider policy documents as “collective social products” (26). Atkinson and Coffey (2004) note that very often, specialised knowledge is needed to unlock the meaning of the documents in order “to grasp much more of the significance of the phrases that are contained in the documents” (72). Documents can therefore have multiple meanings and objectives. A report can have the objective of simply describing the activities of a given institution. However, it might simultaneously have the objective of subtly complaining for insufficient funding to meet the strategic targets policy makers asked for.

Scott’s (1990, 6) four assessment criteria to check a document’s reliability is of importance here: “1. *Authenticity*; is the evidence genuine and of unquestionable origin? 2. *Credibility*; is the evidence free from error and distortion? 3. *Representativeness*; is the evidence typical of its kind? [...]. 4. *Meaning*; is the evidence clear and comprehensible?”

Since the relevant documents pertaining to FHIs and related organisations were available on the web, there were no issues in relation to *authenticity* and *credibility*. The issue of *representativeness* is linked to the representativeness of the institutions I chose from among the FHI population. This will be discussed in the section devoted to the research sample. The question of *meaning* was the most difficult to deal with. Because of the fact that these are very easily accessible documents, the question of their meaningfulness is linked less to the information *per se*, than to the potential implications that a given piece of information might have. The value of these documents relates to what you can infer from the information that is or is not contained in the text.

Data obtained through documentary analysis needs to be combined with at least one other data set obtained using an alternative method. In other words, the

concept of triangulation – “the use of more than one approach to the investigation of a research question in order to enhance confidence in ensuring findings” (Bryman, 2004, 1142) – is fundamental here. This is particularly true in order to be able to read documents critically and to succeed in “reading between the lines”. I used two different kinds of triangulation: *method triangulation* and *data triangulation* (Denzin, 1970). *Method triangulation* refers to the use of different methods to answer the same research question (interviews and documentary analysis in this case). *Data triangulation* refers instead to gathering data with the same methods, but changing the sample. In this way, the comparison between a variety of different people and social conditions improves the reliability of the results.

As we will see in the next section, I divided the research into three layers: regional, national, and international. At the international and regional level, I compared the data gathered from interviews and policy documents (method triangulation). At the regional level, due to the scarcity of official documents that relate to the specific situation of regional archives, I collected data from the UK and from Germany (data triangulation).

3.3.3 Sample

The research was mostly based in Europe, even if people working in other countries have been involved, as they occupy key positions within international organisations which might have huge impact on European institutions. Europe has been chosen for two reasons. The first is related to the practicalities of the research. I spent time in Europe during my PhD and, when possible, meeting participants in person was considered the best way to conduct interviews (even if, as I pointed out in the previous section, Skype is a valuable alternative). There is another reason that justifies this choice, which relates to the fact that European FHIs are developing a common public policy paradigm. This is indeed under construction, but the most important European institutions are (even if to differing extents) involved in the process. This makes it possible to conduct “European” research, not only because the

institutions in question share the same history,⁶⁴ but now more than ever are trying to share values, policies and curatorial principles (see 1.3.1).

There are two main families of sampling strategies: probability and non-probability (or purposeful) approaches (Tansey, 2007). As far as extensive or quantitative research is concerned, probability sampling is the most commonly used. In qualitative research, where subjective approaches to research are often used, purposeful sampling⁶⁵ is much more common. In intensive research, and even more so when using elite interviewing, non-probability sampling is often a forced route to follow. I opted for purposeful (or purposive) sampling which “is a selection method where the study’s purpose and the researcher’s knowledge of the population guide the process” (Tansey, 2007, 770). This is because the focus of the research was on people and institutions who are somehow at the forefront of digitalisation. I tried to balance the discretionary by expanding the breadth of the research, and diversifying the sample as much as possible. Expanding the breadth of the research meant involving a relatively large group of participants coming from almost all the relevant countries. Diversifying the sample as much as possible meant essentially two things: (a) structuring the research on different layers (International, European, regional, and a sample from the private sector); and (b) involving within each layer people both in charge of technical and managerial decision making (a complete list of documents and participants is offered in Appendix One).

As briefly mentioned earlier, in order to structure the sample in the most effective way, I opted for three different levels of analysis:

(1) At international level, taking into account associations of institutions (and individuals devoted to their activities) devoted to the enhancement of FH. The involvement of international bodies is important to share information with professionals taking part in the global debates around FH. It is useful to produce data coming from different contexts and not just European ones. This allowed me to look at data coming from European FHIs in a more critical way. Also, in some of

⁶⁴ This does not contradict the fact pointed out in the previous chapter relating to the differences of legal statues, organisational models and cultural missions. Even if this is still the situation, these institutions have been collaborating since the 1930s and they perceive each other as somehow part of the same history.

⁶⁵ We find numerous subgroups in Miles and Huberman (1994, 28).

these international organisations, European countries usually play, to different extents, an influential role.

(2) At the European national level, I involved nine participants from European national FHIs.

(3) At the European regional and local level, I involved personnel from eight regional FHIs within two European countries among the ones involved, although to a different extent, to relevant initiatives and debates.⁶⁶ An extra group of four participants from the private sector was involved in order to enrich the data set and allow triangulation.

At the international level I took into account all the main organisations involving people who occupy relevant positions within each of them. As far as the European national level is concerned, all the main European countries have developed a national and regional film preservation structure. The UK in particular seemed to be one case to be taken into consideration, both in terms of national and regional institutions. Indeed, (1) the presence of a conspicuous number of regional archives and (2) the renowned influential role played internationally by its national institutions made it an obliged choice. Scandinavian institutions and experts are also at the forefront of film archiving and very active in international debates concerned digitalisation. I therefore deemed Scandinavia worthy of consideration for the second research layer. As far as the third research layer is concerned, selecting one of the main European countries besides the UK, France or Germany would have been the best option considering that their geographical extension, population and regional archive constellations are comparable with the UK. Due to language reasons, France was considered the best choice. However, due to the difficulty of engaging a sufficient number of regional French archives, I decided to turn to Germany with success (language barriers were easily overcome, and all interviews were conducted in English). Data triangulation has helped in overcoming a lack of documentary

⁶⁶ The distinction between national and regional archives is necessary, since these institutions have different kinds of issues to deal with, different strategies to implement, and differences in terms of annual budgets and dimensions of the collection (Kula, 2002; Frick, 2010).

resources. As far as documents are concerned, I selected them using the same criteria used to select interviewees. All the documents came from major institutions at the national level. Official documents released at the regional level were sometimes hard to find and at times were of dubious relevance. Also, they rarely address issues related to digitalisation. This issue has been overcome through data triangulation, in that the data collected within the UK context has been integrated with the German context (see next section).

3.4 Thematic Analysis

Thematic Analysis (TA) is a qualitative method developed in the context of health science in the 1970s (see Merton, 1975). Only recently have experts and researchers attempted to deliver systematic guidelines in order to provide rigour to the method (Fereday and Muir-Cochrane, 2006; Braun and Clarke, 2006). TA is becoming a mature analytical method equivalent to more widespread ones such as discourse analysis and content analysis. TA is now used in other disciplines other than health science and psychology (Vaismoradi et al., 2013).⁶⁷

In general terms, we can define TA as “a method for identifying, analysing and reporting patterns (themes) within data,” as it “minimally organizes and describes your data set in (rich) detail” (Braun and Clarke, 2006, 79). The authors refer to TA as an analytical method potentially usable to answer different types of research questions (explanatory, explorative, descriptive questions). It can be used to analyse different types of data, and “can be used to use data driven or theory-driven analysis” as described by Clarke and Braun (2013, 112). Defining how a theme is conceptualised is essential here. Merging different definitions found in the above literature, a theme can be defined as a *patterned agglomerate of codes on which the researcher can formulate statements to answer the research questions*. Codes are the minimal units of “raw data that can be assessed in a meaningful way” (Boyatzis, 1998, 63). The key reason why I have chosen TA as an analytical method is that it is

⁶⁷ I got to know about TA reading Melissa Nisbett’s (2011) excellent PhD thesis on cultural policy and public diplomacy.

a versatile technique which provides transparency and rigour to qualitative research, without betraying its *raison d'être*: the acknowledgment of the fact that researchers' *interpretations* and *evaluations* can enrich (and not necessarily nullify) the value of research results.

There were other possible analytical methods that have been discarded. Discourse analysis seemed inappropriate since it involves the study of language as a cultural and, more generally, as a social practice often in relation to power structures (Van Dijk, 1993). It is therefore usually employed in linguistics and/or socio-political investigations. Initially, qualitative content analysis was chosen to conduct the data analysis. It seemed to me a good way to provide rigour to my findings, and offer a good compromise between a pure quantitative approach and an interpretative one. In fact, even if it does not rely on "algorithmic search processes" (Forman and Damschroder, 2008, 40) like its quantitative variant, qualitative content analysis still relies highly on counting words, concepts or categories to determine their frequencies. On top of such information, the researcher can base his or her interpretations to answer the research questions. In the first stages of the research, I even devised a complex model to allow two coding cycles. The first cycle was substantially a thematic coding, the second one magnitude coding which allows the coder to attribute values expressed in numerical form to the participants' statement. However, as noted previously in this chapter, one of the aims of this research is to assess the vision and the thoughts of key figures in the field as political agents. This is the reason why data must be considered complex and stratified material to be explored and penetrated. Relying too heavily on frequencies and on numerical values does not seem to be particularly useful (and potentially misleading), in light of the goals of the research. So, to quote Fereday and Muir-Cochrane (2006), "a single comment was considered as important as those that were repeated or agreed on by others within the group" (86). That single comment can indeed become crucial in relation to other contextual information, or to information found in other units of the same data set.

One way of conducting thematic analysis is found in Arosen (1995). The steps defined here are in my opinion too vague and sometimes confusingly described. I therefore followed *grosso modo*, Fereday and Muir-Cochrane (2006) which builds on

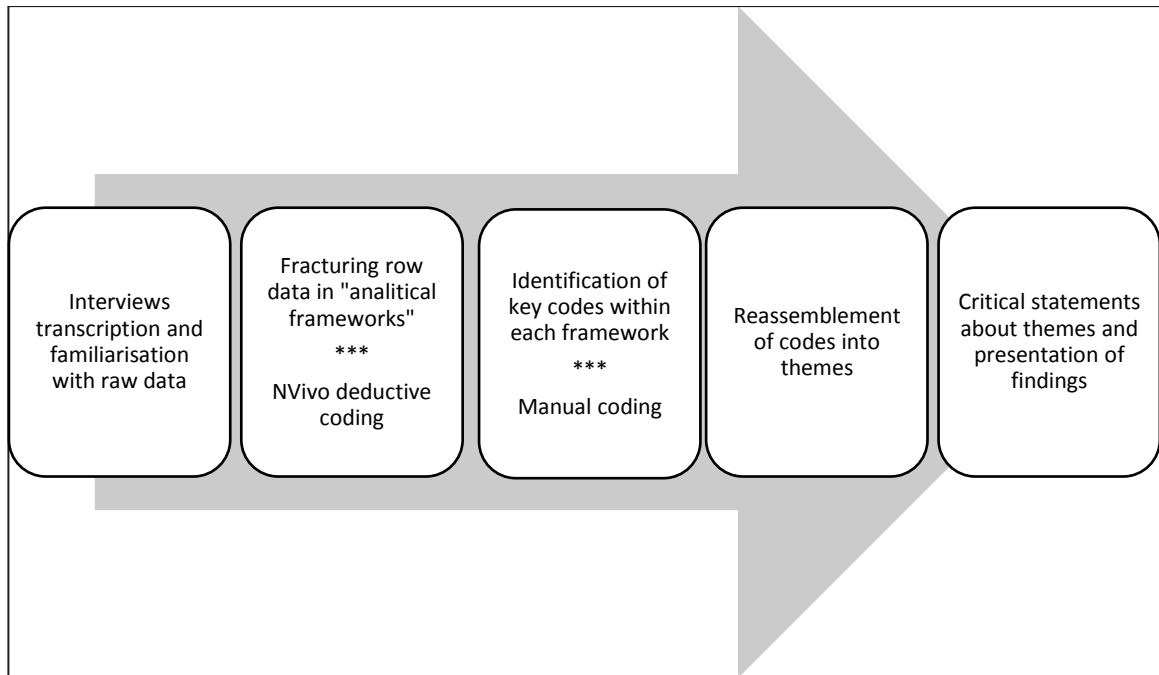
the conventional steps found in Braun and Clarke (2006).⁶⁸ I use this six step model, readjusting it around my own needs. Also, the six step process is here presented as a linear one, but in reality it was a reiterative process that might even be represented as a circular structure.

As suggested by many writers (among others Braun and Clarke, 2006), the flexibility of TA allows both deductive and inductive coding. That was very important for me since it allows a dialectical interaction between the investigative subject (myself in this case) and the social reality being explored. I first used a circle of deductive coding to “fracture” the raw data. Deductive coding, or theoretical coding, involves the *a priori* development of a code tree to apply to the data. In this specific case the code tree has been developed after having consulted relevant literature and after having had relevant work experiences. The final structure was based on the interview topic guide (King et al., 2004, 259). Deductive coding was conducted using NVivo software. This allowed the easy comparison of sections of the transcribed interviews containing similar types of information such as participants’ opinions on the same topics.

After this phase, I conducted manual inductive coding on each of the sections selected after the first cycle of coding. The manual coding gave me more control over the text. This was made possible by the fact that the data sets for each chapter were only fragments of the whole data set. I often took notes (memos) on paper and in some cases I went back to the recordings to double-check the tone of the conversation. This led to the identification of a series of codes among which I first selected the most relevant, and then I agglomerated them into a series of themes and sub-themes. The statements I made about themes and sub-themes will be formalised into the findings presented in the next chapters.

⁶⁸ (1) Familiarising with data; (2) generating initial codes; (3) searching for themes; (4) reviewing themes; (5) defining and naming themes; and (6) producing the report (Braun and Clarke, 2006, 16 – 23).

Figure 7 - Analytical Process



3.5 Ethics

Ethical requirements, in general terms, make sure that participants will not be somehow harmed by their participation in the research. These vary greatly in relation to the type of research one is conducting. However, one can say that ethical issues are identifiable in all processes of research: avoiding deception when recruiting potential participants, trying to protect participants from emotional stress, avoiding dishonest conduct, handling the data safely, and finally presenting the findings in ways which assure confidentiality (see Robson, 2011, 194-230). Confidentiality is important here, as “[i]n a research context, confidentiality means (1) not discussing information provided by an individual with others, and (2) presenting findings in ways that ensure individuals cannot be identified (chiefly through anonymization)” (Wiles et al., 2008, 418). Ethical and legal questions are today fully regulated in social sciences, and unless clearly stated by participants, enforce the highest level of confidentiality, including anonymity. Elites are not

normally considered particularly vulnerable groups (Blakeley, 2012, 165). However, risks may arise if important information which is not meant to be widely circulated is accidentally disclosed during the interview. This could potentially cause harm to the career of the participants, or to the career of someone who is mentioned. As Taylor (2001, 20-21) has noted, problems can arise when “a small community or narrow category of people whose defining feature makes them interesting to research but also readily identifiable to others”.

There are however arguments against anonymity. In some contexts, the precautions to be taken are quite time-consuming. Pseudonyms should have been used, and any details that could reveal identities and affiliations should have been avoided (on the difficulty of anonymising places see Clark (2006). This is a time-consuming effort to put against the fact that not all research participants see anonymity as a prerequisite to taking part. Indeed, there is evidence that even in research investigating delicate issues, participants may be willing to share their information (including their identity) rather than hiding behind pseudonyms (Grinyer, 2002). Also:

In an elite interview it cannot be at all assumed – as it is in the typical survey – that persons or categories of persons are equally important [...] it may be well be that only a few members give the insightful answers because they are the ones who both know and can articulate how things are actually done (Dexter, 2006, 19).

So, the possibility of revealing the identity of the interviewees is important for the relevance that the interview acquires. The technical competences, the reputation and the role of the interviewees within their organisation offers more solid data. So, in order to meet ethical requirements, I asked all the participants for verbal consent to use their real names in the research. An information sheet was sent in advance with preliminary information about the research to avoid any risk of deception. Verbal consent was recorded before the interview, as suggested in the Verbal Informed Consent Protocol of the University of Leeds. Also, the recorded material and the transcripts have been sent back to interviewees to enable them to check the text. In this way, they could check if there were sentences they wanted to anonymise, to take out of the record, or to modify for clarity's sake. This sometimes meant

waiting several weeks before receiving confirmation that I could use the data in my research.

The data has been transferred from the recorder to the University of Leeds digital storage via my university desktop computer. It has been safely kept within the University premises. The Research Ethics Committee of the University of Leeds has approved and audited my application. No problems were found.

4. THE INSTITUTIONAL ENVIRONMENT

4.1 Introduction

This chapter presents the findings of my empirical research in relation to the institutional environment in which FHIs operate. The findings presented in this chapter allow me to address RQ1.1, *how are external relationships being reshaped?*, and partially RQ2, *how might FHIs achieve sustainability?* Here I focus on the relationships between FHIs and institutional partners such as the film industry, sister institutions and governments. I argue that the institutional environment is certainly changing when compared to the past, but without the paradigmatic shifts that some have predicted. Neoliberalism has impacted FHIs in ways which are similar to other cultural sectors, such as museums or libraries. Despite such changes, which I will describe in the first four sections, the real challenge remains the fundamental issue of the full acceptance of film as a *heritage artefact* on the part of cultural and political elites. In order to achieve sustainability, short and long term initiatives are proposed. For the short term, more effective lobbying activity is indispensable. For the long term, the development of a more fruitful relationship with the higher education sector seems an important route to follow.

I shall start with the direct relationship FHIs have with governments and the film industry (as FHIs are dependent on its development). I subsequently describe the relationships with peer institutions and higher education.

4.2 - Governments and Their Agendas

4.2.1 European Film Industry and the Economic Function of FHIs

As for other areas of the cultural economy, one of the main tasks of governments in this field, is to regulate the relationship between the industry (namely the film and

ICT industries) and the role of public institutions (namely FHIs). As the BRTF report underlines:

Much attention has been given to the failures of current copyright law to provide effective rights and incentives to stewardship organizations to preserve these materials. But another, possibly more fundamental, risk is the widespread disruption to the business models that provide the primary incentives for certain commercial owners to preserve. This is because in all cases of privately held cultural assets, it is the owner who decides what to preserve and who pays for preservation. Among commercial cultural enterprises, periods of high business instability jeopardize preservation because they throw into question the very nature of return on investment for cultural assets (Blue Ribbon Task Force, 2010, 62).

Although the consequences on the technological base of FHIs are vast, this does not have strong consequences for the economic function of FHIs. Even if a closer relationship is advocated in policy documents (and to some extent by archivists), the relationship between FHIs and the European film industry (content producers and distributors) is not qualitatively changing.

The impact of digital technology on the Hollywood film industry (the main global player) is relevant here, but the implications for its structure are not yet clear. As argued by Cunningham and Silver (2012), online distribution is still a relatively small business, and cinema distribution remains under the control of traditional major studios (see also Currah, 2006). As a response to 3D and digital distribution, some independent and European film companies are diversifying their distribution strategies to maintain their market share (Kehoe and Mateer, 2015). However, the European film industry remains fragmented and formed by small players. This, in Mazzanti's opinion, is the reason why relationships have not changed much compared to the past. FHIs, Mazzanti maintains, help the industry to (1) preserve materials that small film companies have no resources to preserve, and (2) to contribute towards developing diverse cinematic products.⁶⁹ So, the relationship between FHIs and the European film industry, as in the past, is based on the former supporting the latter:

First of all, film archives all over the world, and ever since, played the function of supporting the industry in down times, in down cycles. So the archives are the

⁶⁹ See Note 67 in section 2.4.2 for Ernest Lindgren's argument for a national archive.

ones which spent a huge amount of money conserving and preserving works when nobody cared because they did not have a market. Then when they started to have a market, roughly when cable television arrived, the studios came back to archives [...] (Mazzanti)

I mean the problems that we have now in the digital domain they are not new, it's actually a repetition of what has been there all the time. The industry has never taken care of preserving their products and that has always been done by the film archives. (Wilkening)

This has been implicitly confirmed by Jon Wengström, who pointed out that even producers who are not obliged by law to deposit their productions sometimes do so on a voluntary basis:

[We receive] even those films who do not receive any subsidy. There are few produced every year, so [producers or right holders] they don't have to give us anything, but they do it on voluntary basis because they know we are the best place that can help to preserve them...

Wengström also provides more details about the collaborations with the private sector and rights holders. At the Swedish Film Institute, they are keeping a quota of the funding to digitise films selected by rights holders that can then be redistributed, and they are encouraging the industry to reuse some of the content they preserve in new productions (SFI, 2016). Wengström underlines the fact that developing digital footage libraries might strengthen the capacity of FHIs to supply “content” to the private sector for reuse (more about this can be found in section 6.3.1). So, the relationship between the two parties is still based on the former supporting the latter via content supply for reuse, preservation of their film productions and by contributing to product aesthetic innovation.

The collaborations and the synergies between the two sectors are still lacking frequency and strength.⁷⁰ The relationship between the industry and the FH sector seems to be concentrated on national archives. Frank Gray said: “most of the [film-

⁷⁰ Collaborations “[...] include direct participation by two or more actors in designing, producing and/or marketing a product (process). The relationships among these actors are often internal arrangements that are usually vertical, sometimes among divisions in the same firm or along supply chains” (Polenske, 2004, 1031). There is a complementary relationship which takes place at the deepest level of the production process with the aim of integrating different labour skills, competences and know-how. Cooperation happens at the external level instead, when two or more actors mutually shape their activities around the pursuit of a goal.

related] industrial relationships in this country [UK] are between the BFI and the film industry”. Washbrook confirms that building stronger relationships “could well happen in the future, but at the moment we’re not doing any projects with the private sector I can think of.” This can be extended to the rest of the European countries. There are exceptions though, like the Cineteca di Bologna in Italy, or the DEFA foundation in Germany, which funds small-scale independent productions. Wilkening said that this process of approaching can be speeded up by the threat that digital technology poses:

I think the digital world has now the opportunity to draw a line and to make clear that the losses will be more severe in the digital era if there's no communication between the industry and film archives. But, of course, this is quite a task, I'm aware of this (Wilkening).

As far as policy documents are concerned, especially at the EU level, we generally find an encouragement to develop closer relationships with the industry to make access to collections easier. This is normally supported by making the case for the business opportunities offered by digitisation.

Weak relationships with the industry are somehow confirmed by the fact that, as far as film policy literature is concerned, no substantial reference to heritage is apparent. The key discussion stems from the fact that politicians and professionals are aware of the impossibility of creating a self-sustainable film industry in the context of any of the European countries (Gillian, 2014).⁷¹ Indeed, film policy is substantially concerned with regulating the hybrid nature of film as a cultural expression on the one hand, and as a commercial product on the other (Magor and Schlesinger, 2009). There is also the issue of protecting the European market from Hollywood dominance (Mattelart, 2000).⁷² As Valenti, president of MPPAA,

⁷¹ Self-sustainability refers to an economic sector which predominantly, or completely, relies on private enterprise.

⁷² In general terms, there is a mix of three different objectives to be pursued with public policy: (1) the encouragement, via selective mechanisms, of artistic excellence, cultural diversity and cultural nationalism – although the concept of “national culture” is increasingly contested; (2) development of a national industry via automatic schemes (this is mainly employment policy); and (3) attraction of foreign, mainly US, investment in production normally with fiscal measures such as tax breaks (European ThinkTank on Film and Film Policy, 2008).

commented during the negotiations which took place at the General Agreement on Tariffs and Trade (GATT):

These negotiations have nothing to do with culture (unless we are to believe that every television series or game show from Europe considers itself to be the cultural equivalent of a Moliere comedy). The only thing that really mattered was money, and what avarice there was! (Valenti in Mattelart 2000, 99).

Valenti's statement can offer an explanation to the following contradiction: why is it that although a lot of the film policy discussion, on the one hand emphasises the cultural value of film to distinguish it from normal commodity, and on the other, its preservation is *de facto* neglected?

4.2.2 From a Lack of Effective Communication to "Public Scrutiny"

A lack of effective communication between FHIs and governments still persists to a substantial degree, even if substantial changes are taking place in certain cases. As Edmondson (2009) has noted, FHI institutions suffered, and to some extent still suffer, from problematic (or perhaps even non-existent) relationships with governments ("no politics please, we are archivists" to use Edmondson's words).⁷³ This generally passive approach with regards to politics has led to a lack of awareness on the part of politicians and cultural elites in relation to the importance and challenges of film archiving. This emerges clearly from the interviews I conducted:

[...] the biggest complaint I got from the [special collections] librarians was when they were building or remodelling their special collections areas. The architects didn't talk to the archivists or the librarians. Is the government really talking to film preservationists and the people at AMIA and the people that started FIAF, people that really know? [...] I would venture to say there needs to be more communication (Whitney).

[...] they [archives] have been on average not really very good at communicating. Some of them are very good [at making clear], why they are there, why they are needed, like BFI for example is really good at that. Most institutions don't have

⁷³ Others think that this is simply due to the fact that cinema has been recognised as an art form only recently (see Cherchi Usai, 2001 in section 1.3.1).

a budget for it or sometimes they are so small that creating a campaign is not easy (Mazzanti).

Weak relationships with politicians seem to be confirmed by David Walsh, head of technical commission at FIAF. He stressed the fact that local consortia of associations are beginning to work more effectively. However, the prospects for more funding for FHIs remains weak. This is only partially true as we will see in Chapter Six, in many countries, some funding for digitisation has been provided to develop access strategies. What archivists seem to refer to is the fact that such funding is insufficient to develop long-term solutions to face the challenges that the advent of digital cinema has brought about. To keep in mind in this context that in Europe governments have to some extent subsidised the digitalisation of film theatres. In the US the digitalisation of cinema theatres has been achieved via the Virtual Print Fee system. This system has allowed the major Hollywood studios to partly finance the operation of equipping cinema theatres with digital projectors. A third party buys the digital equipment (e.g. digital projectors) and then recoups the cost of the equipment over time. Such costs are recouped through payments from distributors (mainly) and exhibitors as a “fee” on the income derived from the exploitation of Hollywood productions.⁷⁴ In Europe, this operation was only partially possible due to the fact that national film industries still retain a substantial market share. Governments have been keen to subsidise the digitalisation of cinema theatres, including multiplexes [see UNIC (2013) for a summary of the funding mechanisms in Europe]. The degree of intervention regarding the matter of film heritage is generally less incisive if digitisation for redistribution is not concerned. The recent Orphan Works directive has been a remarkable success in this respect but, as we will see in Chapter Six, has to be considered only as a first step.

Loebenstein argued that this situation is now changing due to the technological convergence of heritage institutions, and to the potential (real or supposed) of digital technology to enhance accessibility. “Increased public scrutiny”, as he defines it,

⁷⁴ Nigel Culkin (2008) thinks that this system might have been devised to circumvent antitrust regulation. He wrote: “A ruling handed down by the Supreme Court on May 4, 1948 declared that the five major studios of the day were guilty of violating antitrust laws through their subsidiaries or affiliates, owning or controlling theatres. Therefore the studios would be in breach of the ruling if they were seen to be directly involved in the process” (55).

seems to be one of the most relevant elements of change that characterises relations with governments. He offers as a key point that:

In a nutshell, just a snapshot, in terms of film archives [the main consequence of the digitalisation] is increased public scrutiny. As long as film archives basically stayed behind closed gates, if you want, it was clear that film archiving is a highly specialised technical skill mostly. [...] Administrations now take in greater interest our organisations because they believe that our challenges are not particularly exotic. Administrations now come and say, okay, you manage big data. Twenty years ago you would say we need specialised vaults because the stuff has a tendency to blow up or to burn (Loebenstein).

It is not exactly clear what Loebenstein refers to by “public scrutiny”. However, it is legitimate to think that what he is pointing at is a higher degree of intervention by public forces in order to monitor and shape the activity of FHIs, even when such policies are supported with dubious evidence.⁷⁵ Indeed, a few minutes later Loebenstein provides a list of three main directions that he thinks politicians are for, that move roughly along the lines described by Hesmondhalgh et al (2015). These are: economic instrumentalism, rooted in a Schumpeterian notion of innovation and techno-euphoria, which is found behind the “access mantra”; “managerialist” initiatives based on efficiency/effectiveness principles; and a general push towards intensification of some kinds of public/private partnerships. I will provide evidence of this in the following sections.

As we have seen in the first part of Chapter Two, this is something that we can observe in many other domains within the cultural sector, for example museums (Gray, 2008; 2007). However, Loebenstein affirms that FHIs are in a peculiar position. Historically, unlike art restoration and conservation, film preservation has been a rather niche case, an unknown activity to most of us. Persuading governments about the importance of FH and the challenges related to film conservation is a difficult objective to achieve overnight.

It is however too easy to only blame politicians for their inattention. From the tone and the information contained in the interviewees’ words, it seems that archivists acknowledge their partial responsibility for such a situation. Archivists of

⁷⁵ Here we can see neoliberalism acting as an “interventionist force,” rather than a degeneration of *laissez-faire* theories (see Gilbert (2013) in section 2.2.1).

the calibre of Edmondson and Mazzanti (see the quote above) recognised the fact that too often, professionals did not appropriately communicate or make clear their cultural role and mission, instead locking themselves into inward-looking conversations. So, to some extent, governments and policy-makers started to question FHIs more vigorously, asking what film archiving is about, why it is important, and how to gain concrete benefits from such collections. So, the neoliberal (see the debate in section 2.2) turn has obviously impacted FHIs by increasing the “public scrutiny” that governments exercise over such institutions. This is, on the one hand, a chance to close the communicative gap; on the other, it entails the risks of uncritically embracing neoliberal and techno-enthusiastic policies.

4.2.3 Economic Instrumentalism and Digital Optimism

If we look at the European policy documents, we quite quickly realise that the cultural importance of film heritage, although acknowledged, is often downplayed. The focus of such documents is on the possibility of exploiting the collections commercially, or to encourage positive externalities for the so-called creative economy (enhance creativity, new products or competitiveness). In other words, FH policies, as with those in other cultural sectors, are imbued with a mixture of economic instrumentalism and digital optimism (as defined in section 2.2.3).

Let us start with economic instrumentalism. At the European level, the first real policy document dealing with FH was published only in 2000, the *Council Resolution on the Conservation and Enhancement of European Cinema Heritage* (Council Resolution, 2000/C 193/01) . Here it was noted that:

[...] there is a need to consider the possibility of concerted European action to conserve and enhance this [cinema] legacy and to bring it before a wider public in order to ensure the survival of what is an unparalleled record of European history.
(193/2)

The commercial value of FH is not mentioned at all, and digital technology receives barely a mention. Five years later, the EU issued the *Recommendation on Film Heritage and the Competitiveness of Related Industrial Activities European Parliament* (European Parliament Recommendation and Council 2005/865/CE, of

16 November 2005) and, in 2012, the *Recommendation on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation* (European Commission 2011/711/EU). There seems to be a fracture in terms of priorities, tone and emphasis. Indeed, the rationale through which such documents ask support for FH from European Union Member States (MS) is different. I selected some excerpts as evidence from these two documents as they appear especially revealing to me. The following excerpt is taken from the Recommendation. This is particularly relevant as the Film Heritage Group, formed within the context of the Cinema Experts Group, has produced a series of implementation reports which take the Recommendation as reference.⁷⁶ The following is an example of how the cultural and historical value is acknowledged, but also where the economic rationales become the focus. The argument goes more or less as follows (all the following statements are taken from the text of the document (European Parliament Recommendation and Council 2005/865/CE):

- The development of the European film industry is of vital importance for Europe in view of its significant potential in the fields of access to culture, economic development and job creation.
- Full achievement of this potential requires the existence of a successful and innovative film industry in the Community. This can be facilitated by improving the conditions of conservation, restoration and exploitation of film heritage [...].
- The conditions for the competitiveness of these industrial activities related to film heritage need to be improved, especially as regards better use of technological developments such as digitisation.
- The gradual switchover to digital technologies [...] [besides improving the film industry innovation], [it] will create new opportunities for innovation in the field of protection of film heritage.

We see here a Schumpeterian argument clearly emerging: technological innovation in relation to FH (such as digitisation) helps the industry's competitiveness; at the same time, technological innovation is vital to improve the performance of individual institutions. The document contains many recommendations in relation to copyright management addressed at "unlocking content". Although the Recommendation also advocates other interesting initiatives on acquisition policies or on educational use

⁷⁶ A webpage is found here: <https://ec.europa.eu/digital-single-market/en/film-heritage> (13/10/2016)

of collections, these seem to be portrayed merely as functional to the real rationale for film preservation: the economic exploitation by the film industry.

The second document in question is structured along the same lines. The fact that the cultural issues are marginalised is surely derived from the fact that the document was prepared in the context of the Digital Agenda for Europe, an initiative with the (admirable) goal of “seek[ing] to optimise the benefits of information technologies for economic growth, job creation and the quality of life” (*European Parliament Recommendation and Council 2005/865/CE*). However, it has implications for cultural organisation as it focuses on cultural materials. Indeed, the pressure on public institutions to put all their energy and resources into digitisation it is often justified as a potential economic trigger:

7. the digitised material can be reused – for both commercial and non-commercial purposes – for uses such as developing learning and educational content, tourism applications, games, animations and design tools, provided that this is done with full respect for copyright and related rights. This will give an important input to the creative industries, which account for 3.3% of EU GDP and 3% of employment. These industries are faced with a digital transition that is shaking up traditional models, transforming value chains and calling for new business models. Digitising and providing wider access to cultural resources offers enormous economic opportunities and is an essential condition for the further development of Europe’s cultural and creative capacities and of its industrial presence in this field (European Commission, 2011).

In general terms, there seems to be even more superficiality in taking into account the cultural value of film heritage. The intellectual and technical complexity of determining guiding principles, standards, and best practice in order to govern the broad process of digitalisation (not just digitisation) is practically non-existent.

Although acknowledging the cultural and historic value of FH, the DAEFH report edited by Mazzanti (2011) is not completely exempt from this “economicist” approach (the report is however exempted from an overoptimistic assessment of what digital technology can do for FH). A costs/benefit analysis is provided in order to make a case for a quick intervention of Member States in supporting FHIs. The report defines *cost of inaction* as equal to the economic resources needed to finance that portion of production eventually lost due to lack of preservation. The *cost of action* is equal to the cost of digitisation and the long-term preservation of past and future productions. According to the report, the *cost of inaction* is higher than the

cost of action (Mazzanti, 2011, 106). In light of the argument of a public support for cinema (see the end of section 4.1.1), this is a rather strong argument, although it is weakened by the fact that the purposeful loss of some new productions is not only inevitable but, according to some, desirable (see Cherchi Usai, 2013).⁷⁷

Let us now consider digital optimism. An example of such an ideological position, although in its fatalistic rather than euphoric variant, is found in Comité des Sages' study (Niggemann et al., 2011). Here is one of the most relevant passages of the report:

[...] digitisation is more than a technical option, it is a moral obligation. In a time when more and more cultural goods are consumed online, when screens and digital devices are becoming ubiquitous, it is crucial to bring culture online (and, in fact, a large part of it is already there). If we don't pursue this task, we run the risk of progressively eroding and losing what has been the foundation of European countries and civilization in the last centuries. (Niggemann et al., 2011, 14).

The “moral obligation” of heritage institutions, as defined by Chong (2009), is to expand their audiences, foster excellence and achieve accountability. This may sometimes involve digitisation of some kind and sometimes it does not. In the quote above it also emerges that this “moral obligation” derives more from the culture that the industry is creating than from a new conception of cultural value or heritage. Engaging with this new culture is crucial, but the critical and independent role of public institutions in determining their cultural agendas and priorities are equally vital. We will see, for example, that some archivists insisted on the importance of creating physical spaces where people can meet and socialise (Fossati and Gray's interviews). The report rightly stressed the fact that these materials need to be digitised with public resources, acknowledging the public value of collections for present and future generations. However, it does not provide any solution regarding the need for storage systems, which are essential precisely for “future generations” to acknowledge the considerable challenges of digital preservation. In my opinion, this appears to be a strong limitation of the argument put forward in the report.

⁷⁷ The estimation of the losses is around 20% of valuable assets every year in Mazzanti's cost/benefit analysis. One might simply argue that it is perfectly acceptable to lose some materials as we preserving everything appears to be a potentially, risky, utopia.

Advocating for mass digitisation equals advocating for mass digital preservation which, as I will show in the next chapter, is at present unrealistic. We can find traces of this ideology already in the EU recommendation on film heritage (*European Parliament Recommendation and Council 2005/865/CE*). The most relevant passage in relation to digital technology contains questionable information which is presented as fact:

The gradual switchover to digital technologies will allow for greater competitiveness of the European film industry and contribute in the longer term to a reduction in costs in cataloguing, depositing, conserving and restoring audiovisual works. At the same time, it will create new opportunities for innovation in the field of protection of film heritage (*European Parliament Recommendation and Council 2005/865/CE*).

It must be stressed again that such document also contains valuable recommendations on education, acquisition policies and copyright management. Such recommendations can offer institutions an instrument to justify their activities and their initiatives to their respective governments.

A general push towards an acritical engagement with digital technology, in order to increase accessibility to collections (especially at the European Union level) is strongly advocated in the policy documents. As we have seen in the previous chapter, this approach tends to overemphasise the benefits of digitalisation and downplay the drawbacks. In the European context, the entire digitalisation process focuses on digitisation's "democratic" and economic potentials, leaving other important issues aside (e.g. digital preservation, issues related to authenticity and integrity of archival items, and research on analogue collections). This is what Oakley (2009) refers to with the expression "culture without a memory", which prioritises only projects that involve "digital", engagement, access or catchphrases that are somehow related to "innovation" (see section 2.2.3).

Although the policy documents published by governments are not so explicitly instrumentalist as the EU ones, the interviews reveal that the political class across Europe has been very receptive to such ideas. Indeed, economic instrumentalism and techno-euphoria seem to affect politicians and policy makers more than archivists who, even when they put forward optimistic evaluations, talked about digital technology with a great deal of realism. Archivists are very aware of the need to

update the technological base of FHIs, however, generally they are also very aware of the challenges that this brings about, especially if one looks at the budgets that such institutions have at their disposal. They seem to maintain a realistic attitude and to exercise, whenever it is possible (and to differing degrees), resistance to unrealistic, ideological or contradictory policies. The effectiveness that such documents have in spreading such a reductionist attitude among politicians is demonstrated by the following quotes:

We did a lot of talking with governments, trying to convince them during the last years. First politicians thought that you only have to digitize and all the problems are solved. Meanwhile even decision makers do understand that this is not true (Dillmann).

The point is that the so-called digital economy nobody knows what it is, it's only a catch-phrase for politicians but at the moment it doesn't exist yet at least for media. So the industry is very nervous, the film industry doesn't want to end up like the music industry. It's a moment of very serious concern, nobody has an answer (Mazzanti).

Politicians usually buy any lie the IT-industry tells them on the latest video tech craze and its corresponding format, because they want to buy these lies. The corresponding promise of the industry is that this makes long-term storage both tiny in terms of space and cheap in terms of investment per year. So many politicians are keen to believe such nonsense just to get another pretext for cutting down all kinds of archiving expenses even further than they do anyway (Krebs).

We can therefore see the impact of digital optimist ideology via corporate marketing and lobbying activities as described by writers such as Mosco (2004, 2014).

In the policy documents issued by international professional associations, the call for a substantial debate focussing on the functions, missions and curatorial principles of heritage institutions in this new technological environment is more pronounced. Such documents, perhaps because of the fact that they are not issued by governmental institutions, seem far less prone to adopting economic instrumentalism. The stress on non-economic values emerges clearly:

Collections need to be surrounded by stable and continuing organisational structures, by the necessary technical and curatorial skills and knowledge, guided by a professional philosophy and ethos which will maximise the possibility of the heritage being faithfully transmitted from one generation to the next. These realities, too, need to be recognised and factored in (CCAAA, 2005).

Also, the CCAAA critiques the concept of digital heritage. The word “digital” does not capture the core of the type of heritage form these institutions are in charge of preserving. The audiovisual is “a language of communication which uses a progression of technologies” (CCAAA, 2005). It is indeed difficult to hold a position where analogue heritage, such as papyrus sheets, becomes “digital heritage” because it is accessed via the internet in digital form, as implied in the UNESCO Charter of the Preservation of Digital Heritage (2003). So, archive collections, whatever the “age” in which they have been created, might be referred to as “digital” only because of the ecosystem within which they are given access. According to the Charter, FH, conceptualised almost as a biological entity, would settle into a new state that, to some extent, determines its survival and fades as in a technological evolutionist perspective (from here the overuse of the word “transition” to the *digital age* – see Fossati, 2009). However, as argued in section 1.3.2, history and film theory cannot neglect the social dimension of media and cannot reduce this to “content”. An understanding of the mode of production, their distribution systems and the audiences’ reception of the meanings they convey is necessary (Turner, 2006).

4.2.4 Mergers and Acquisitions (M&A)

As mentioned above, a general tendency towards the creation of agglomerates has been identified. In some cases it contributed towards giving more public visibility to others, and as we know from the literature it might be justified to rationalise public expenditure (Edmondson, 2011). The emphasis in Loebenstein’s interview seems to underline the creation of agglomerates as the main tendency, and in specific relation to technological convergence:

I think that particularly with digitisation and with a greater economic imperative that we are probably facing a scenario where administrations will look at combining individual organisations and institutions into bigger clusters, if you want (Loebenstein).

Loebenstein mentions Norway, the Netherlands, and the country where his institution is based, Australia.⁷⁸ The policy documents confirm such tendencies (see for example FIAF, 2014a, 19). Indeed, such phenomena happened in Britain too, with the demise of the Film Council and the consequent reallocation of its functions to the BFI (Doyle et al., 2015). The archive is now part of a broader institution, not only in charge of the valorisation of British film culture, but also of new film productions (although the name remained the same). At the regional level, we can mention the unification of the Northeast Film Archive into the Yorkshire Film Archive, and the relocation of the Northwest Film Archive to the Manchester Metropolitan University Library.

The EYE project represents a topical example in this respect. EYE is a fusion of the Netherlands Film Museum, Holland Film (in charge of promoting Dutch film abroad), the Filmbank (experimental film distributor) and the Netherlands Institute for Film Education. The project was based on a partnership between the EYE Foundation (the agglomerate of previous organisations), the City of Amsterdam, the Dutch Ministry of Culture and ING Bank, which owns the new premises. Giovanna Fossati talked about the project in her interview. ING allocated huge resources to a real-estate investment in the north of Amsterdam, a working class and relatively poor part of the city. Subsequently, a requalification project was put in place in order to gain profits from the increased value of the properties previously bought. The EYE building was constructed by ING as part of this gentrification project at a cost of €40 million (Haas, 2012), and was rented to the EYE foundation (who actively participated in the design of the building). During the interview, Fossati touched upon the advantages of creating such an agglomerate. She emphasised the possibility of benefitting from a higher degree of visibility both within the ‘digital’ and ‘real’ world: new audiences are attracted by the building; workshops and conferences are organised by academics; premieres are organised to promote new Dutch film productions; and exhibition areas are used for art and media events.

⁷⁸ The acquisition of the National Film and Sound Archive by the Australian Film Commission was implemented by the right-wing government in 2003. However, the new Labour government made the institution autonomous again in 2008.

It might also be legitimate to think that the focus on cooperation, sharing projects, and collaboration that is found in UNESCO and CCAA documents is something that could somehow have been used to justify such tendencies, although it is impossible here to establish a direct relation. The message in the documents is clear: “we/you need to join forces”. This process is also encouraged in the very last UNESCO recommendation with a specific reference to costs sharing:

[...] in the context of their national heritage policies, Member States are encouraged to take a global view of the needs of memory institutions, beyond the practicalities of infrastructure, and encourage logical partnerships and cost sharing with other entities in setting up shared facilities, processes and services (UNESCO, 2015).

Numerous encouragements towards such projects are evident in the EU documents. Alongside that, the European Commission (2011/711/EU) also stressed the necessity to set clear “quantitative targets”, a process which can be argued to be another of the main traits of neoliberal cultural policy (Belfiore, 2004).

We can observe both *mergers*, the creation of new single independent entities from multiple ones, and *acquisitions*, where usually bigger institutions acquire smaller ones that consequently lose their legal status. Mergers or acquisitions occur with homogenous (film related) or heterogeneous institutions. One typology involves homogeneous institutions, e.g. YFA at the regional level, and the EYE, which are both mergers of film institutions. Others are instead more heterogenic formations, involving a variety of heritage institutions such as libraries and television archives (e.g. Norway, Manchester, Finland). In other countries such as Germany, France and Italy, the situation seems to be more static.

It is not possible to formulate a critical assessment of whether these fusions are offering opportunities and whether heterogenic are better or worse than homogenous agglomerates from the data I had at my disposal. The EYE case, a homogeneous merger of film organisations, appears to be a successful (although very recent) project. However, Edmondson (2011) argues in his PhD thesis that mergers may turn out to be unsuccessful, as when identities have to be redefined, cultural missions can become uncertain and conflict can arise among personnel.

LeRoy from the CNC appreciated the fact that the heritage department exercises a function of coordination among central and regional archives, organising

common projects and distributing resources if needed. The CNC is also in charge of the film policy in France. This seems to have a lot of benefits, as the professionals who are in charge of the heritage section are directly in contact with the higher level of policymaking. According to Frick (2010), that was also the position expressed by Sam Kula, distinguished film archivist and former president of AMIA: “Kula, like other attendees [at the conference], viewed the national film archive as economic manager or “resource base” for sub-national collections, “more specialized in their functions” (Frick, 2010, 129). This should not lead to a process of excessive centralisation though. Indeed, the FIAF (1990) suggests a national film archiving system of institutions with diverse collections and policies, so that different types of materials can be safeguarded and, in the future, more diverse collections would be available. It is advisable to think nationally and, possibly, internationally distributed collections so that FHIs “ [...] agree their collecting responsibilities to ensure that gap and overlaps are minimised (BUFVC, 2004, 5).

4.2.5 Public / Private Partnerships

Another tendency that has been highlighted by archivists is the increasingly common use of public/private partnerships. This might cause, in some cases, an outpouring of productive capacities and knowledge in favour of the private sector, in particular IT suppliers. A potential loss of control over collections, curatorial processes, and the activities carried out on collections is a realistic risk. Loebenstein talked about:

[a] departure from models where the public sector largely does the work internally, to stronger public and private partnerships, so [...] digitisation outsourcing, for instance. There are so many places springing up now obviously in Europe but also in the United States, new digitisation labs, for instance, specialised laboratories for restoration, etc. How much expertise archives are going to have internally and how much of the work is actually going to be outsourced? I think that will be an interesting question (Loebenstein).

Here is a series of relevant quotes from policy documents that confirms the need for, or the pushes towards, such kinds of solutions in search of funding and new competences:

[UNESCO] urge(s) hardware and software developers, creators, publishers, producers and distributors of digital materials as well as other private sector partners to cooperate with national libraries and archives (UNESCO, 2003).

[...] cooperate with the private sector for the development of products that facilitate the long-term retention and preservation of information recorded in a digital format (UNESCO, 2012).

Programmes for access to documentary heritage may be facilitated by partnerships, including public-private ones. Member States are invited to encourage such arrangements if they are responsible and equitable (UNESCO, 2015).

Encouragement is confirmed if we look at the European level at both national and regional levels. The European Parliament praised projects such as the British *FindAnyFilm* and the Dutch *Ximon* (Pasikowska, 2015). The former is a project developed as an online platform created by the UK Film Council in 2009, and it functions as a catalogue of British cinema from which the user can get information about films (but not the actual films themselves). Users can find useful links to other websites where they can rent, buy or watch the film online. The second, a non-profit initiative, was a distribution platform with the aim of providing access to Dutch cinema. However, according to their website the platform was closed in January 2014. Esther Frijns, marketing manager of the website, declared that the growth of the VoD market did not meet the expectations that both the industry and the public institutions had.

One might legitimately ask whether relying more on PPPs might open a debate in relation to archival control over the collections (Cherchi Usai et al., 2008, 161-194). European archivists are aware of such challenges, and to some extent they function as mediators between naïve or ideological positions of some politicians and the ethical principles of the profession:

[...] more generally, when it comes to the future of our national film heritage I would not agree to deliver it to public/private partnerships. I'm fully convinced that it's a public task to make sure that national cultural heritage will survive, and therefore I think there is a complete technical infrastructure needed in the national film archives. You can't give it away to the private sector (Dilmann).

Thomas Christensen describes eloquently the tendencies of the current cultural policy paradigm that, among other institutions, is impacting FHIs:

I see a danger in what you might call New Public Management. That you try to run public institutions as companies. It is a logic that is somehow flawed and misses the values that public institutions create. I think that it is very important that public institutions with public missions are giving the mandate to actually look after the public interest, the citizen's interest, and not just being short term financially cheaper to run. I'm also quite sceptical of private/public partnerships, because I've seen many of them where, if you are rude about that, it seems more like putting tax payer's money into private pockets. I don't think is very beneficial to a Nation to act that way. So I do think that there is a balance that needs to be struck between private enterprise and public mission, and I think that there has been a tendency that public institutions have been squeezed from several sides, both financially and also to run on a more company oriented structure. It's fine to be fiscally responsible, we need to be accountable, but I also find that we need to be accountable as civil servants mainly towards society and the citizens (Christensen).

Controlling work and competences puts the private sector in a strong position, and could result in the capacity to exercise more power over public assets.⁷⁹ This poses ethical questions, as well as potential problems related to aesthetic excellence, cultural diversity and the reliable historical contextualisation of film experiences. The private sector usually tends to prioritise the digitisation of marketable materials regardless of their degradation state, for example. Commercial or non-specialised post-houses tend not to follow the film restoration ethics to which the archives work. This might result in an excess of invasive interventions to make images more attractive to contemporary non-specialised audiences (sometimes sharpness, colour density and image staidness are indeed overdone). An even more severe issue can be the consequences if we think about digital preservation as an exceptionally costly and complex activity.

In recent times of crisis, local and small institutions of archivists in Germany have put a stress on fundraising activities:

I don't think that fundraising can be the final solution. I think it's like an interim solution, for right now it's possible and we need to do it until state funding is

⁷⁹ For example, by choosing file formats for preservation purposes which might not take into account long term requirements, but offer high versatility using lower cost compatible software.

established. I'm hoping that maybe next year there's some kind of state funding established [...] (Eckert).

So in the last years we have been busy with trying to get public funding or private funding to continue our work. I don't know if you were aware of this but the first time that there was public funding for the digitisation in Germany was in, I think, 2012 (Wilkening).

Fundraising is however a costly activity and, as pointed out by Patterson, at the local level one can count only on small grants. He thinks that relying too heavily on fundraising could be of little benefit:

For an organisation like us that would mean we would have to be developing some kind of funding relationship with maybe 20 different organisations across the Midlands, which would be a nightmare of bureaucracy and reporting for relatively small sums of money (Patterson).

Here again is proof that the idea that the private sector will automatically step in to invest money on film heritage valorisation is simply unrealistic. Attracting funding from the private sector requires specialised competences, money and time.

4.3 Sectoral Organisations, Peer Heritage Institutions and Higher Education

4.3.1 Weakness and Strengths of International Professional Organisations

It is important to devote some space here to sectorial professional organisations such as the FIAF, AMIA and UNESCO. Some of the archivists stressed the relative inability of international organisations to police FHI management principles (which de facto remain quite autonomous), and to influence public policies. More effective is the political action of the ACE (Association des Cinémathèques Européennes) and local associations. FIAF and AMIA are used by single institutions as communicative platforms and to improve and exchange knowledge and expertise more than as political institutions.

The effectiveness of the international policy documents in some cases is questioned within policy documents themselves. We find calls for strengthening them with more binding power. The following excerpt is an interesting example:

A new instrument for the Safeguarding and Preservation of the Audiovisual Heritage should be prepared and adopted. There is now a need for a document with some binding power on signatory states, or which at the very least can promulgate a frame of reference and exert some moral force (CCAAA, 2005).

Another example is the call to update the Charter on the Preservation of Digital Heritage, and upgrade that to a regulatory instrument with stronger political clout (UNESCO, 2012).

The interviewees have implicitly pointed out the political weakness of the international institutions they are part of. They all acknowledge that some of the policies and guidelines are sometimes subject to a great deal of interpretation, or that their implementation is impossible to police. Therefore, they need to be adaptable to a large variety of institutional contexts in which members operate. When the rules do not fit such contexts, archivists seem to imply that they are just not respected:

I stated that the FIAF code, which all FIAF members have to sign, is a compulsory code which members have to observe, and if they don't there is a disciplinary process. In fact, as far as I know, the disciplinary process has never been used. So I think in practice this is an advisory code, and I know it's impossible to really police something like that. When you have a code that's advisory or aspirational, this applies especially to a body like AMIA. In FIAF members are organisations, AMIA members are individuals (Edmondson).

[If] you drill down further into particular rules or guidelines, for instance as outlined in the FIAF Code of Ethics but also in some of FIAF statutes and rules, you'll very quickly discover that policies in lots of the affiliates' organisations or in the marketplace, have been out of step for a while (Loebenstein).

As pointed out by Loebenstein, these institutions have two other functions which justify their existence, other than that of policing (which is apparently fairly weak). Firstly, they are used as *communicative tools*, as forums to share information and to network. Secondly, they are *knowledge-improvement tools*, through which one can learn about best practices and training sessions. So, the critique of some writers directed at the almost dictatorial power of some organisations to develop the "celluloid discourse," are quite weak in my view. It is difficult to see FIAF, at least in practice, as a paternalistic or even conservative institution used to disseminate and prioritise certain archival *discourses* over others, as some authors have implied (Frick, 2010, 105-117). In fact, some professionals think that their role should even

be strengthened. Kromer, for example, identifies another function that such organisations should exercise, and might exercise with more diligence. Kromer sees sectorial organisations as intermediaries between the industry and individual institutions:

This should be a new important task for FIAF, the International Federation of Film Archives, to carry on this monitory task for its members, saying for instance “attention to this or that product because it will be stopped or it’s critical for this or that applications” (Kromer).

Kromer argues for a more “interventionist” role for FIAF, stating that “I see a huge necessity for standardisation and that should be implemented by FIAF”. However, considering the above, it seems to be quite unrealistic to dictate technological standardisation, if not only at the basic technological level. Digitisation policy involves much broader decisions, for example, organisational solutions tied up to institutional contexts. As I will show in the next chapter, Walsh thinks that, due to the institutional and cultural difference among FIAF members, even an international digitisation policy is unrealistic.

Such are also used as lobbying organisations. As anticipated earlier, smaller regional associations are doing better, but it is not always easy to achieve any positive outcome. At the European level, ACE obtained successful results in terms of copyright legislation or in regards to major and eye-catching cases for example when governments menaced the dismissal of FHIs:

I mean you see there are substantial things happening, for instance think of the orphan legislation which is a very good first step and freeing the orphans in a way, and that was done by ACE very much by lobbying everybody (Koerber).

There are [lobbying and communicative] efforts going on at that level [European], particularly ACE has been very active politically in trying to drive Europe and Governments into first of all just accepting that there’s a need to put funding behind this. [...] They’ve managed to get some European legislation on usage of material accepted but actually translating these efforts into hard cash for preservation is probably something no one has ever achieved. (Walsh)

The acknowledgment of the good job carried out by ACE, especially on copyright legislation, emerges quite clearly. Unlike FIAF, ACE has the advantage of having a liaison with an established centre of power that it can refer to. Also, ACE is helped by the fact that their members have a quite similar institutional status and operate

in a similar cultural context.⁸⁰ The public value of culture, although under attack, is universally acknowledged in European societies so that the film industry benefits from public subsidies. However, Mazzanti (ACE President) himself pointed out the limitations that the organisation is subject to:

Depends on what the target is. Of course it is possible and needed to aggregate and to cooperate when you talk for example with the European Commission. If your problem is talking to the ministry of culture in your country I'm not sure whether the association can help. Sometimes it is useful having someone from abroad bringing the message, so they believe you "ah they also say that". Yeah, other than that...if you ask money for a certain thing they say "yeah yeah yeah everybody ask for money". If the ACE comes and say well..."we all need this amount of money to do that..."sometimes it helps. What I'm saying is that there are different tools for different objectives and targets. Cooperation and collaboration are good for a number of things but not necessarily for all of them (Mazzanti).

Thomas Christensen from the Danish Film Institute puts it more clearly:

I think they [European organisation of professionals] are trying to do that [bring institution together], but I also think that working within their mandate they are not to dictate cultural policies. Cultural policy is really a member state issue in [the?] EU so I think that the European commission is actually doing the best to catalyse this kind of thinking; catalyse this kind of international collaborations and exchange of information ideas and knowledge. So I do think that within the mandate that they have, they are doing pretty well. Of course it's frustrating that it takes as long as it does, but these things do (Christensen).

In Europe, cultural policy is really the competence of the MSs more than anything else, and it is therefore the ability of archivists to directly interact and lobby their governments that can create some useful results.

Some regional archives are part of more local organisations, as some of them have no resources even to pay the fee for FIAF membership. UK regional archives have founded Film Archive UK, which is substantially an association that functions as a public space for communication, and for sharing their experiences and particular situations. National archives are involved, but regional ones play the leading role.

⁸⁰ To be noted is the very welcome initiative started by the BFI, the Future of Film Archives Group, which is an informal association of leading European archivists that from time to time meets to discuss common issues and potential collaborations (FIAF, 2012).

According to the UK regional archivists, the association was and is very useful and has been important:

[...] it's a very helpful network and certainly we talk to each other a great deal (Washbrook).

[...] It is an important place because these are small organisations and we take a lot of comfort from meeting and discussing our various and collective problems and difficulties in resolving things (Patterson).

Kelly also acknowledges the importance of Film Archives UK, and suggests that it might be even more useful to have a “technical working group”. This can be useful to build up best practice or to share equipment.

In Germany, the situation is not much different. The main film collection resides at the *Bundesarchiv* (State Archive), which is the main archiving institution in the country. German FHIs united in 1978 under the *Deutscher Kinematheksverbund* (German Film Archives Council). As German archivists reported, some of the collections of regional and smaller institutions are preserved at the State Archives due to financial or space limitation.

4.3.2 Relations with Other Types of Heritage Institutions and Higher Education

Substantial attention to collaboration, cooperation and partnerships with non-film institutions is evident in CCAA and UNESCO documents (less so in FIAF documents). UNESCO clearly acknowledges the need to face the challenge of digital preservation at the international level. Since the UNESCO *Chart on the Preservation of Digital Heritage* (2003), cooperation, including international cooperation, appears to be a key concept which is often repeated. For example:

In the face of the current digital divide, it is necessary to reinforce international cooperation and solidarity to enable all countries to ensure creation, dissemination, preservation and continued accessibility of their digital heritage (UNESCO, 2003).

The UNESCO Moscow declaration indicates *cooperation* as a key measure to be undertaken:

Cooperation. Promotion of interdepartmental cooperation of memory and educational institutions and administrative bodies with private businesses and other stakeholders of digital preservation processes, including public and private initiatives and projects; development of international cooperation (UNESCO, 2011).

In general terms, I would argue here that UNESCO calls for cooperation with three main goals: (1) standardisation of technologies and practices; (2) cooperation to lobby governments to negotiate with industries that have no interest in modifying legislation and set binding standards; and (3) knowledge improvement and sharing (namely from rich western institutions to poorer and less skilled ones). Archivists stressed that it is important to look also at non-film institutions, in particular the relationships with other types of heritage institutions (e.g. museums) and academia.

Some emphasis is put on cooperation and collaboration at the national and regional levels to bridge curatorial cultures. Fossati stressed that the importance of exhibitions in physical spaces, and the adoption (to some extent) of what archivists have called “museum ideology”. Frank Gray and Ray Edmondson appear to take the same position. Frank Gray stressed it with quite a resolute tone:

But I also know of the value in bringing the archival and the musicological cultures together so as to enable film archives to place more emphasis on display and exhibition. [...] For us [Screen Archive South East] this is an ideal public forum. It is also about emphasising the importance of the curation of archival collections for public display.

He then went on to advocate public partnerships:

Gray: One key issue for now and the future – how can we best share our collection with our users? How we can make it as easy as possible for researchers, students and artists to have access to a low-resolution version of a film? It’s very simple.

Antoniazzi: Public partnerships...

Gray: Essential. Yes.

This seems essential at the European/national level, and even more so at the regional level. Records offices, local museums, libraries and communities can therefore be essential partners to collaborate with. Regional archivists appear to be keener to do so, or they at least seem to acknowledge this necessity more than national archivists (see for instance Paterson, Krebs, Kelly). There is also another strong argument in

favour of teaming up with other heritage institutions rather than working exclusively with the film industry or local TV. James Patterson pointed out the fact that it is difficult to develop a heritage discourse with industry-minded professionals:

[...] the other [problem] is to look at the whole way that the sector from the BFI downwards or even the whole way that the business of archiving this cultural heritage is done within this country. I think part of the problem is that it's always been bound up with organisations that also have responsibility for the industry. If you look at where film is and film culture and film heritage and all of those things, they are all siloed in the Department for Culture, Media and Sport, with the media industry not with the heritage side, not with the museum's side (Patterson).

In Patterson's opinion, the issue here is that if FH debates are confined to an industry-minded perimeter, it becomes very difficult to advocate for the purely cultural and historical value of cinema. This is a key point that other archivists have also made (Mazzanti, Edmondson, Krebs). He goes on by powerfully describing the well-known problem, which is worth repeating here, that impedes fruitful conversation with politicians and professionals not involved in the FH sector:

It's about changing the way that film as a cultural and historical artefact is perceived. Until we can change that, till we can challenge and really get to the bottom of why it is that at a national level this hugely important cultural artefact is not recognised to be that and, therefore, doesn't receive the kind of funding support that is required, I think we're always going to struggle (Patterson).

Another group of key issues to be mentioned is training, education and the relationship with academia. In 1995, a very interesting edition of *Film History* dealt with the relation between the film archiving movement and film scholars. The editor, Paolo Cherchi Usai (1995) wrote in the introduction that the "problematic" relationship between scholars and archivists was only partially overcome. Along the years this has caused both a lack of awareness of the importance and challenges of film preservation among scholars, as well as a lack of training courses (see also section 1.3.1). The CCAAA is still concerned about the fact that:

[...] the Co-ordinating Committee for the Audiovisual Archive Associations (CCAAA) has increasingly been pressing the need for more training for archive and library technicians in the AV field. The International Association of Sound and Audiovisual Archives (IASA), in particular, has been supporting workshops and seminars aimed at improving standards of archive technicians (UNESCO, 2008).

The FIAF Technical Commission has also stressed the need for training, and is engaged in providing a greater number of workshops around the world:

FIAF's active involvement in two training events earlier this year (in Mumbai and Istanbul), and the EC's ambitious plans for the future, confirm that training and outreach are becoming a key priority for FIAF (FIAF, 2015a).

Often, education and training are used as synonyms, and a clear distinction between the two is not adequately stressed. To me, this seems problematic and, as I will explain in section 4.4, I believe that the concepts must remain separated (even if in practice they might be rightly associated with similar activities). Preoccupations in relation to training and education, although in different degrees, seems to emerge from the interviews:

[...] it is unconceivable that in the present society where moving images have such an importance, the state within media and film studies is so bad and there is no teaching on media archiving anywhere. This is ridiculous! (Mazzanti).

Yeah, I think now it's easier to talk to them. They are aware of the...I mean, a lot of the people in the technical committee actually teach at universities. They teach short courses and workshops on digitisation and digital preservation. It's getting better, I think so (Gaustad).

However, if we refer to the above quotes, we can definitely say that even if the tone is completely different, the substance does not differ significantly. After all, Gaustad is admitting that there isn't yet a stable academic structured course around audiovisual heritage management. Nor is there the practice (with exceptions) of including a full module that deals with FH within courses focussed specifically on media, film and heritage studies (this echoes the aforementioned quotes by Gray that implicitly problematized the relationship with higher education). In my opinion, regional archives, perhaps as a consequence of their institutional statuses, might play an extremely important role in this respect. Some of them are actually part of Universities (mainly in the UK but also in Germany). The only British MA in film heritage and archiving, now no longer running, was established precisely by a regional archivist (David Cleveland at the University of East Anglia). It seems however that after that experience, none of the regional archives have managed to

reproduce any similar courses. In continental Europe, there are now two MA degrees which have just been launched: Goethe University (in Frankfurt, Germany) and the University of Lille (in France) respectively (other University courses have been mentioned in section 1.3.1).

As a report written for the European Commission (Pérez Tornero et al., 2015) tells us, there is a great deal of work to be done in this respect. In order for the European industry to be competitive, it is fundamental to create “cultivated audiences” and to invest in film literacy. The same report stressed the role that film archives and cinémathèques might have in doing this. They are still too marginal and their educative role needs to be strengthened (Atkinson, 2012).

Research seems to be a priority in UNESCO documents. It seems underplayed within FIAF documents. It is true that in FIAF documents, numerous references to research are found, but they generally do not refer to a direct involvement of FIAF or FIAF members in research projects. They refer to the use of FIAF holdings in someone else’s research projects. This is of course extremely important, but perhaps a stronger direct engagement would be useful. The demand for stronger structural liaisons with academia does not seem to be stressed with enough vigour in policy documents at the European level. The recommendation of the European Parliament Recommendation and Council (2005/865/CE) is the one which devotes most room to it. A particularly marked attention to research is given to this issue in the EYE Film Institute collection policy, which historically is one of the most active in cooperating with Academia.

4.4 Summary and Ways Forward

In the above section, I presented the findings that allow me to answer the research question concerning the institutional context in which FHIs operate: *how are external relationships being reshaped by the technological and cultural landscape?* The short answer is that the major changes, even if not revolutionary, are in relation to governments. Government agendas, as anticipated above, revolve around three main drives: (1) firstly and most importantly, a push towards embracing digital technology as a crucial driver for accessibility and commercial exploitation of

archival holdings; (2) a push towards larger agglomerations of institutions to running budget rationalisation (and in some cases to provide hard data in order to give account for their performances); (3) a push towards stronger collaborations with the private sector in the form of PPPs.

The general outcome (and this is my critical point) of the policy focus, especially evident in EU policy documents, is unbalanced in favour of digitisation and digital access projects. Also, the focus is on activities that are immediately visible in the public space. Although acknowledged, less attention is devoted to infrastructural investments in preservation, analogue and digital, for research or for staff retraining and development. This is in line with the other tendencies in the public sector in Europe as we have seen in Chapter Two (see Oakley, 2009; Hesmondhalgh et al. 2015; Gray, 2011). There does not seem, however, to be a paradigmatic change in the field yet. Firstly, such tendencies are not so marked in some countries as in others; in France for example, FHIs are resisting such pushes and are not experiencing particular changes in respect to national film archiving strategy. Secondly, as we have seen in the second part of the chapter, a number of important features of the field remain intact: the economic function of archives remains intact, the relationship with the education sector remains generally weak, and the value of the film heritage collection to cultural elites remains generally marginal. Indeed, audiovisual media heritage is still not fully recognised as a valuable human artefact. Audiovisual media policy *de facto* deals with film as an industrial artefact and an economic resource.

Alexander Horwath (2005) pointed out the emergence of a “neoliberal turn” in the film heritage sector; this research supports his position. It is not enough to acknowledge the presence of heavy traces of techno-euphoria in the way politicians seem to conceive FH stewardship, as Hediger (2008) has argued. Digital optimist ideology, even if based on the conception of “freedom as individual liberty” (Hediger, 2008, none), is not enough to explain the pressures that FHIs are generally subjected to. It seems instead that the neoliberal agenda, which has been put in place to different extents and in different contexts, has incorporated some elements of digital optimism, namely the overestimation of the potential of technology, and discarded other aspects, such as the need for a substantial revision of copyright laws (even if something has been done, as we will see in Chapter Six).

The increased attention of politicians has some positive aspects of course. These new access opportunities provided by digital technology can be used as a lure to direct the attention of politicians to issues related to preservation, research and copyright legislation (e.g. project FORWARD). However, politicians have been far removed from film archiving for years. Now that digital is here, there is an irrational and uncritical hurry, almost like bulimic hunger, to make everything available, to digitise everything, to unlock, to open up, to bring to audience, to connect, to share. We find an element of resistance from the point of view of archivists, who respond with attitudes that go from optimist/realist to bluntly critical towards such public policies based on either naive or ideological tendencies. Heritage professionals are of course fully aware of the importance of valorising access and dissemination of collections. However, they are also aware of the downsides of digital technologies and of the challenges ahead. They are actively discussing key issues, putting forward potential answers to such challenges. So, the myth of the stingy archivist, who works as the guardian of (state) power structures and as protector of the status quo, belongs to the past; frankly, it has always been a caricature in my view. Such caricatures, developed within Foucauldian intellectual frameworks, have profited from the delegitimising of civil servants who are often described, implicitly or explicitly, as vehicles of state paternalism. Being partially compatible with neoliberalism, these frameworks became so popular within middle classes and bourgeoisies who happened to ignore the enormous contribution of national cultural policy and public institutions to the emancipation of vast (less privileged) portions of the population.

Drawing on Throsby (1997; 2002), Basiago (1995) and Solow (1991; 1992) sustainability has been defined as a decision-making process based on a series of ethical principles which shape the relationship between the past, the present and the future – see section 2.1. In the same section, I wrote that sustainable FH stewardship responds to the needs, on the one side, of indefinitely keeping intelligible to the widest public the relationships between film, history and cultures; on the other, to contribute to the enrichment of film culture in order to avoid or compensate for potential losses or social and environmental harms. FHIs do this through the activities of acquisition, preservation and dissemination of film collections. The interrogative is now, whether neoliberal policies are putting FH sustainability under threat. We will see in Chapter Five what the consequences might be in terms of the

internal process of acquisition and preservation, and in Chapter Six we will answer whether the “access mantra” is simply an empty ideology, or if there is some substance to it.

Q2 asked *what are the necessary conditions to offer effective answers to reach sustainability?* As we have seen, the central problem which archivists emphasise is the lack of awareness of the cultural importance of film as cultural artefact. The short answer to this question is twofold, in that one might indeed divide proposals for action in short and long term initiatives.

As far as the short term is concerned, one thing that seems key is to develop more effective and extensive lobbying. This has been noted by many archivists. The following quotes demonstrates that:

I'm not blaming only the government I want to be clear on this. The governments don't care, and that's the first basic shame, but the problem of archives is that they were not always able to make governments care (Mazzanti).

Also we do occasionally need to lobby with a stronger voice than an individual institution. We might need to go to government to lobby for a particular issue. We certainly do on things like copyright change. There's been changes in the UK copyright law last year, all these institutions gave their views on preservation exceptions for copyright and that type of thing. We obviously talk among ourselves among these different institutions about the best way to respond to consultation calls from government, from the Copyright Office for example, on what we should do about this because it's important (Ranft).

Ray Edmondson, from UNESCO Memory of the World, interestingly describes some techniques that FHI institutions can put in place in order to be more effective in their communication with politicians at the personal level:

We would look them up [politicians] and identify the ones important to us. We invited them, one by one, to visit the archive. [...] [We] would play some footage from their electorate [constituency]. We'd basically say, "If you want to be part of history as a politician, we're the ones who are going to ensure that your work, your whole image survives, and we are relevant to you, and we are a part of your background." We'd try to make ourselves meaningful to them personally (Edmondson).

However, this seems only a first step, and as Hesmondhalgh et al. (2015b) have helpfully written, the realm of lobbying in the cultural sector is rather complex and does not simply involve government and politicians:⁸¹

Policy rarely involves heroic or villainous politicians developing policy ideas with their advisers and then implementing them, or occasionally failing to. The reality is that ideas often come to policy makers from elsewhere – from think tanks, academics, or privileged and elite interest groups, many of them employing lobbyists. Politicians adapt such ideas to fit their values and their sense of what will gain them electoral success (in return they incorporate actors' interests into policy priorities) (14).

The writers identify five main policy groups: arts organisation, such as national museums; heritage organisations (e.g. Heritage Alliance); the cultural industries; local governments; and the information technology sector. Within this landscape, the FH sector needs to find a place and allies, reinforcing relationships with a broad spectrum of players.

In the American context, this is what AMIA seems to have done by establishing the advocacy committee. This is what, at the EU level, ACE has been successfully doing in the last few years. These come across as fruitful and interesting initiatives that should be strengthened at the national and local level. The relationship with government needs to be improved though, as they are the only major entities actively supporting the field. They are fundamental when it comes to negotiating legal and technical standards with the IT sector and the film industry (if this will even happen).

Michael Loebenstein proposes a reform of FIAF at the international level in order to consolidate relationships with the film industry:

Last but not least, one of the ideas that I pursued and that should be pursued is to look at a new category of affiliation. At the moment, for instance, FIAF has a category which is called FIAF Supporters where entities who do not meet the FIAF criteria of being not-for-profit and of being primarily preservation driven [...]. It will be either extending that supporters scheme and getting much more industry support and a couple of big international entities in to also formally really support and sponsor FIAF with knowledge, with support and with money, or to create a new membership category which would completely and radically

⁸¹ They specifically talk about the UK but this can be easily extended to the whole European context, as they themselves recognise.

overhaul the two tier model currently in FAIF, members and associates, and say is there a third category of commercial entities, for instance (Loebenstein).

Reto Kromer takes the same position:

FIAF should be more open to the industry and have a better partnership with the industry and stopping to see the industry as an enemy. They [FHIs] are completely dependent to the industry because they receive the hardware. No archive can build a computer, can build a manufacture to produce LTO tapes and can write a new operating system for modern computers and so on (Kromer).

In the FIAF (2013) we find the exact question affiliates have been asked:

A secret ballot was organized to vote on the following motion: “Do you support the proposed modifications to the FIAF Statutes and Rules required by the creation of the ‘Corporate Associates’ category?” (15).

The push by some governments and international agencies towards a closer relationship between the industry and the FHIs is having consequences on FIAF (where this topic was considered a real taboo until recently). However, the resistance of the European block, which in FIAF is still the most numerous, to such statutory and cultural change has prevailed (44 against 22, 2 abstained). The Europeans have indeed a strong and longstanding tradition of public support for culture and heritage. This however might go too far, according to some within FIAF, and lead to an excess of rigidity and unjustified prejudice toward the private sector, inhibiting fruitful collaborations. The accent Loebenstein and Le Roy (the FIAF president whom I interviewed as a professional working at the French national level) put on the vigour of the debate allows us to talk about an increasing willingness by such institutions to accept deeper and more structured collaborations with private companies (as suggested also by UNESCO). The “corporate associates” category would have allowed commercial archives to be directly involved in the association, to actively take part in the decision-making process. Some FHIs feared that this might have allowed the private sector to interfere with their choices in terms of managerial principles and ethics. Having acknowledged the potential in developing the relationship to industry, Nicola Mazzanti added:

Now, the problem is that of course the industry and archives have two different set of priorities. Sometimes they overlap, sometimes they don't overlap and sometimes they are opposite. That's pretty normal in any public vs private, not as against [one another] but as different [sectors] (Mazzanti).

There are positions that are much more passionate and direct than Mazzanti's:

As a matter for the whole of society, culture is something only public organisations should be allowed to take care of. So I would never ever agree to any privatisation of the cultural sector in any form. Accordingly, if I had any say in this matter, I would never open FIAF to commercial archives, never ever. I am violently against all private film archives because I have had dealings with one commercial film archive to last me for a life time (Krebs).

Although Loebenstein and Kromer make a strong point in stressing the need for developing close relationships with industry, this opening-up process needs to be handled with extreme caution, keeping in mind that the interests of the industry might be in some cases totally misaligned with the public interest, as we have seen in section 2.2.4. Also, if we look at both the policy documents and the interviews, when references are made to the private sector, a variety of sub-sectors seem to be included (such as film producers, post houses and the IT sector). The variety of private organisations which are potentially involved is remarkable. All these actors have different sets of priorities and interests, and have very different relationships with archives. So, even if one is making the point of further intensifying the relationship with "industry" or the "private sector" in general, a more articulated rationale and stronger justifications are still to be developed. We have in fact seen from the literature that such terms and conditions needs to be established with clarity in advance (see section 2.2.4).

As far as the long term picture is concerned, there seems to be the need to put more efforts into education rather than just into training new professionals to be employed in the field (which is anyway key as a short term effort). Having only a few avenues for education at university level has broader consequences than simply having a shortage in the work force or cultivated audiences:

So when a student comes to me saying I want to do a master thesis about the use of colour in Chinese cinema I say yeah! and he says I have DVDs [one should indeed look at film prints to talk about colours]. There is something that is deeply wrong in the way film studies is taught to the students. But this is not about

archives this is the sad state of film studies at the moment. Which is another discussion but it is relevant because if these people are the ones teaching film studies it becomes then very difficult to convince your minister that you have to digitize in high quality and not on DVDs where the local academic says we have DVDs what else do you want (Mazzanti).

The lack of structured relationships within higher education seems to me to be the most serious weakness in the long term. The consequence of the absence of teaching and research projects is the profound unawareness of the cultural value that FHIs have created, and keep creating at the highest levels and among cultural elites. This triggers a vicious circle, as the establishment of the legitimacy of a subject can also be a political operation, especially in the current climate where studies of the media are viewed negatively by some as ‘soft’ academic subjects, and thus of lesser value than ‘hard’ subjects such as mathematics and the sciences (Buckingham, 2013). One can offer as an example the establishment of the teaching of English in public schools and universities. This was the result of an “alliance between elites: private school teachers played a dominant role, along with various representatives of the great and the good, including numerous authors” (Buckingham, 2013, 12). Within the highest circles of intellectuals, political elites and decision makers, film restoration and archiving is still an obscure or even irrelevant activity.

I must also stress that the value proposition regarding the reason why FH should matter to people does not emerge with clarity in the interviews. As suggested in various documents (Maron and Loy, 2011; Blue Ribbon Task Force, 2010) the following is an extremely important question to be answered to build a case for FH and to be used to develop a solid “framework for advocacy and communication” (BUFVC, 2004, 36). There are of course plenty of interesting quotes and insights that I am going to address in depth in Chapter Six. However, I will firstly look at the consequences of the above mentioned environmental changes on the internal processes of acquisition and preservation.

5. ORGANISING AND MANAGING ACQUISITIONS AND PRESERVATION

5.1 Introduction

In the IT world, if you do everything properly, and you are a little bit lucky, all works perfectly. But in the real world, the main problems come when humans interact with machines (Kromer).

In this chapter, I will define the repercussions of the policy and technological changes explored in the previous chapter. I shall map the internal processes from acquisition to digital preservation, taking into account both born-digital and born-analogue materials. From the data collected it seems that acquisitions of born-digital material will be more tied up with national production as a consequence of (1) the Key Delivery Message (KDM) system and (2) the cost of digital preservation which allows one to acquire only the films which must be acquired by law, namely national productions. The obsolescence of analogue equipment and the shutting down of photochemical post houses are causing an increase of incoming born-analogue materials. This in turn has led, in some cases, to a remodelling of archival practices and an improvement of vault facilities for analogue collections.⁸² This does not mark a departure from traditional archival principles that still shape managerial and

⁸² The difference between archival principles and practices is intuitive but worth clarifying. *Reversibility* for example is a principle which we find in heritage restoration. Every operation carried out on the film must be reversible so that future archivists can potentially experience the source materials on which restorers carried out the interventions. As we have seen in section 2.1, this is also a sustainability principle. Respecting that principle allows one to critically engage with archival items, and it is essential to question the work that archivists exercise over collections. This translates into the practice of keeping source materials after restoration, and documenting the restoration process. In the digital world, this translates into keeping the so called raw scans for preservation purposes together with analogue source materials. “Raw overscans” are high definition digital versions of analogue material, including the edges of the film, with minimal to no corrective intervention (see section 1.3.2). If the analogue material, for some reason, will not be available in the future, one could go back to the “raw scan” to have an idea of the source material. *Reversibility* is of course a concept which is tied up to other archival principles such as authenticity, integrity and provenance.

curatorial choices. The expansion of the skills base needed to face ongoing technological change is frequently impossible to achieve due to insufficient or inappropriate funding schemes (which are mostly conceived for projects focussed on digital surrogation). The labour force is often hired on a short term basis, or through internship schemes. It is difficult to retain skilled personnel after such short term projects.

The funding schemes are generating the positive outcome of having forced FHIs to put more stress on the dissemination of collections. The negative effect is of course the need for a substantial increase of FHI running costs due to the need for digitisation and digital preservation infrastructure (which governments are reluctant to provide). If such resources are not provided either to single institutions or consortia of institutions, fragmented, risky and short term solutions would be implemented (as “best case” scenario). This might cause sustainability issues which relate to the difficulties of long term planning, to weak institutional trustworthiness and to marginalisation preservation ethical principles.

5.2 Analogue Film Collections

5.2.1 The Tsunami of Acquisitions and Conservation

We have seen that the digitalisation of the global film industry is creating the technical impediment of processing and projecting film due to equipment obsolescence (Mazzanti, 2011b; Wengström, 2012). One important thing that emerges from the interviews is that this, in many contexts, is encouraging external organisations (such as film laboratories) to deposit large amounts of analogue materials, as they are no longer able to process or project them. In general terms (and more interestingly), this is generating a process of: (1) remodelling and/or enlargement of up-to-standard storage infrastructures, which are needed now more than ever; and (2) a reconsideration of archival practices addressing the rationalisation of storage space, such as adopting deaccessioning policies, or more severe access policy for some of their holdings (as we will see later in this chapter, these tendencies do not seem to have effects on profound archival principles).

Paradoxically, due to economic restrictions, the process of digitalisation (in some contexts and for some materials) is making accessibility more difficult rather than easier. This tells us that, due to contextual and institutional conditions, digital technology is not synonymous with enhanced accessibility, as some writers have argued or assumed (see for example Gracy, 2007, 185). Also, the incoming flow of materials and investment in storage vaults tells us that film is going to be around for the foreseeable future, so that there will be no such thing as “a digital moving image archive”. So, as predicted by Mazzanti (2011a), the ‘crisis’ for archives in the coming years might be the decaying of the analogue world (equipment and skills) more than digital networks. In the following paragraphs I am going to expand on the two tendencies mentioned above.

FHIs are acquiring substantial amounts of analogue materials as a consequence of the closure of many film postproduction laboratories, and the unavailability of film projectors on the market. This is true for both regional and national archives. Such a process is described by a number of leading archivists (the first quote inspired the title of this section):

We have a tsunami of material that is coming in at the moment, that’s the reason we enlarged the storage capacity of our analogue vault of about 100% last year (Koerber).

We are receiving pretty large collections of analogue material right now. [...] Actually we are seeing more films coming in, not new films, but film from the last 30 years typically, which are no longer useful to anyone (Christensen).

[...] we are in 2014 and we still acquire film and we started to acquire files. But 99% of our new acquisitions are all still film (Grey).

It is difficult to predict how long this incoming flow will last. However, the countries where the national film industry workflows are already nearly completely digitalised are obviously considered to be the places where this will cease sooner. In fact, these collections are often coming from commercial organisations that have or are in the process of closing down, or that are renovating their technological base. The large volume of incoming material in some cases creates problems with storage space. Confirmation about investments in new facilities and new storage vaults are found in FIAF bulletins. Some archives have expanded or are in the process of expanding their storage vaults (e.g. Germany, Italy (in Milan), UK, Bourgone (FIAF, 2014c, 3).

This is not only a European phenomenon. In Sao Paulo (FIAF, 2012c, 9) there have been investments in that direction, and in Mexico City (FIAF, 2014b, 8) a photochemical laboratory is being updated and strengthened.

Access to and dissemination of collections are allowed thanks to digitisation. As we will see later in this chapter, archivists have different ideas about how and what to prioritise for digitisation. However, whatever the position on digitisation might be, all the participants interviewed for this thesis acknowledged the importance of preserving the “original” analogue material. Even Gaustad, who was very supportive of digitisation (even for preservation purposes), acknowledges that “you never throw away originals, that's a preservation principle”. So in recent years, and perhaps more so in the future, some analogue items might acquire more value than in the past and be designated as “masters”. Access copies, even if only in relatively bad shape, might be deaccessioned or withdrawn from up-to-standard preservation schemes. Archives might become more preoccupied with improper handling by external institutions which employs non-expert projectionists (e.g. art houses that might still have film projectors, archival film festivals but also non-specialised film labs). Also, and more simply, they might become more preoccupied by the usual degradation of images that analogue projection causes. This is due to the impossibility both of making new photochemical copies from and making digital versions of analogue materials. The reconsideration of some of the preservation practices has also emerged from the policy documents. What follows is a key passage within the FIAF Best Practice (2009):

Archives will implement policies and procedures which clearly define how master and access elements may be used. [...] In devising these, archives must take into consideration the obsolescence of many film processes (e.g. colour processes, sound systems, etc.). A release print, for example, can become the only reference to the way a film looked and sounded, and it may therefore be necessary to designate it as a master (FIAF, 2009).

More severe restrictions of access to certain materials (if not digitised) are therefore likely:

There is no point in exposing rare material to any low quality scanner, especially if parts of the same film are warped or shrunken differently from others, nor will I entrust such material even for a moment to the hands of any technician inexperienced in handling it (Krebs).

This is one of the reasons why some national archives are somehow forced to refuse certain items instead of acquiring everything that is offered to them. Also, according to Walsh, in order to pursue storage efficiency, some FHIs are more frequently refusing to acquire films that are preserved in other archives. According to him, digital technology plays a role here:

But the advent of digital technology of course means that films can be seen much more easily online or on electronic systems. [...] These days archives are saying, we see no point in us taking on a copy of this film because it's already preserved by that archive in that country and its available on their website so that's it. We don't have to have anything to do with it, even if it's of great interest (Walsh).

What is significant in FIAF documents is acknowledgment of the need for clear published management policies, from acquisitions to deaccessions. The encouragement to adopt deaccessioning policies in particular appeared for the first time, to my knowledge, in a FIAF policy document. It seems that this was taken up by FHIs as in all collection policies analysed deaccessioning is mentioned. Also, in such documents it is clearly stated that the real goal of whatever activity the archive carries out must be functional to access (see section five of the document). This stipulation, in my view, might have had the intention of publicly acknowledging and responding to the contextual cultural and technological change in which FHIs operate, as described in Chapter Four. In summary, what emerges from the interviews and policy documents is that the digitalisation of the ecosystem in which archives operate is not only creating the necessity to make digital copies (of whatever kind) to keep collections accessible. It seems that it is also modifying management and preservation practices, although, as I will demonstrate later, it would be inappropriate to extend this to the principles underpinning such changes.

5.2.2 Digitisation: Preservation, Access or Both

Some archives are acquiring equipment for in-house digitisation to assure access. This is a substantial upfront cost given the operating budgets of FHIs. Due to (1) severe or inadequate copyright legislation (that varies from country to country), (2) budgetary constraints, and (3) to technological and economic challenges of digital

preservation, digitisation is generally project-driven and often only for access purposes (i.e. low quality). Savings are generated by ceasing to copy film material onto new film stock, however this approach seems inadequate to compensate for the new substantial disbursements. This tell us that born-analogue materials available in digital form, mainly acting as surrogates, will probably grow relatively slowly. As far as digital copies and clones of born-analogue film are concerned, the tendency identified by Horak (2007) for DVDs seem to be still valid as far as the internet is concerned. Horak wrote:

Many small distribution companies that used to feature extensive catalogues of classic titles in the lower cost analog video format VHS now find themselves unable to finance the production of new digital masters for the films previously in their catalogues. The result is that both the quantity and quality of historical films available to consumers has been drastically reduced (Horak, 2007, 35).

So, fewer materials are available in digital form than in the analogue/VHS era. If we compare DVDs and the internet, we see a similar tendency.

The unavailability of scanners in the market has been put into question by some archivists, which another reason why analogue will take time to fade away. This has been noted in the context of other media such as print media: “In some countries, notably the USA, digitalisation has led to the closure of print newspapers and a crisis in journalism. But books demonstrate how slowly some prophecies of the death of print have come to be realised – and may not be realised at all” (Hesmondhalgh, 2013a, 406).

As we know from the literature, only a tiny proportion of film collections have been digitally copied or cloned (Mazzanti, 2011b). All of the participants in this research confirmed this. When asked about the challenges of analogue collections in the digital era, professionals pointed to similar problems and concerns. However, substantial differences in their accounts of the reasons for this emerged during the interviews. There is a general agreement about the need for preserving “the original” analogue archival items, even if the technological ecosystem will shortly be almost completely digital. So, as mentioned before, in light of this ecosystem change, participants acknowledged the importance of digitising collections as this seems to be the only way to make them widely accessible. However, as I argued in Chapter

One, digitisation is a word that can sometimes be used vaguely, and it is precisely with regard to digitisation policies that opinions diverge (see fig.1 in section 1.3.2).

There are two distinct (although intertwined and substantially overlapping) lines of argumentation that have been deployed to approach digitisation, with a different emphasis on priorities. Archivists such as Whitney, Christensen and Walsh seem to be concerned with the issues related to the preservation of analogue film collections such as their degradation and the need for up-to-standard storage vaults. They emphasise the problem of degradation and the difficulty of producing new photochemical copies from “original” materials.⁸³ This translates into practice by using digitisation mainly for access purposes and polyester film, stored in proper conditions, for conservation purposes. David Walsh started his argument by pointing out that numerous institutions, including some in western countries, still did not provide for up-to-standard preservation conditions for their collections:

Now, as I said, in rich temperate countries, that [preservation of the “original” analogue item] is a perfectly viable approach and that’s something that, for instance, the British Film Institute have adopted whole-heartedly: they are exactly adopting that approach. They have a store where they preserve film and, as far as access is concerned, they use digitization (Walsh).

Most is actually performed at High Definition because the digitisation we do from our analogue preservation material is pretty much access driven and really we are not seeing digital as an alternative to analogue preservation (Christiansen).

The other line of thinking stems from the difficulties created by the obsolescence of the processing equipment, and therefore the impossibility not only of copying such collections but also of accessing them in the long run. Some archivists, like Gaustad, Kuutti and Wengström, consider digital technology to be the only solution to overcome the threats (i.e. inaccessibility) these materials are exposed to. The key

⁸³ The expression “originals” stands out here. This concept, as argued in Chapter One, is not an unproblematic one in the context of media preservation. What the participants refer to is basically the “source material” from which a digital object is created. Some scholars have criticised such a concept on the ground of its non-transportability from the realm of art preservation to media preservation (Enticknap, 2013; Hediger, 2005).

assumption of these archivists is that film scanners will be withdrawn from the market over the next few years (I talked about this in the previous chapter). The main consequence of this is the establishment of a digitisation workflow which is largely based on digital cloning (4K overscans). Only two institutions, NAI (Finland's National Audiovisual Institute) and the SFI (Swedish Film Institute), seem to be engaged in large (even if not mass) digitisation projects for preservation purposes, as they have received funding to do this. The NAI is engaged in a project within which they aim to clone about 1000 titles. In Sweden the aim is to digitise 500 feature films. As mentioned already many times, another variable which shapes digitisation policies is of course the material constraints that such institutions are facing. The participants at all levels stressed repeatedly that FHIs are generally being underfunded, and that digitisation is often meant only for access purposes and does not go beyond digital surrogation:

I'm not aware of any other archive or film collection that is systematically digitising in quality that's preservation standard which means like 4K DPX files for the image material. So, a lot of digitisation that is going on with the film archives is making video files from the material. This is not preservation, this is an access action (Gaustad).

If you take the average archive you will see that they have a digital preservation programme, and that they may be well digitising primarily for access (Walsh).

Also, what we believe would be a digital preservation asset of a 35mm colour negative would be a 4K digital scan, which is currently prohibitively expensive and difficult to manage (Christiansen).

So, if there is not a specific and contingent demand, films are not digitally cloned or restored because the storage space they take up is huge. Gaustad also refers to the project-driven nature of digitisation. The vast majority of the archivists and professionals confirmed this:

The large national libraries have digital preservation systems that are similar and have digitization activities which may not be systematic, but more based on projects (Gaustad).

Antoniazzi: So basically we can say that your digitisation workflow is project driven?

Koerber: Yes, it's driven by demand really.

These projects might stem from collaboration with other institutions or private companies, special events, and one-off donations from philanthropists.

The key issue is however the very availability of film scanners on the market in the medium/long term. Now, the fact that due to the diffusion of digital cameras, the market has shrunk it is impossible to deny. As we have seen above, some archivists are convinced, or they imply, that scanners will disappear (e.g. Gaustad, Wengström). However, they cannot in my view really provide any convincing evidence other than the DAEFH study (Mazzanti, 2011a). Other professionals think that scanners will be on the market for the foreseeable future precisely because there is so much material yet to be digitised (Pennington, 2014b).⁸⁴ Also, the declaiming of the number of movies shot on film has slowed down, and seems to be stabilising around 20% of total Hollywood productions (Follows, 2016). This means that scanners will still be needed not only to scan old materials but also in new productions. However, in the case that the production of film scanners will cease, it may be possible to build scanners in collaboration with private enterprise (3D printing for some components of the scanners can be a potential option). Here are some of the quotations that illustrate this viewpoint:

[...] they'll be making scanners yes, in the same way that they'll carry on making film at least for the foreseeable future. Have a look at the breakdown in terms of Academy Award winning movies as to which we shot on film and which we shot on digital. And not only that, the studios will still be accessed to that back catalogue and how many million hours of film of the BBC that's still waiting to be digitised (Clark).

Other people are saying that the market of scanners will die somewhere in the future. There will not be new scanners to digitize again this preservation masters. I don't think so and it will really be a feasible thing to build a scanner to rescan these materials. So, in my opinion, it's the cheapest and the easiest way to do that [preservation of digital data using film stock] (Kromer).

Kromer's statement is confirmed by Borenstein's words. In France the CNC (preoccupied with the issue of digital data preservation) is working to build a scanner with a private company:

[...] we recently asked a company to develop a very special scanner able to scan 28mm. I did a kind of inventory of what format we have here and we have

⁸⁴ Another study about the availability of film scanners is found here: <http://www.qymarketresearch.com/report/65759#table-of-content>. However it was impossible to consult due to the high purchasing cost.

probably more than 50 different film formats. [...] So we asked this company to develop a very special scanner that is able to handle all of these different formats. The scanner will be able to scan from 8mm to 96mm. So, as you understand, we are pretty supported in doing what we need to do (Borenstein).

The CNC is also collaborating with French Image and Sound Superior Technical Commission (*Commission Supérieure Technique de l'Image et du Son*) to develop methods to manage vast amounts of digital data in post-production. To be noted in Borenstein's quote is the statement "as you understand, we are pretty supported". This is a way to stress the substantial cost of the project which implies that for the vast majority of FHIs, the same would not be possible. In France the public sector strongly supports cinema. The CNC is the pillar of film policy and is financed with resources created through taxation of the audiovisual industry, revenue from which is directly allocated to its running budget. The major European film archives (and some of the non-western film archives, Taiwan for example (FIAF, 2015, 18)) are receiving economic support to sustain investments in acquiring scanning equipment (the CINEMATEK in Brussels is one of the few to have a 4K scanner at its disposal). Such pieces of technology are very costly; a 4K scanner can cost around £400,000, and not many archives can afford this.

Leaving aside economic issues, I would like to stress that beyond what one might call in critical realist terms the first *stratus* of reality, something more profound than a purely technical discussion is found. An ideological debate is taking place.⁸⁵ This appears in a number of passages in the interviews. The following exchange is an example. Gaustad's position on advocating urgent mass digitisation for access and preservation contains a contradiction. When I pointed this out during the conversation, the ideological nature of the debate was revealed:

Luca Antoniazzi (LA): They [*the studios*] are not thinking to throw films away.

Lars Gaustad (LG): Yes. Well, you never throw away originals. That's a preservation principle.

LA: Right. But then the point is if the scanners are going out of the market [as he said few minutes before], what are you going to do with this collections?

LG: That's an interesting point, but we could use it to prove authenticity, and there will always be research request for the original.

[...]

⁸⁵ I do not use the term "ideological" here in a pejorative sense, as synonym of "pernicious". With ideological I just mean subjective, theoretically charged, something that stems from certain, disputable, conceptions of film archiving and its values.

LA: If some of these big corporations are still going back to film [*for preservation purposes*]...they are producing assets [*which are and will be on film*]... so, if they want that stuff to be usable in the future they are going to need scanners and therefore there's going to be a demand for scanners. What do you think about that? Is my point clear?

LG: Yes. I certainly do believe that, but the market will be very, very small even if the big studio archives have their assets on film and need to handle film. The market will still be very, very small.

LA: I mean, not much smaller than now... [Production is already 80% digital]

LG: Yes instead, because there are still people shooting on film needing scanners in production. Even so, I have problems relating to people not trusting digital preservation.

In Gaustad's opinion, some of these people are found in organisations such as FIAF and AMIA, where "there is an at least conservative if not reactionary attitude to reality within these organisations". In his opinion, they should come up with stronger statements to advocate mass digitisation. Walsh, who is representing FIAF, indeed seems careful of advocating a universal digitalisation policy:

I don't think it's possible to come up with universal policy for archives about digitisation. What we do in FIAF is produce guidelines about using a scanners, how to deal with handling the digital material we produce, some suggestions of what the impact of scanning 2K or 4K are in terms of dealing with the resulting digital material. But archives differ in what they require and what they expect (Walsh).

Scanners will be fundamental in the foreseeable future. Such machines can provide a lot more independence from the private sector (film labs in particular) and sometimes equipped archives can work with unequipped ones (e.g. the Murnau Foundation is collaborating with the Austrian Film Museum to restore *Variety* (1925) by Ewald Andre Dupont). Wengström clearly explained the importance of having in-house digitisation equipment:

Then you have all the questions about how close is a DCP to the original. What is it that you are giving access to? Which is why I think it's important to do any kind of digitalisation in house, so you learn yourself. You know where the problems are and you learn by doing mistakes. If you let outsiders do it, you receive a finished DCP [...] you can only have the opinion of [judge] the end result, but you have no idea [about] all the fine details during the whole process (Wengström).

In terms of digitisation, as far as policy documents are concerned the term is often used in its broadest sense, and this substantially complicates the understanding and

the potential implications of such documents for FHIs. However, these are not technical documents, and more marked attention is given to the role of copyright restrictions. This is of course not really a technological or technical factor, but it strongly influences digitisation processes and, potentially, even infrastructural solutions. Indeed, in some countries, the very act of digitisation for preservation purposes is inhibited (European Commission, 2014, 32-33). The stress on copyright is linked to the attempt of such documents, issued by organisations such UNESCO and CCAAA, to push governments to take initiatives. They are vague about the relationship between these two sides of digitisation (access vs. preservation), although in general terms access is used as the primary justification for digitisation.

At the regional level, archivists need to deal with a lot of video material and tape preservation. This poses different types of challenges. On the one hand, digitising video might be an advantage because of the fact that material can be digitised in a lower resolution. On the other, the timescale of disposal is shorter because tapes deteriorate faster than film. As some of the regional archives can find themselves in precarious economic conditions, Kelly has suggested that local federations can play a role, not only as communicative tools, but also in terms of sharing the cost of expensive pieces of equipment, i.e. scanners. We will also see that, in the commercial sector, small organisations unite and negotiate common deals with vendors and technology suppliers. This is a potential short term option to overcome budgetary limitations.

5.3 Born-Digital Materials

5.3.1 Deposit Legislation

Acquisitions of feature films are now increasingly, and in some cases exclusively, linked to national productions. This is caused by two main factors: (1) the reaction of MHS to the fear of piracy or illegal circulation, which leads to an increased control

over their goods through file encryption:⁸⁶ and (2) the need to rationalise digital storage space forces FHIs to prioritise, and in some cases to limit, their acquisitions to national productions. Exchanging material between institutions will therefore be even more important than in the past in order to build diverse collections and screening programs. The implication of this is that good relationships among such institutions, such as the FIAF networks, will still be important and will probably not be overthrown by new users or informal community networks. In the next paragraph I will expand on these issues.

As far as archivists working in national institutions are concerned, when I asked about acquisitions the discussion often (and unsurprisingly) turned towards the question of legal deposit. The deposit legislation functions as a key regulatory variable for the incoming flow of materials. In Europe, the minority of countries have legal deposit (mandatory deposit of any distributed AV work in a designated public repository) but almost all of them have contractual deposit (the obligation to deposit works financed partially or totally with public money). According to Walsh, even in countries without legal deposit it was easier to acquire films in analogue form:

In the past there were always distribution prints hanging around which archives would pick up by accident or by desire. Because once a print has been made it was out there...one country would have films of another country etc.... there was quite a nice informal way in which archives would acquire materials. But the thrust of digital distribution is around the Hollywood studios wanting to control material, so they have set it up in such a way that a DCP is available for a specific showing and then it becomes useless: this is their model (Walsh).

This is confirmed by others:

Well, acquiring unencrypted DCPs of foreign, international films, [it means] building a vital part of our cinema culture. Producers and studios are no longer providing archives with non-national films as they did in the past, fearing easy copying, wishing to control their material, the handling...everything. This happens also in countries with a legal deposit, with a long tradition to collect foreign films like in Switzerland (Dillman).

⁸⁶ Piracy Risks in relation to digital distribution were solved through the Key Delivery Message (KDM) model, which allows a given title (a DCP) to be played only on a specific projector installed in a specific theatre (Bloom, 2006).

From the documents another aspect emerges that is limiting acquisitions in countries with legal deposit. The issue is explained in a report of the last FIAF congress, which is found in the last FIAF bulletin (2015):

Thomas Christensen (Danish Film Institute) talked about the fact that legal deposit has changed archive work flows completely, since archives are no longer receiving 35mm theatrical prints, but rather digital files. As a result, archives will still preserve domestic productions, as they are obligated to do, but foreign films and local versions of foreign films would no longer be preserved, given the high cost of migration (as opposed to the low cost of passive preservation of analogue prints); many materials will therefore be lost (Horak in FIAF, 2015, 31).

One contradiction with Christensen, Mikko Kuutti does not see acquisitions as a real challenge in terms of digital storage:

We get it [DCP] at 250 GB and it's really nothing compared to digitising at 4K. [...] If we can store what we digitise we can easily store everything that we've been deposited with (Kuutti).

Mikko Kuutti, in general, has not problematized the issue of digital preservation. He only mentioned LTO tapes being not an optimal, and therefore not a final, solution for audiovisual preservation (more see in section 5.4).

In France, the law forces rights holders to deposit both a digital and an analogue version of their works. According to Le Roy, only the largest producers (a minority) actually deposit a film print to the CNC. This is to save money on the process of outputting the digital file onto asset protection film: "Last year there was 270 long feature films produced and released and we have received as far as I remember only about 25 prints" (Le Roy). Violating the legal deposit in France can be sanctioned with a fine of up to €75,000.⁸⁷ According to Le Roy, the only realistic solution is for the CNC to intervene by providing extra economic aid to independent and small companies to produce an analogue preservation copy of their works, or to produce the copy within the CNC premises. The importance of developing stronger deposit legislations is reiterated in practically all the international policy documents. So it seems to be the development of what Fossati and Verheff (2009) have argued

⁸⁷ See their webpage: <http://www.cnc.fr/web/fr/depot-legal> (18/10/2016).

for: a dual model in which “the free accessibility model” (online VoD) coexists with traditional models. A more radical proposal is put forward by Caroline Frick (2014), which one might call the cultural entrepreneurship model. This model is “built upon the idea that local communities can create their own museums without professionals dictating policy and decisions” (11). As far as professional and commercial productions are concerned, this is simply unrealistic, as national institutions are still fundamental to promote foreign film culture. However, national film productions are not the only materials FHIs are engaged to collect, amateur collections also play a very important role in film history.

5.3.2 Amateur Materials

A feeble incoming stream of digital born amateur materials has been identified. This is due to the fact that, at the regional level, a lot of acquisitions are amateur materials. Historically, the incoming materials (in the context of regional archives) are in a large part voluntary deposits (sometimes taking place years after their production). This seems to persist in the digital era, and, according to some of the interviewees, is to some extent even increasing:

The interesting thing is that, despite all the talk about collecting digitally born material or even handy cam as opposed to film material, we've never been receiving many digital files or home movies shot on camcorders (Clark).

[...] the really big issue [...] is that we are not acquiring stuff that is being made at the moment. Because we do not have acquisition budgets we do not have people who are going out and looking for stuff and arguing for stuff all the time (Patterson).

What we see daily in the regions is that less well-known film professionals and all film amateurs alike are generally hesitant to give anything to a film archive. For one thing, it is difficult to part from one's creative efforts, no matter the artistic level, and believe me, it can be high or low in both groups (Krebs).

The fragility of digital information and carriers can make things even more problematic than in the past. A film that is stored in improper conditions in fact still has a relatively long lifetime. Normally, in temperate and cold countries an analogue film can be partially or totally recuperated even after years of total neglect. An obsolete file format is much more problematic to access and if digital material is not

put through migration circles (see section 2.1), this can be fatal. This seems to justify the preoccupations put forward by archivists and preservationists. Krebs interestingly talks about creators' hesitations and reluctance to entrust their works to institutions which they only have superficial information about, or who they do not completely trust. People are reluctant to deposit material that they perceive to be of a very personal nature, and are attached to. They seem to prefer to store materials on their hard drives, or in the cloud. Also, this situation might also be caused by the lack of awareness regarding the importance and risks of the material's digital preservation. This may even be caused by the lack of visibility, as I argued in the previous chapter.

5.4 Digital Preservation

As discussed numerous times in previous pages, with the advent of digital cameras and digitalisation of the distribution system, FHIs are also now engaged in collecting born-digital materials. The advent of Digital Cinema Packages (DCPs) as an exclusive distribution format for feature films is forcing these institutions to develop digital preservation strategies. This section relates to these materials and to their preservation. In the case of digital clones of master film elements this requires time and resources. However, it is the very need for guaranteeing protection to DCPs (large files) that is putting digital preservation at the top of FHIs' list of preoccupations. Film can wait in the vaults for decades, whereas digital can die in a few years. The three overlapping sub-themes that emerge can be labelled as follows: (1) technology and technological infrastructure; (2) economics of digital preservation; and (3) organisation and strategy.

5.4.1 Technology and Technical Infrastructure

FHIs are generally unprepared to manage large infrastructures to store and preserve digital master files. The cost, the complexity and the supposed unreliability of such infrastructures are generally the reasons for such delays (running budgets of most FHIs have not increased in the past years). However, a number of FHIs are moving

towards some form of digital preservation, with the aspiration to reach up-to-standard digital repositories based on tape technologies, although they acknowledge the limitations of such technological arrangements. Preserving digital data on photochemical film is considered to be unaffordable and a temporary solution (it will be more expensive in the future) by the majority of interviewees. However, as long as Kodak is in business, it is still considered to be a viable solution, as argued by Broca and Traisnel (2011). A transition from a completely analogue to a completely digital preservation strategy is not foreseeable. Hybrid solutions (digital/analogue and tape/disks) seem to be the most viable, flexible and affordable options.

The problems are similar to the ones that American non-profit film archives have described in *Digital Dilemma Two* (AMPAS, 2012) and described in section 2.3.3. However, as this research shows, they are similar to the problems faced by major Hollywood studios as well. OAIS is not really used, and no discussion seems to be in place in order to translate OAIS into a series of infrastructural models, as seen in other fields (see discussion in section 2.3.2). Initiatives are fragmented and temporary, as for some other cultural organisations (European Commission, 2016, 54-61)

All the participants stressed that digital archiving is a complex activity and, if we talk about large amounts of digital data, it requires a complex infrastructure that the majority of FHIs are not ready to fully sustain:

I don't think that there are any archives in FIAF, for instance, who could put their hands on their hearts and say "yes we have a fully compiled trustworthy digital repository". It's very, very hard to achieve that with the limited resources that archives have." (Walsh).

Well, a trusted digital repository is of course something that everybody's striving to achieve but I don't think anyone has it, partly because it's a bit of an elusive term (Kuutti).

The large amount of material that film archives are in charge of creates serious difficulties for their running budgets. That is why some archivists think that the optimal solution would be to record digital information back onto film stock. Whitney referred to the Kodak asset protection "silver standard" stock. However, the

American company has recently withdrawn it from the market.⁸⁸ Kodak is still active in the production of legacy protection film. Kromer refers to the colour separation masters as the most expensive solution in the short run, but as the cheapest in the long run. He considers tape preservation problematic, but as a consequence of the institutional context, digital preservation seems to be easier to embrace and to justify to policy makers in the short term (here we see again the effects of corporate marketing and lobbying). Professionals deem difficult to justify such costly investments in analogue preservation projects (although cost savings will be achieved in the long run). Ralph Forster advocates for some kind of public aid for photochemical labs. This could keep the demand for film stock alive and avoid Kodak potentially filing for bankruptcy. Realistically though, this seems very difficult to pursue practically. However, as we have seen in the previous section, a public institution such as the CNC in France is developing a scanner with the private sector. In fact, professionals such as Borenstein (CNC) consider digital preservation to be very risky, and embarking on mass digitisation almost as a form of gambling with public assents. Nordic archivists claimed that, despite its complexity, digital preservation is the only viable route. Kuutti does not see this as a daunting task. He argues that there are no big issues except the economic limitations, which his institution has overcome thanks to extra funding provided by the government (a lump sum again). Walsh is more or less on the same page, however he seems to maintain a more realistic approach as we have seen in previous quotes. He acknowledges the challenges of digital preservation. He noted that these technological solutions are relatively new in the heritage sector and are not really conceived for heritage institutions and their needs. Even taking this into account, many professionals think that pragmatic, and perhaps temporary solutions are achievable:

It is possible without becoming too ambitious to just store your digital data relatively safely if you put a lot of time and effort into the future management of it. The technology is just beginning to come along and is reaching a point where you can deal with these very large files in a way that is practical in a fairly manual

⁸⁸ The stock was called KODAK Color Asset Protection Film 2332 and indeed appears in the list of discontinued stocks:

[http://motion.kodak.com/GB/en/motion/About/Chronology Of Film/Discontinued Films/default.htm](http://motion.kodak.com/GB/en/motion/About/Chronology%20Of%20Film/Discontinued%20Films/default.htm) (31/08/2016)

process to manage. But that's not really being a really trustworthy repository in the OAIS sense [...] (Walsh).

Walsh talks about a “red herring,” referring to long term solutions based on asset protection film, which are viable only as a temporary option in his view. In practice, not up-to-standard digital preservation, in different forms (from really precarious to more robust systems) seems to be the only viable solution to preserve born-digital films for the majority of FHIs. The majority of FHIs have no real digital preservation scheme or infrastructure in place

However, it seems that the big challenges come from the short life span of hardware (5-7 years). The most common preservation medium are LTO tape systems. At the time of writing, it seems to be the most reliable and the least expensive medium. However, according to many archivists, particularly technology experts, LTO tapes are not an optimal technology for archival purposes both because of physical fragility and business models adopted by the tape vendors:

This is very quaint and very sweet [sarcasm] of them [tape vendors] to say that tapes last 30 years. Unfortunately, in actual practice, and this comes from Warner Brothers, Paramount, Disney, Deluxe Entertainment, Library of Congress, National Archives, the National Geospatial Intelligence Agency and the Central Intelligence Agency, they have told us that they find data loss in less than 3 years (Hummel).

We know that the LTO tapes, starting off with LTO1 and now we're currently at LTO5, require migration after two generations. It is only backwards compatible for two generations. It's a very, very expensive proposition. We're finding that the LTO tape is also very fragile, with some of the tapes not being read back successfully (Utley).

I don't know a single big [audiovisual] archive that has managed a full migration with any loss of data. So, even very big company with very big amounts of money available to do this job were not able to do a full migration with any loss. So, it's possible in theory but it's very, very difficult to achieve in the real world (Kromer).

So, at the moment of writing there is (still) a downside, and two problems (presented in ascending order of relevance) that we can identify with digital preservation technology for AV materials. The downside is that LTOs are not access-ready. If one is building up an infrastructure to preserve master files (deep storage), LTO tapes are fine (Kromer, Senior Manager in an IT multinational). However, if you want easy access to your file, they are not as it takes time to retrieve tapes. That is why in order

to cope with this, some AV archives often use hybrid systems of disk/tapes in order to give their infrastructure more flexibility (Kuutti, Kromer, Senior Manager in an IT multinational). However, hard disks require a much higher power supply wattage. Most importantly, and this is the second problem, they are available on the market with built-in obsolescence. That means constant content migration of data, and multiple copies in different geographical locations as a key disaster prevention strategy (see section 2.1). This makes the TCO grows over time, as we will see in the next section.

This seems to be a peculiar problem of film archives and, to some extent, of AV heritage as whole. Ranft, from the British Library, whom I interviewed as coordinator of the national archive section at IASA, talked about the digital preservation system of his own institution. He stressed the reliability of the system, which is however based on hard-disk technology, but he acknowledge the challenges in specific relation to AV materials. Now, the challenges of digital preservation were well-known even before this research, but it is important to observe that even among archivists who are known to be relatively optimists and open to change, there is evidently scepticism surrounding the usability of the available technological solutions in the context of long-term heritage preservation for the specific reasons I indicated above.

As far as the documents are concerned, a substantial lack of information and recommendation about audiovisual digital preservation solutions has been found (as expected). FIAF has not issued guidelines, as seen in Chapter One. The UNESCO and CCAA line of argument is approximately the same.⁸⁹ However, from the FIAF documents, a contradiction seems to emerge. The difficulty is acknowledged in this paragraph:

Unlike a conventional film print, the short life expectancy of both digital media and digital formats means that a preservation strategy based on preserving the original medium (such as the hard drive on which a D-Cinema work is received

⁸⁹ On the IASA website I did not find any shared guidelines concerning audiovisual digital preservation (the organisation only deals with audio files). So, formally, it does not appear that IASA is behaving much differently from FIAF and AMIA. This confirms the difficulties, mentioned by Ranft, of officially taking a stance in the matter of digital preservation for audiovisual materials.

by the archive) is not viable. Long-term preservation of digital data is a discipline still in its infancy, and is likely to present the major challenge to archives over the coming years (FIAF, 2010).

However, a few paragraphs later we read that “[t]he DCP can be copied without loss (unlike an analogue print), and because it is relatively small, the storage requirements are within most archives’ reach” (4). One might note that in the first passage the term long-term preservation is used, whereas the second paragraph refers only to storage. This is obviously true, but it might be alternatively interpreted as an attempt to walk a thin line between, on the one hand, a too strong statement problematizing mass digital preservation, which could be judged as being too conservative, and on the other hand, a clear position in favour of mass digital preservation, which could be considered a techno-utopian (and therefore simply unrealistic) position.

5.4.2 The Economics of Digital Preservation

The TCO (total cost of ownership) of digital preservation infrastructures constantly grows, but its increment rate is very difficult to calculate over the long-term due to the number of unpredictable variables to take into account. This is another reason why some FHIs are reluctant to embark on such investments (it is not just about the upfront cost of tape robots or the cost of digitisation). The pace of change within the IT sector is too high for heritage institutions to maintain up-to-date infrastructures and to improve their workforce competences (even for big national archives).

Another theme that emerged from the interviews concerns the whole economy of digital preservation, which is something that goes beyond the current affordability of such infrastructure. The economic factor needs to be put into perspective. This is apparently one of the toughest challenges in relation to such infrastructures, and they have been worrying the community since the publication of AMPAS’s *Digital Dilemma* in 2007.⁹⁰

⁹⁰ Gaustad provides data from his one institution costs: “I think at the National Library the yearly cost for a terabyte of data is £450. [...] Yeah, TCO per TB.” As far as digitised feature films are concerned, the NAI devote a slot of about 29TB for each digitised feature film (Kuutti, 2014). This means that TCO in the short run amounts to circa £15,000 per year. It

As pointed out by Gaustad, and with more prudence by Wengström, the crux of the question is this: the constant increase of digital material to be preserved as a consequence of incoming and digitised material is not accompanied by a sufficient decrease of preservation costs over time. This leads to a never-ending increase of the TCO of digital collections and preservation infrastructures (as argued for example by Addis and Wright, 2010). As these two quotes evidence:

Antoniazzi: [...] that means that the total cost of [preserving] your collection could potentially increase?

Gaustad: Yeah. It will most likely increase, especially when you start collecting digital films. If you want to archive today films, they are Digital Cinema Packages, so your data will grow faster and the cost will increase, I think.

I think you can do a quite good calculation because what we have seen in time is that the cost per TB of storage is cut by 50% every three years or something like that. But on the other hand you have to make the calculations, of the amount or data you will have. It might increase more than that in 3 years (Wengström).

However, as far as Wengström's point is concerned, we know that the cost of the storage medium itself is not really a key cost, as underlined by Utley and Kromer. Also, in the field of digital film preservation, as we have seen in Chapter One, the decreasing cost tendency has dramatically slowed down, challenging the so-called Krider's law (Rosenthal et al., 2012; Plumer et al., 2012).

The current pace of change in the IT sector, and the variety of products that are brought to the market, seem to be another real infrastructural problem (even if Jpeg2000 is becoming the standard). As we have seen in section 2.3.2, standardisation and constant updates involves the four components of the infrastructure which run a number of different software: *Cataloguing Application*, *Digital Repository*, *Media Ingestion System*, *Media Transformation Framework* (AMPAS, 2010). To make things even more complicated is the fact that heritage institutions plan their future over much longer time spans:

Most industries think long term as being 5-10 years, but for an archive long term starts after 200 years (Walsh).

In the last 10 or 15 years there has been so much technical innovation that it has been a very technically confusing time staying up with the different types of hardware, software and media being used (Utley).

seems that AMPAS's calculation of \$12,000 was an optimistic one! However, much more data and research is needed to confirm or deny AMAPS's study (2007).

So, besides the actual high costs, Walsh stresses the uncertainty of assessing long term costs as another big problem FHI's need to cope with:

[...] there have been a number of studies and the variations in cost are quite extraordinary: a factor of more than ten between the cheapest and the most expensive. It makes it impossible to come out with a strategy that you can rely on because you really have no idea if you are recommending a particular course of action whether that is financially feasible (Walsh).

Walsh pointed to cost variables such as staffing, power consumption and maintenance, which are the major cost drivers. Such cost factors are of course linked to extremely broad issues related to the job market and national and international energy policy.

The policy documents generally put stress on the economic issue of digital preservation both at national and international levels. We do not have substantial information about the cost of digital preservation in the policy documents of European institutions. UNESCO seems to identify what one might consider an important problem, namely the faster-accelerating nature of the digital economy:

Attitudinal change has fallen behind technological change. Digital evolution has been too rapid and costly for governments and institutions to develop timely and informed preservation strategies (UNESCO, 2003, 2).

Even if the economy of digital preservation does not simply mean the cost of digital preservation, producing a report was the priority of UNESCO Memory of the World Programme Sub-Committee on Technology (SCoT). This is demonstrated by the report of their meeting in 2006:

Dietrich Schüller reminded the members of the committee that the Intergovernmental Council of the Information for All Programme had requested the SCoT to investigate the costs of preservation in the digital era (UNESCO, 2006, 8).

After thoroughly researching the UNESCO website, I found no guidelines, official studies from UNESCO or position papers. A meeting was held in Paris on the 20-21 April 2015, but no report or slide presentation is available online. This leaves single institutions in the realm of uncertainty and, in some cases, in the situation of fabricating their own solutions, as we have seen, with positive and negative aspects.

This is again no surprise, since the cost of preservation is deeply tied up to (non-existent) long-term preservation standards (technical and organisational). In the private sector, all of this translates pragmatically into a process that Utley has described very well. He seems to suggest that the MHS will wait before starting mass digitisation of their assets:

In a studio library 80% of their revenue is generated by 20% of their products. So they have a lot of products [...], whether analogue or digital, that are not producing revenue. Now with film they can put six cans of cut negative in a vault for \$50 a year and not have to worry about it. [...] That's not true with digital. [...] the studios are looking at this and are saying we may, and this is the very provocative statement, we may choose in the future not to migrate some of our library. [...] The right answer is, you will always keep the film as you can always go back to it and rescan at a higher resolution. But if you're barely making it financially and spending a lot of money maintaining your film library that you rarely ever access... (Utley).

Given institutional context and the characteristic of the medium, Utley seems to be saying that the MHS might wait years before starting systematic digital cloning of their analogue film libraries. Within the actual digital ecosystem, the preservation of what is not used and what does not generate income is simply economically unsustainable.⁹¹

In light of what we have seen above, one might argue that FHIs suffer from an acute form of “Baumol cost disease” (Baumol and Bowen, 1965). The Baumol cost disease affects economic sectors in which labour productivity stagnates over time. The arts is one such sector, alongside others such as education and health services. In other economic sectors, such as the automotive industry or pharmaceutical industry, technological advancements can instead be exploited. Normally such advancements make the productivity of labour increase and, in turn, wages tend to go up. As a macroeconomic consequence, the wages in stagnant sectors tend also to increase so that the gap between cost and income tends to widen as technology, in those sectors, cannot be used to increased incomes (Towse, 2014, 8-12). As far as the

⁹¹ Utley, together with Kromer, thinks that DOTS technology (see section 2.1) might offer a real solution to problems that relate to physical decay, obsolescence and high costs. It is unknown if DOTS will have any chance to win the political and economic battle which might engage with tape systems producers and their allies.

performing arts are concerned, the recipe to fight against that tendency revolves around four pillars:

- (1) First and foremost, increasing ticket prices in an attempt to benefit from the positive income effects of a growing economy.
- (2) Keeping the costs constantly monitored and trying to cut them when possible.
- (3) Trying to invest in ancillary activities (e.g. selling merchandising or drinks).
- (4) Trying to exploit new distribution channels by recording or broadcasting live shows (Throsby, 2010, 66-70).

As noted by Heilbrun (2003) and Cowen (1996), the real economic determinant is point (1) of the above. The capacity to increase or decrease ticket prices according to audiences' purchasing power is crucial. If income (for whatever reason) does not increase, the quality of the artistic offering can go down. Firms can for example prioritise shows with only a few musicians or actors. The cost disease affects libraries as well. In a famous paper, Baumol and Blackman (1983) refer to library technological advancements as *asymptomatically stagnant*:

[...] because it is characterised by initially spectacular cost decreases, which automatically extinguish themselves because the component of cost which manifest the rising efficiency to which the savings are attributable necessarily soon accounts for only a small part of the total cost. The more spectacular its initial cost performance, the sooner that felicitous state must come to an end (188-189).

Now audiovisual archives, due to the institutional context, are in a worse situation compared to traditional libraries. Technological advances are not only relevant for the operations carried out by professionals, but also for the very material base of what they are charged of preserving. This mitigates the potential cultural losses caused by infrastructural or funding insufficiencies. The task of preserving and understanding film collections is bound to a deep understating of film technology (Cherchi Usai et al., 2008). As we will see in section 5.5, equipment and skills need to be, to some extent, preserved even within a technologically different ecosystem. Beside this, generating increasing incomes is a great challenges to FHIs (the most effective antidote against the cost disease). Indeed, as I mentioned several times in

this study, the vast majority of FHIs in Europe preserve collections that they do not own and that they can only partially exploit, see section 2.4.2 in particular (European Commission, 2014 & 2012). Also, in many countries public institutions cannot implement a solid commercial distribution strategy to create income in order to preserve cinema holdings (more of this in Chapter Six). This tells us that the roots and the magnitude of major sustainability issues are deep. The issues are not solved by cultural populist claims (Prelinger, 2007), by “entrepreneurial” attitudes, or by detaching from “quasi-nostalgic views” of film archiving (see for example Frick 2010, xi; 2014, 126).

5.4.3 Organisation and Strategy

This section relates to the way archives are practically dealing with digital preservation organisational solutions. When dealing with digital preservation, cooperation among heritage institutions seems to be vital. Indeed, it allows it to benefit from economies of scale, knowledge creation and exchange. In-house or publicly owned community repositories seem to be the best solutions. Cloud storage might be useful, but only for small institutions, or to store relatively small amounts of data (possible access files). In general terms, the initiatives seem characterised by a high level of fragmentation. These initiatives remain however detached from internationally shared digital preservation standards or guidelines which just do not exist. Major Hollywood Studios are suffering the same challenges, and therefore it might be possible to build up a common strategy. Below I highlight the main solutions that FHIs are pursuing (see section 2.3.2):

1. Some institutions are building up their own *insourced-independent* digital preservation infrastructure. This is the case in Sweden, Denmark and the UK (under construction at the time of writing). This provides the advantage of directly owning and managing the facility, shaping it around the specific needs of the institution. It also provides for the possibility of developing internal expertise, and to be less bounded to market volatility. The disadvantage is that it does not really encourage collaboration with other heritage institutions, and impedes the chance to benefit from economies of scale. Norway has an *insourced-centralised* system which is based

on the collaboration of the major memory institutions of the country, the National Library and the National Archive. The efforts of these institutions are coordinated by (1) the Norwegian Digitisation Council to liaise between the industry and the government and (2) by the Norwegian Archive, Library and Museum Authority which functions as a coordinating body for non-national institutions.

2. *Outsourced-independent* state owned data centres or so-called “community clouds” are second options. An independent state-owned organisation which sells storage to cultural organisation, such as the Centre for Scientific Computing in Finland⁹² and the Zuse Institute in Germany.

3. *Cloud Storage*, meant as outsourcing to a private company, is a third option. Among the large national archives, only EYE Film Institute has opted for a US based company (T3 Media, now Wazee Digital). Cloud storage, according to professionals, is a viable option for small amounts of data, or to store access copies.

Developing your own infrastructure or having the possibility to work with other public organisations diminishes the extent to which such institutions are dependent on the private sector, and are (to some extent) immune to commercial earthquakes. It does not completely solve the problem though:

[...] we are setting up our own digital storage facilities, so we don't just rely on commercial sectors which can change from one day to another. But the equipment we buy is of course from commercial providers. And this is an element of uncertainty (Wengström).

Here, Wengström stresses again the advantage of building in-house infrastructures under the institutions' direct control and management. As archivists and experts know, preserving is not only a passive act. Preservation is in reality a process of learning about the collection, developing curatorial, technical and historical knowledge. It is an essential part of collection development and valorisation; this was true in the analogue era and it is still true in the so-called digital age.

Interviewees who work with the MHS, or who had information about the studios, reported a great deal of anxiety pervading the industry in relation to digital preservation, as anticipated. This is of course shared by most of the European

⁹² Finland is moving towards an insourced-centralised model similar to Norway's.

archives. Some professionals interviewed in the private sector work very closely with the MHS archives (Rick Utley, Rob Hummel in particular). The anxiety of these organisations is created by a lack of trust both in relation to the future of Kodak and in relation to new IT companies specialising in digital preservation. On the one hand, MHSs are sceptical about whether Kodak will be producing film after 2016, and on the other hand they do not trust companies that are just starting out in the business of big data preservation. Here are two key quotes from Utley:

Utley: [...] As the migration of tapes is prohibitively costly even for the studios, cloud storage might be the answer for large content owners in the near future.

Antoniazzi: Cloud storage managed by whom, by them [distributors]? Are they going to basically buy storage by third-parties?

Utley: That's a very good question and that question is yet to be answered. If you look at PRO-TEK, the company that I oversee, one of the reasons why the studios store a lot of analogue products with us is because they trust us. We work hard in making sure that we do a better job than the studio itself in caring for those analogue assets. If you look at the digital side, and if you look at cloud storage, the studios need to trust that vendor. Most third-party vendors offering cloud storage have only been in business for the last five or six years. There is no long-term history in an establishment of trust. So, is the studio going to turn their assets over to this third-party vendor not knowing if they are going to be in business in two or three years?

This sceptical attitude is also confirmed by a professional in a senior position in a leading IT multinational. Here is a revealing quote:

But when you think about the banks in the early days what were the banks saying to people? Well, give us your money, don't keep your money in your house, your money will be safer in the banks. Everyone was a bit scared at the beginning just because if I give my money to you I lose control over it (Senior Manager of an IT multinational).

Now, in light of the recent financial crisis which was largely provoked by the speculative activities of the financial system, the above might not have been the right example to bring up. The same professional, assures that cloud storage is simply the best option such institutions can opt for. He thinks that cloud storage, besides being reliable (he mentioned a number of companies that are opting for it, including public television broadcasters) provide versatility to storage solutions. The scale and the competences of such companies allow them to provide a large variety of different services which FHIs realistically would not be able to develop on their own. Issues

that relate to the control over collections and economic issues, can be solved by stipulating solid and clear long-term contractual agreements (e.g. forms of insurance on the collections or obligations to return the data to the client in case of bankruptcy). However, precisely as it is for banks, the outsourced storage solution can be very useful to store for example access copies or relatively small amount of data.

Risks and drawbacks are found in the case of large amounts of digital material, especially if entrusted to a single private organisation. Currently, there are MHSs that still use asset preservation film and others, like Sony, which are implementing digital preservation systems (this was confirmed in Fairall's interview). In Utley's opinion, the long term solution that is being discussed is the implementation of a MHS-owned server farm, which might include the development of storage technologies alternative to tape systems (this is the most common medium for digital audiovisual preservation).

As far as regional and small archives are concerned, Kromer and the Senior Manager of the ICT multinational, talk about consortia that are created among them to benefit from the increased negotiating power when it comes to negotiating deals with service providers and vendors. According to the interviewees, small archives are also using cloud storage or in-house solution which do not always meet required standards. From my research, it seems that regional archives are not really involved in any common digital preservation project, strategy or investment. Some of the UK film archives which are part of universities, such as the East Anglia Film Archive or the Media Archive of Central England, are using their university library storage facilities. In Germany, some local institutions such as Potsdam Filmmuseum use services provided by the Zuse Institute in Berlin.

5.5 Labour

5.5.1 Digitisation Work

The quality of digitisation activities is tied to labour costs. Indeed, digitisation practices are not always automatic and unproblematic tasks. Professionals have stressed the crucial role of time-consuming curatorial work, which requires specific technical skills such as selection and inspection of materials, metadata creation and

documentation. This is nothing new in film archiving, but another layer of complexity is added to traditional technical (photochemical) skills which need to be ideally maintained. In fact, as we know from section 5.2, film will still be with us in the foreseeable future. Digitisation involves specialised expertise, from the act of selecting the source materials for digitisation to the access strategies. What democratisation might mean in the context of FH is still an open question, and its definition requires further intellectual investigation.

The scanning process is at the heart of digitisation processes. Mikko Kuutti pointed out the importance of having at one's disposal a state of the art scanner which can carry out fast high quality scanning (in the case of materials in good shape this should go up to 4K real-time). However, when we talk about digitisation of archival items, we obviously do not only talk about scanning. Scanning is a task which is part of a longer workflow. Digitisation activities can vary from being "relatively straightforward" (David Walsh) to being very complex, involving crucial curatorial decisions that are often discretionary to archive or laboratory professionals (e.g. colour grading and correction). As we have already seen, they can go from relatively quick telecine transfer, normally used to create low quality copies for researchers or students, to 4K complex digital restorations as seen above. The difference among them, as I mentioned in section 1.3.2, takes place even at the level of lexicon. One thing that appears to be a crucial and time-consuming activity is recording information while digitising analogue material to enrich the catalogue and metadata. The processes carried out need to be mapped in detail to provide the contextual information in order to assure integrity, authenticity and provenance of film materials. Such activities are deemed very important, especially if we talk about ephemera or amateur materials:

[...] these are the kinds of collections that don't get the attention that the films in Hollywood get because they are not in Hollywood, and they do not have that budget. I just want to say it is also really important to document the stories and their provenance. One can do so with oral history and by using technology to embed metadata within the actual file (Whitney).

Some of the scanners automatically capture technical metadata (although there seem to be no standards here), but there is much more to consider than such information. If the analogue item does not bring any information or documentation

with it, research is needed to gather such information, or to record information gained during the inspection process before digitisation. Also, selecting the best source material for digitisation can take a lot of work, as for example Gaustad stresses in his interview. Also, when orphan works are digitised for access, “diligent searches” to update copyright status can take a long time, substantially slowing down the process of digitisation. Indeed, in the FIAF documents scanning is described as “a skilled craft”:

Scanning a perfectly graded print in good condition should require the minimum effort to set up and scan, but any one of the following introduces complications: a range of exposure levels, splices, damage, grading notches, non-standard framing, and soundtracks. Common problems are unsteadiness at splices, poor response to very dense negatives, insufficient exposure latitude from scene to scene with ungraded material. Scanning film is a process which requires dedication, experience and a good understanding of both film technology and digital technology (FIAF, 2012).⁹³

In European policy documents, in passages such as the one that follows, we find the same sorts of warning, even if ingrained with economic instrumentalism: “The process of digitisation, however innovative or advanced the tools, will be labour intensive and would result in job creation in large numbers” (Niggemann et al., 2011, 40). This complexity⁹⁴ seems to be acknowledged also in national policy documents such as the BFI collection policy, where substantial stress is put on training, appropriate competences to be developed, and the highly skilled labour required by the institution. This reveals the challenges related to large digitisation projects and the nature of heritage work in FHIs, which appears as a mix of curatorial and

⁹³ In a previous document, FIAF defined the stages of the process in detail: “For example, a plan could include the following parts: Project planning and workflow design, selecting titles for digitization, selecting appropriate material for digitization, test scanning a variety of material to determine scanning parameters, prepping and cleaning material, moving films physically to and from the scanning location, digitizing the films, verifying and checking digitized raw data, creating metadata about the new digital objects and metadata about the scanning workflow, moving and storing data, making renditions, verifying renditions, storage and distribution of digital assets, workflow development for use and access of digital assets, documentation and promotion of project, and finally, reporting on the results” (FIAF, 2009).

⁹⁴ When I use the term “complex” I do not mean that film heritage work is more complex than other kinds of work. I just want to stress the fact that digitisation is not to be considered a mechanical process only because technology plays an important role. The same applies to “highly skilled” labour. It does not mean that this is more difficult than post production work, but that some relatively unique and relatively rare competences are needed.

technical competences. Having a high performance scanner, i.e. high speed and high image definition, is not really the only thing one needs in order to achieve satisfying results.

In Sweden and Finland, the digitisation departments count on around eight (nine and seven respectively) people on a permanent basis. Setting up such (relatively expensive) departments, acquiring or developing new skills and personnel, is very important to achieve quality and effectiveness. Challenges are economic in nature, but they are also generated by the highly specialised skills needed so that this often forces institutions to develop them in-house:

So, [...] it's a really difficult time for archives to be adapting, and kind of widening the skill base without necessarily being able to widen their resource base (Edmondson).

I think in our case and in many cases there is an issue with the fact that you can't just recruit new people, to a great extent you have to do with the ones you've got (Kuutti).

[...] there's got to be a change in the balance in the workforce. You certainly need system engineers and computer programmers. [...] There are staff who need re-training. These aren't things you can just necessarily read in a book or even online, you really need to share information often face-to-face with experts across different institutions (Ranft).

As seen in the previous chapter, from the analysis of the policy documents from FIAF, CCAA or the European Commission, it clearly emerges that the institutions are making efforts to provide both technical training to a larger number of students, and retraining to young professionals.

Cultural heritage labour might be defined as the process of attributing meanings to history conceived as aspiringly objective knowledge of the past (see discussion in 1.2.2). Heritage labour discretionally shines a “reanimating” light into the set of complex social relations embodied in film collections. In so doing, collections become meaningful to contemporary audiences. This is a complex and costly interpretative and technical process.

Digital cloning and restoration of old materials are mostly driven by labour costs, and require specialised competences to take important curatorial decisions. The complexities of the decision making process are spread along a broad range of activities. So, if one makes the point that digital technology contributes to building

a more democratic archive (Gracy, 2007; Frick, 2010), one does not have to forget to take into account the whole picture described above, rather than focusing mainly on access strategies, which is only a link within a broader value chain. The analysis should not forget the whole process that goes from the acquisition policies to the selection of materials to be digitised, and even the process of choosing or designing the platform through which audiences come into contact with collections. This broader picture includes the working conditions of professionals and interns.

5.5.2 Integrating New with Old Competences in Precariousness

As far as analogue collections are concerned, the problem seems to be the retention of competences created in the past:

We need to know digital because it's the technology available today but we need to know the film technology and the film material because our vault has 40,000 titles that are made with celluloid films. [...] I've been involved with digital for 15 years now and I am convinced that if you don't know film you cannot translate it into digital (Fossati).

As far as digital is concerned, the difficulty lies in the impossibility of permanently acquiring new competences. The short-term basis on which personnel is employed does not allow for a proper expansion of the skills base that would be required. Richard Ranft talked about the experiences of some members of IASA who were not able to retain their personnel as a consequence of the project-based nature of digitisation activities (see section 5.2.2). This often translates into project based funding. Ranft stressed that these types of funding schemes, also known as “soft funding” or “soft money”, force heritage institutions to hire personnel only on the basis of short-term contracts:

There is a slight benefit, of course, in that the workforce is more mobile and so you benefit from some projects in bringing in fresh ideas and skills, so that can be very invigorating and very beneficial rather than, say, having the same staff for decades. But overall I think it's a loss because these staff are on one-year contracts or just a few months contracts and they build up their skills and then they go on to somewhere else or they go on to another profession altogether. So it is a big problem (Ranft).

In the policy documents, we rarely find any reference to labour as we do in the interviews. There are of course references to skills and competences, and there is a call for stability and long-term solutions:

Collections need to be surrounded by stable and continuing organisational structures, by the necessary technical and curatorial skills and knowledge, guided by a professional philosophy and ethos which will maximise the possibility of the heritage being faithfully transmitted from one generation to the next (CCAAA, 2005).

Continuity of the digital heritage is fundamental. To preserve digital heritage, measures will need to be taken throughout the digital information life cycle, from creation to access. Long-term preservation of digital heritage begins with the design of reliable systems and procedures which will produce authentic and stable digital objects (UNESCO, 2003).

This call for stability seems to confirm Ranft's concerns about the precariousness of the workforce.⁹⁵ The abuse of workplace flexibility is shared with other cultural organisations and cultural industries in recent times. However, as far as heritage institutions are concerned, this seem to be even more problematic due to the indispensable long-term planning they need to put in place. "Soft money" funding schemes are overused and threatening sustainability. Also, in general terms, the diffusion of such practices reached a point where, besides the drawbacks pointed out by Ranft, they have become quite immoral, perpetuating and reaffirming patterns of social injustice (Holmes, 2006; Koerber, 2013).⁹⁶

The second of the issues that I referred to at the beginning of this chapter was "multilingualism". Even if an archive has the resources to enlarge its workforce, a challenge lies in the risk of creating a digital "parallel archive" alongside the analogue collections, with personnel exchanging only basic information. Professionals should be able to speak both the analogue and the digital language in order to be able to meaningfully translate from one technology to another. "Bilingual" professionals are vital to working in what should become hybrid archives:

⁹⁵ Precariousness results from the overuse of short term contracts, internships and volunteer work to minimise the payroll.

⁹⁶ Some writers have also underlined, together with precariousness and insecurity, the benefits of working in the cultural sector, such as meaningful self-realisation (Hesmondhalgh and Baker, 2011).

During this up scaling period we have decided that this will be a separate department. My ambition is that once everything will be up and running it will become a part of the analogue archive so to speak. But it might end up as a parallel archive... (Wengström).

The SFI has employed personnel released into the labour market after the closure of many film labs (FIAF bulletin, 2014, 31). Alternatively, internships allow for a permanent pool of potential personnel to hire on a permanent basis when someone retires from analogue departments, or when such department need an expansion of the work force:

[...] taking over equipment and personnel from a closing commercial supplier to establish an internal archival laboratory, on providing archival internships, and on the needs of maintaining analogue projection capabilities (FIAF, 2014b, 31).

However, what Wengström seems to be referring to is the need to foster the integration not only of old and new competences but also to integrate different cultures. This is not an easy task. An interesting passage where ideological and cultural issues are revealed is to be found within Krebs' interview. While talking about the challenges of the digitalisation of FHI, Krebs seems to refer to more than just an issue of communication between “analogue” and “digital” people:

And don't forget one thing: film archive people and IT people have problems to understand each other because we use very different professional languages. [...] What is clear to me is that if IT people enter a cultural institution to serve its aims, they have to learn our language, and the archivists must always be the ones in charge, to supervise the IT work with regard to the cultural ends which are to be achieved by observing proper archival practice (Krebs).

What Krebs seems to be pointing to is a process of negotiations between two sets of values. IT people are often greatly influenced by what one might call “digital culture” or “internet culture,” built around free access to information. They are often not familiar with heritage ethics and curatorship. In general terms, too often issues of labour organisation are neglected in the field of FH. Such managerial and financial decisions can greatly influence curatorial choices (Wallmüller, 2007, 87). This is surely an area to explore with further research by perhaps joining research communities such as cultural labour studies – see for example Gill and Pratt (2008) or Banks et al. (2013) for an introduction to the relevant “bodies of ideas”.

5.6 Technological Reductionism and Post-Custodialism

The main intellectual debates that emerge from the data reveal two questions that can be labelled as post-custodialism:

Central to any post-custodial reorientation of the archivist, or any other information professional, is the fundamental revolution affecting the very nature of society's collective memory caused by the widespread use of the computer, and especially the personal computer (Cook, 1994, 401).

In general terms, post-custodialism calls for a proactive role for archivists (Ham, 1981; Upward and McKemmish, 1994). Frick's (2010) argument in the last chapter of her book seems to stem from here. The preservation of artefacts is no longer the core of an archives activity, the core is really the accessibility of such collections. However, Frick seems to combine this with a more radical view in which access *is* preservation, which she might have taken from radical debates in librarianship:

The real revolution for librarians is the capacity to generate, store, disseminate and use information in different formats and media. [...] Because of these characteristics, the use of digital technology requires a new definition of our concept of preservation, which now becomes those strategies and actions necessary to provide access to the accumulated human record as far into the future as possible (Battin, 1993, 371).

The policy documents acknowledge the need for a deep debate about the function, missions and curatorial principles of heritage institutions in the new environment. The issue of technological change needs to be sided with a theoretical discussion about classic archival patterns built around concepts such as authenticity and integrity of digital collections (Lynch, 2010).

However, this paradigm shift seems less an “analogue vs digital” issue and more something related to the physical characteristics of books or paper documents. In fact films, as units of meaning, are issued in different versions and are seen in different contexts resulting in different visual experiences. They are multifaced entities. Although the concept of “original” has been coined to identify the item with more historical value as the item with the most visual and sound information, film never was a fixed entity. Also, for decades, film preservation was precisely the process

of copying images from old to new film stock.⁹⁷ This process inevitably changes them, as details are lost from one generation to the other, colours can look different and mistakes can be made by lab professionals (Read and Meyer, 2000; Enticknap, 2013).

Frick (2010) argues that more access generates more copies, and this acts as insurance against losses of items. Access is preservation, as there is no preservation without access. Consequently, access is acquisition, as there is no acquisition without access. This is the argument that some of the archivists use, as we have seen, to justify mass digitisation. For example, while talking about freezing up films for conservation purposes, Gaustad said “but then [the film’s] not accessible and if things are not accessible, they don't exist.”⁹⁸ As we have seen, this seems to be untrue for a number of practical reasons that I described in the previous sections. Also, in general terms, what emerges from the analysis does not point to a paradigmatic change in the ethics of film archiving (e.g. the imperative of the protection of “originals” is still at the centre of the best practices). Ethical codes still adhere to classical archival principles such as the importance of integrity and authenticity of collections, but also the reversibility principle in the case of restoration, as I demonstrated above. These principles are clearly confirmed within the collections policy of European institutions. Implicitly or explicitly, even if we have seen above the adjustments to a different institutional and technological context, the FIAF Code of Ethics is still considered the reference point (see FIAF, 2015). The same classical archival and heritage preservation principles are also found in the documents of other international

⁹⁷ One might argue that the increased frequency of such “migration” in the digital world creates a qualitative rupture between the two worlds. However, as we have seen, the frequent migrations are profit-driven rather than attributable to the technology itself.

⁹⁸ Facilitating accessibility is surely a moral duty for a public institution, but the dissemination of materials has never been at the core of the archival function which some institutions fulfil (I am not exclusively referring to film). The value that archives create is to transform simple objects into historical records so that they can be reliably used to reconstruct the past. This is possible if they are safeguarded according to defined principles and practices (these include activities such as research, documentation and, of course, proper storage conditions). Now, film is a particular historical record as it was meant by its creators to circulate and to be screened repeatedly. This opens up an awful number of philosophical questions. So Gaustad might be right, but his statements seem to neglect the complexities of the questions I discussed in this note.

institutions. For such discussions, the CCAA refers to Ray Edmondson's classical text *Audiovisual Archiving: Philosophy and Principles* (2004). This is confirmed in many passages in the interviews. Jon Wengström was probably the most explicit:

Antoniazzi: Listening to you, it seems the principles of archiving have not changed that much...

Wengström: The principles I would say are the same [...] that practice doesn't change from analogue to digital, because its fundamental principles are simple.

However it is reductive to argue that nothing is changing. A curatorial and cultural change is slowly taking place, in particular, as anticipated, in terms of audience engagement. This is generated by the possibilities created by digitisation as a potential access-facilitator, and by the pressures of neoliberal policies. A pure "custodial approach" (the Lindgren approach, one might call it) is being contaminated by a more open approach that puts stress on the moral imperative to widen the doors to audiences and users as much as possible. Loebenstein acknowledges such change. He talks about "sharing collections", rather than providing access to them, as a two-way communication between the users and the archive professionals. This seems to me a very interesting attempt at synthesis (which digital technology can realistically encourage) to overcome the often antithetical relationship between preservation and access. On the one hand, the curator and the archivist need to accept a certain degree of loss of power over the collections, on the other hand, users need to acknowledge the curator's role as expert and, to some extent, as guardian. Here, the dual nature of heritage is revealed (Graham et al., 2000): it can be the place where power is arbitrarily exercised over the past through experts and their canonised expertise, but at the same time it is inevitably the place for critique, the place where a given reading of the past can be questioned and rewritten if necessary. The well-known example was the FIAF congress in 1978 in Brighton after which the history of early cinema was completely reshaped thanks to the collaboration of information sharing between scholars and archivists (Chapman, 2013).

Here, I see a potential for positive outcomes to the neoliberal turn which, as argued in Chapter Four, I generally consider as a negative phenomenon. The attack by such ideas on the foundations of film archiving is stimulating a profound conversation. The resistance that some archivists are trying to deploy to oppose this

turn is inevitably forcing them to take intellectual risks, and to challenge solidified practices. Some professionals are (re)asking themselves questions that they deemed already answered, which adds complexity to archival thought.

5.7 Summary and Ways Forward

By summarising the findings in this chapter, I can partially answer the second of the research sub-questions (Q1.2): *how are internal processes, from acquisition policies to dissemination strategies, changing as a consequence of digitalisation?* I can conclude that FHI's are in the middle of a complicated situation in which it is difficult to take decisions and embrace a long-term strategy. As far as born-analogue collections are concerned, we are seeing an adjustment of archival practices to new challenges, namely higher income flows of materials and storage room rationalisation. Despite European policy documents indiscriminately advocating for increased accessibility, archivists, in some contexts, have somehow managed to obtain some funding to properly look after analogue collections. This is a hopeful element that shows that governments are not necessarily on their knees in front of lobbies and corporate marketing. This however requires an “activist” approach from civil servants with a clear “guerrilla” strategy, as Edmondson has argued (2012). I will expand on these issues in the next sections.

The dissemination and accessibility of portions of the collections is threatened by the unavailability of playback equipment, and little or “soft” funding for digitisation. As far as born-analogue materials are concerned, we can see a narrower incoming flow, which is due to the impossibility of appropriately preserving vast amounts of digital material, and to increased control of international film industries and their materials via increased severe copyright legislations and file encryption.

The peculiar challenges that they face in terms of technical infrastructure and labour force (high volume of data and strict ethical principles, which translates to growing running costs) add to other policy challenges identified in the previous chapter. These institutions seem to suffer from an acute form of Baumol cost disease (see section 5.4.2.). Governments are trying to nurse such diseases by pushing institutions towards the above mentioned increased accessibility, providing “soft

money” for single digital access projects. We will see in the next chapter if, how, and to what extent focusing so much on access can be a response to sustainability issues.

When it comes to digital preservation, it seems that, although some FHIs have taken action, the majority are unable to develop solid long term strategies. This is due partially to economic problems but also, and most importantly, to the pace of change of the faster-accelerating digital economy to which they now have to relate. Short or mid-term solutions are often the only viable options for FHIs. Nordic European institutions are exploring the potentialities of digital technology, which for FHIs is a relatively new territory. The level of fragmentation of these initiatives remains high. This makes such initiatives less solid both in cultural/curatorial terms and economic/infrastructural terms. The positive side of the story is that archive professionals have been somehow forced to challenge old models and principles, adding complexity to theories, ethical principles and social accountability.

As we can see, the process of digitalisation of FHIs is governed by a number of political, social and economic forces. The cultural outcome of such a process, the extent to which the digital may or may not be a disruptive technology, or whether or not it will change the nature of film archiving and its principles, depends more on the responses to the challenges than to technology itself. In the previous chapter, I tried to fill the absence of a solid debate and research on FH and public policy. Here I tried to fill a gap in terms of infrastructural sustainability of digital film. The next research efforts must in my view address the issue of labour within the field of FH, its organisation and its peculiarities.

The second research question asked: *what are the necessary conditions to offer effective answers to reach sustainability?* Avoiding rushing into mass digital copying or cloning is advisable. The process of technological change requires prudence and huge investments in an uncertain territory. Cloud storage does not provide any answer to the challenges of FHIs digital preservation. Entrusting our cultural heritage to large private companies can lead to the digital enclosure, to paraphrase Andrejevic (2007), of FH collections. Community and state-owned centres (e.g. Zuse Institute) might offer optimal short and mid-term solutions. In the long term, FHIs should ideally develop their own infrastructures, standards and competences, in order not to lose control over the preservation process as a process of learning and valorisation of the collections. The intervention of governments to regulate the IT

industry is indispensable to reach sustainability. Let us explore more in depth such issues.

Mass digitisation equals mass digital preservation, which FHIs are simply unable to sustain. Also, as technical arrangements for digital preservation in the domain of cultural heritage are just starting to emerge, committing vast amounts of funding to solutions that might be obsolete very soon is just too risky. Simon Popple (2015), moderate “digital optimist” involved in important digital projects (i.e. the Parachive project) has written:

Rushing to potentially radical technological solutions afforded by the increasing range of digital tools and born digital content is probably the last thing we should do. We are in a period of transition in which we are being forced to reconsider practices and principles and the choices we make now, and those we have already made since the introduction of digital technologies, could have catastrophic consequences for the future if we do not pause to consider them and provide a necessary research focus. (142)

The current research confirms this thinking. It seems absolutely risky to rush into high quality mass digitisation for the large majority of the archivists I have interviewed (see also Edmunds and Fairall, 2014). This appears even more absurd as we have seen in the previous chapter that there are emergencies such as lack of education and research. It seems that, in a couple of decades, we went from a real, and ethically questionable, restrictive access policies (Bordwell, 2013), to a sort of blind access obsession (at least in the public discourse) which might lead to the neglect of the range of complex and costly activities that archives are in charge of besides providing access.

The idea of the evolution from one stage of technological history to another can be maliciously exploited by certain politicians. It could justify the denial of additional funding that FHIs need, or could even decrease their running budgets, as far as the non-digital collection is concerned. This might be supported by arguing that the rationalisation of the budgets is possible, and legitimate, by cutting the resources devoted to film collection as part of a past technological paradigm that is inevitably fading (“throw away that old stuff and you’ll save some money! They’ll be inaccessible anyway! No scanners, no general public access, no value!”). This might lead in some contexts to a subtle push towards the neglect or even deaccessioning of large portions of the analogue materials. It might seem to be an unrealistic occurrence, but in the

field of librarianship the debate about the dismissal of public libraries as a consequence of the spread of the internet is a serious one (Lingel, 2012; Brucoli, 2007; Smith, 2014). This fear seems to be already present in FIAF Best Practices and some collection policies. When deaccessioning is mentioned (a welcomed novelty for FIAF in my view), the tone with which the exceptionality of the practice is stressed becomes very severe:⁹⁹

The BFI has a long-term purpose and holds permanent collections in relation to its Royal Charter objectives. [...] Therefore there is a strong presumption against deaccession and disposal of works or items from the collection (see appendix C for a glossary of technical terms). Nonetheless a case for deaccession may be made [...] (BFI, 2011, 11).

Archives must also set up policies and procedures that strictly regulate the deaccessioning of materials in the collections. Original elements should not be deaccessioned unless their instability becomes a danger to the rest of the collection; this is because improvements in preservation and restoration techniques may lead to better results in the future (FIAF, 2009).

Moreover, some archivists seem to allude to the subtle push to mass deaccessions:

[...] [NFSA] maintains a great digital archive, but it also has an additional storage building for film. So, it could enlarge film collection because it knows that an increasing amount of film will come to it as the laboratories close. So, it would be the last repository of the actual rolls of film in the country. Now, I suspect this has been replicated in various countries, in various ways, but that means that they have got to maintain the ability to view and examine and screen and copy films to maintain the ability to transfer it to digital form. [...] How long is such a facility sustainable? (Edmondson).

In my view, what Edmondson seems to perceive as a threat is precisely the potential upcoming pressure of certain political factions to rationalise FHI operating budgets to the extent of putting analogue collections in jeopardy once digital copies (or even surrogates) are created.

As mentioned before, cloud storage is not a good option for FHIs. Gaustad thoughtfully believes that given the scale of such investments and the complexity of

⁹⁹ If we look at museums, such strong statements are often released to reassure potential depositors who do not want to see their donations sold, exchanged or somehow leaving the archive premises. The same applies to FHIs, especially in the US context (Jenkins et al., 2014).

the infrastructure, benefiting from economies of scale and knowledge exchange is crucial. Here is one important excerpt:

Well, these are complex systems and certainly for regional archives and even small national archives, there are great benefits to cooperation when it comes to digital preservation (Gaustad).

He suggests that community preservation infrastructure is the best solution for big national archives for three basic reasons:

- (1) It avoids potentially high charges to retrieve content (as instead with cloud storage);
- (2) It provides stability – in fact many companies that offer this service have been in business for a short time, and they could easily shut down;
- (3) It also allows one to exercise due control over the collection and the work carried out on it.

What follows is an excerpt of the interview which I think is worth reporting in its entirety:

Lars Gaustad (LG): [...] if we talk about major archives with, let's say, PBs of data, it's not a viable system because... okay, you don't pay much to upload it [*a digital item*] to the Cloud, but you pay a very large amount to pull it back from the Cloud. So if you need to retrieve your material then it's extremely expensive in terms of the cost models that they are running today. No one talks about the Cloud as preservation process, what happens when you need to migrate to new formats? Or emulate your legacy formats? Because you will have to, it's part of the concept of digital preservation.

Luca Antoniazzi (LA): Absolutely. I think that this is also a political problem, in the sense that you are giving them the data and they're going to control it.

LG: True. They will control it. And they may shut down and you'll have no way of getting your data back.

LA: [...] you can have your cassettes back. But then if you don't have a preservation system where to install the cassettes, they're gone anyway.

LG: If you don't have the drivers then they're useless anyway, aren't they?

LA: What do you think about a state owned Cloud? Where you can basically national collections – paper collections of books, audiovisual material?

LG: Well, the National Library of Norway and the National Archives of Norway have been given the task of being a National Cloud for the digital heritage by the Parliament. That sort of answers the question. I think it's a good idea. It may even be a European Cloud in terms of the European Union.

The world film industry, including the European industry, is dependent on the choices of the major Hollywood Studios' (MHSs) archives. They seem to suffer the

same problems of European institutions in relation to digital preservation. There seem to be aligned interests and common objectives to be achieved. So, at least in this respect, a global strategic alliance and collaboration between the private sector (content producers and distributors) and the European public sector might be possible. Developing technical solutions to common problems could perhaps be the first step towards a more fruitful relationship (e.g. developing film scanners, developing common technical standards). The DAEFH acknowledges this, advocating for a European storage system for FH, which can also be used to store international productions when rights holders agree. This is considered an effective strategy, as the rights holder would be required to deposit only one digital copy instead of one for each of the member states (Mazzanti, 2011). Kuutti usefully highlighted that indeed there are drawbacks in having repositories which are shared by a number of different kinds of heritage institutions:

[Institutions deal with] a wide variation of regularity in the data and a wide variation in the metadata requirements for these files. Also if you're looking at a long-term preservation system, it needs to take into account, if you follow the OAIS model... there's a preservation planning which means that you need to look at the long-term understandability of the data. Once you increase the number of different kinds of objects in the system that becomes very difficult (Kuutti).

Alongside purely technical issues, one might also add curatorial issues, which relate to the specificities of the medium (film in this case) and the specific cultural mission(s) of such institutions. Curating film collections requires specific competences and curatorial principles. Also, libraries might prefer to have access-ready content in lower resolution, whereas museums or archives might be less interested in the rapidity of access and more interested in thick metadata description and image quality.

In conclusion it needs to be stress again that the main problem at the moment seems to be the fast-accelerating nature of the IT industry. It seems then that without stronger regulation of the IT market, all of the above might be useless. As we know from the literature, both the copyright lobby and the IT lobby have at the moment divergent interests. The IT sector needs the content to fill their platforms, and the copyright industries do not want to let their content get out of their control (Hesmondhalgh, 2013, 158-164). FHIs are somehow strangled by this fight, as are other heritage institutions. New policies are needed both in order to update copyright

legislations, and to regulate the IT market to force some of the hardware and software producers to work with the public sector to assure the public good. The real challenges are business models based on planned obsolescence and/or incompatibility of formats. Archival storage solutions are not profitable as the market is too small (Rosenthal, 2013). It is in the interest of the industry to provide solutions with short services life.

As Borenstein has mentioned, one example to follow is the development of the Portable Document Format (PDF) which has become a successful standard in text-based document. File formats for feature films seem to be stabilising around JPEG2000, but questions are wide open for non-professional digital formats. Rosenthal (2009) has argued that file formats will stabilise without regulatory intervention as a result of market competition. However, even if this proves to be true, the timeframe and the real consequences for the preservation of heritage material remains unknown. Again, collaboration and strategic alliances with MHSs could be fruitful. Large national archives, on behalf of their governments or the European Union as a whole (hopefully but really unlikely), could for example share research investments such as those on passive storage technology, which some MHSs have already financed (Pennington, 2014a).

6. DISSEMINATION, VALUES AND OUTREACH

6.1 Introduction

The professionals interviewed in the research have, to different extents, shown positive attitudes towards the new opportunities for digital access provided to all kinds of audiences. However, archivists generally do not think that this can trigger a radical upsurge in demand that would eventually translate into a significant economic income (which might have had positive effects on the sustainability challenges described in the previous chapter).

This chapter analyses first the funding strategies for digitisation and copyright limitations to which FHIIs need to comply. It is argued that, despite recent improvements, such limitations are still substantial and that they are shaping funding schemes.

I will then look at the economic and extra-economic value of FH. The willingness to pay for online access to the rest of the materials is limited (as applies also to other heritage forms or independent/art cinema productions). However, it might be argued that, as far as digital platforms are concerned, they can be helpful to raise social awareness about the value of FH, which might indirectly create economic benefits (e.g. via big digital projects such as the EFG1914 project).¹⁰⁰ Distribution in theatres is now substantially cheaper thanks to digital technology. This can realistically contribute towards spreading aesthetic excellence and cultural diversity in wider geographical spaces to engage new communities. I close the chapter with a proposal for a more complex elaboration of the non-economic value of FH.

6.2 Copyright and Funding for Digital Dissemination

¹⁰⁰ The project was financed by the EU via the ICT Policy Support Programme for the centenary of WWI. Around 3000 films relating to it were digitised and uploaded to the online European Film Gateway platform. Watch them at: <http://www.europeanfilmgateway.eu/node/33/efg1914/multilingual:1/showOnly:video> (20/09/2016)

Copyright legislation is a real source of tension in the field, and it is shaping funding schemes. The cases in which the cultural industries lobby in order to strengthen copyright control beyond any reasonable limit are not infrequent (Hesmondhalgh, 2013a, 157-165). As a consequence of the aggressiveness of some companies, a number of archives, such as the Imperial War Museum, have insured themselves against involuntary violations of copyright legislation. The resentment of some archivists is well expressed by Edmondson:

So the copyright holders exploit the work that archives have done to make money, and then work to extend the period of copyright, so they can keep control of material, and I think that's the point where it becomes quite immoral, actually. We've got companies ascertaining control for 9,000 years or more on the material that they were not able to preserve themselves, and which again goes well beyond the original notion of the logic of copyright, which is to ensure that the creator will have a fair return for their work and investments. The concept of copyright was first introduced to protect individuals during their lifetime. This has now become an industrial thing, and films are seen as industrial products, and assets which you continuously exploit (Edmondson).

Since the 1980s, technological and economic changes have opened up new opportunities to market more AV materials held in archival vaults; chiefly the mass diffusion of VHS and VHS players (Enticknap, 2013, 60). This has pushed the private sector to invest more in this field, which is of course a positive thing. On the other hand, there has been a push towards lobbying for higher control over collections through more stringent copyright legislation. Such problems are identified in a large number of international and European policy documents, where changes in copyright legislation are explicitly or implicitly encouraged. One good example which elaborates on the problem is found in a document issued by the CCAA:

At the core of these [technological and economic] changes is the tension between two sets of rights – private control and democratic access to the public memory. While there are no easy answers (for example, should broadcasters be obliged to provide public access to their archive in exchange for the privilege of holding a licence for public broadcast?), a new instrument needs to do more than simply acknowledge the obligation to honour copyright control. It needs to articulate the underlying principles and propose both mandatory and voluntary measures which can be taken to balance them (CCAA, 2005, 5).

The legislation forces archives to pay for copyright clearance to give access to materials which is often economically prohibitive. In Europe, where the legislation is fragmented, and where the structure of the industry is fairly volatile, the cost of

clearance is often decided case-by-case. So, copyright clearing becomes a laborious process, a process which can be both time-consuming and expensive for FHIs. It suffices here to quote the *Comité des Sage* report: “the BBC has calculated that clearing rights for the whole BBC archive would cost 72 million pounds for staff costs alone” (Niggemann et al., 2011, 11). The ethical implications are therefore evident here, not only because most FHIs in Europe are publicity funded organisations (as is the BBC), but also because the production of film material is grandly subsidised by the public sector (see section 4.1.1). Tax payers pay for (part of) the production of such materials; they pay when such productions are released to watch them; they then pay for safeguarding them; and, lastly, they need to pay again to re-access them after market exploitation.

Such copyright restriction was an obstacle to accessibility even for amateur or non-fiction materials or material literally forgotten in the archive from their right holders. The Orphan Works Directive (*European Parliament and Council Directive 2012/28/EU*) seems to be a good step in the right direction, even if professionals, in general, do not seem to give it much importance in their interviews (only David Walsh briefly referred to it). At the end of 2016 all the EU Member States have implemented the OWD (Herlt, 2016). When I asked how to overcome issues of copyright legislation that are impeding access, professionals seemed pretty sceptical that something substantial might happen in the future. However, The Association des Cinémathèques Européennes (ACE) showed appreciation for the Directive (ACE, 2011, 5).

The basic idea of the Orphan Works Directive is to give to heritage institutions the ability to provide access to materials of which the rights holder is unknown. This is ascertained after a so-called diligent search (this constitutes about 20% of archival holdings of FHIs). While the content made available cannot be exploited commercially, diligent searches, the process of finding the potential rights holders, are, time consuming and therefore expensive (Herlt, 2016).¹⁰¹ Project FORWARD was initiated by the FH community (it was directly developed by 13 institutions)

¹⁰¹ Available here is a checklist that archivists need to fill in: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/557112/orphan-works-film-and-sound.rtf

precisely to translate the directive into best practices in the context of FHIs.¹⁰² The project successfully developed technical, organisational and legal arrangements to fully exploit the OWD (e.g. devising best practices to carry out diligent searches, creating a registry of European orphan works, setting up centres for copyright clearance of film materials).

Despite the positive impact of the OWD, the legislative framework, the ACE argues, still does not allow FHIs to unleash their public value as they should and could. Extended Collective Licensing (ECL) is advocated by ACE (ACE, 2011, 6). ECL allows FHIs to avoid costly and time-consuming negotiations with individual rights holders. Deals are struck with collecting societies (e.g. Publishers Licensing Society or Printed Music Licensing Limited) and are not only valid for their members but also non-members. As a consequence of this inappropriate legislative framework, ACE suggests that, ideally, public money should not be spent on the process of digitising material for commercial exploitation. If digitisation is made with public money, materials should be available online and a commercial agreement should be sought with rights holders to share the benefits of commercial exploitation. If digitisation is paid with public money, materials should be available online in low resolution, free of charge (ACE, 2011, 5). This happens in Sweden with *filmarchivet.se*. Access to low quality files is free, but reuse is not permitted prior to copyright clearance:

In this project [filmarchivet.se] [...] we have been able to do it [uploading films online] without paying anything to a rights holder. Because these are kind of film [material] that they hardly knew they had and they wouldn't do anything with it anyway. [...] Then they [users] pay a fee to the right holder to have access to these files [to reuse them] and this works pretty well. I don't know if you know this documentary film about our former prime minister. It was the biggest documentary hit ever in Swedish box office [Palme, 2012, by Kristina Lindström, Maud Nycander]. They used material from several of the shorts we have put online (Wengström).

¹⁰² The project was set up by the European FH community, co-financed by the EU and coordinated by the Belgian CINEMATEK. The project was mainly “set out to create an EU wide, standardized system to assess and register the rights status of audiovisual works with a focus on orphans”. See <http://project-forward.eu/forward-new/> (20/09/2016).

As far as feature films are concerned, the Swedish film industry is supported by public money to fund digitisation. A “wish list” system has been put in place for rights holders:

In order for them [right holders] to be able to place the film on the wish list [for digitisation] they have to give a short statement to us on how they intend to use the digital material that we create for them. So we will have a distribution plan or rerelease (Wengstrom).

The impossibility of dealing with collective copyright clearance can create the paradoxical situation of having large (or mass) scale digitisation projects that output digitised materials that is not available to access free of charge. In the Netherlands, the mass digitisation project Images for the Future was funded by the ministry of Economic Affairs (through the Economic Structure Enhancement Fund – FES) with the main goal of valorising AV holdings through digitisation and wider accessibility. The budget was calculated at €173 million for a consortium of six heritage institutions including the EYE Film Institute.¹⁰³ €154 million would have been the resource available immediately (in 2007), €19 million to be earned and paid back during the digitisation process (2007-2014), and another €64 million to be paid back after the completion of the digitisation process in ten years’ time (2015-2025). However, in 2010, after an interim report commissioned by the new government, led by the centre-right party People's Party for Freedom and Democracy (and after the 2008/09 peak of the financial crisis), the funding scheme was restructured (Zijlstra, 2010). The interim report (Consortium Beelden voor de Toekomst, 2010) acknowledges the positive non-economic impact, but identified three crucial issues: (1) that stringent copyright legislation makes any economic gain unrealistic; (2) the cost of storage is higher than forecasted; and (3) the demand for access to such products is substantially weak (including those from the education sector). So, the payback model was dropped: €90 million would have been provided by FES funds in the form of a subsidy and another €25 million would have been allotted by the

¹⁰³ On 17th September 2010 a communication was posted among the Images for the Future web site news: “VOB and CDR pull out of Images for the Future”. The official reason provided is connected with the highly controversial issues of copyright limitations (“neither organisation is the owner of its collection”), in consequence of which the two organisations have not been able to develop the set of services in order to implement the business model discussed above.

Ministry of Culture for a total of €115 million (still a huge amount of money, but roughly 40% less than the original budget).¹⁰⁴ If one would have had any hesitation in acknowledging the instrumental nature of the project, the funding scheme reorganisation proves this beyond any reasonable doubt. After all, the institution which financed the project was developed under the realm of the Ministry of Economic Affairs, and such funds are used to boost economic growth and profit. The only real benefits, in economic terms, were enjoyed by the rights holders that saw their own material digitised and preserved with public money. Hans Westerhof, coordinator of the project at Netherlands Institute for Sound and Vision, acknowledged the problems with copyright and accessibility:

On the subject of accessibility [...] we really had hoped for better results. Images for the Future digitised a lot of audiovisual materials but only a small portion of this material is widely available to the general public; this is unfortunate [...].¹⁰⁵

In 2012 Bernt Hugenholtz (Professor of Information Law at the University of Amsterdam), referring to the Dutch government, bluntly and provocatively declared: “We should be ashamed of ourselves. This is cultural policy spectacularly failing!”¹⁰⁶

In 2015 things did not seem to have changed:

The original objectives regarding accessibility are not yet achieved satisfactorily at the end of the project. Of the total of 138.932 hours of digital AV materials, only 15 % is currently available for education and 2.3% on demand for the general public (Consortium Beelden voor de Toekomst, 2015, 28).¹⁰⁷

Although *Images for the Future* did not fully meet the expectations of its promoters, Hugenholtz’s might be regarded as too harsh a statement. *Images for the Future* must be considered a ground breaking project, without which some of the challenges of digitalisation (technical, legal and cultural) wouldn’t have been explored in such depth. For example, the copyright clearance system established for the Ximon, a VoD platform developed in the context of *Images for the Future*, was the foundation on

¹⁰⁴ The figures are taken from Zijlstra (2010).

¹⁰⁵ Video available at: <https://vimeo.com/54807145> (Accessed: 10/02/2016).

¹⁰⁶ Available at: <https://vimeo.com/55261865> (Accessed: 10/02/2016).

¹⁰⁷ Original text: “Van de in totaal 138.932 uur aan digitaal AV-materiaal is op dit moment 15% beschikbaar voor het onderwijs en slechts 2,3% on demand voor het algemene publiek”.

which Project Forward has develop some of the suggested best practices (Project Forward, 2013, 10-11).

Two major digitisation projects can be considered *de facto* examples of cooperation between the private sector and the heritage sector: Unlocking Film Heritage (UFH) in the UK (2013-2017); and the *aide sélective à la numérisation des œuvres cinématographiques du patrimoine (aide)* in France (2012). Funding is provided directly to rights holders (not necessarily private entities) which have re-distribution projects in place. In order to get funding, a distribution plan has to be submitted together with the application. Unlocking Film Heritage (which has been financed in the context of the wider project *Film Forever*), is funded with National Lottery money and it includes a digitisation endowment available for both the private and the public sector (£5 million over a three year period) (BFI, 2015). The material will be distributed via the new BFI online platform, the *BFI Player*, and through other channels such as theatrical distribution. The potential revenues will be split between the rights holders and the BFI, so that it is possible for the latter to recoup the costs. Digital materials will be deposited in the BFI archive and will be uploaded on the BFI Player (which is a key element in the BFI digital strategy). In France, the *aide* has the same objective but is not based on a recoupment plan. The plan is strongly sustained with a massive fund of €400 million over six years. The aim is to digitise and redistribute 10,000 films. In general terms, it is difficult to evaluate the success or failure of such projects at the time of writing. However, currently available numbers are promising:

In summary, under the UFH programme this year [2014], we have: – made over 500 newly digitised titles available on BFI Player; – digitised another 800 awaiting release on Player; – selected almost 1,000 other titles currently being researched and contextualised; – digitised over 113,000 transparencies from our stills collection (BFI, annual review).

Thanks to the *aide*, 265 films were digitised and disseminated through a variety of distribution channels between 2012 and 2013, 166 between 2013 and 2014 and 137 between 2014 and 2015 (CNC, 2014 ; 2015; 2016).

In summary, copyright law, which is shaping the way in which funding is provided for the digitisation of archival holdings, realistically, will not change in the foreseeable future (the OWD is a useful but weak tool). This is no surprise given the

weak political position in which FHIs find themselves in relation to government and to the cultural industries, but it is worth stressing. So, besides the high cost of digital preservation, presented here is another argument against mass digitisation projects which are addressed at widening access to archival holdings (as advocated for instance in DAEFH, 2011): these materials will be largely inaccessible due to the current legislation. In light of this, it seems that working together with rights holders and the industry is the only realistically viable path to deal with digitisation for access purposes. Good results seems to be achievable but the idea of the archive can become a platform (Thiemer, 2014) or of a celestial multiplex, to follow Kristin Thompson (2007), is still a mirage.

6.3 Economic Value

6.3.1 Non-Theatrical Dissemination

The Internet, which is often portrayed as a key innovation driver, is still economically marginal for FHIs and classic film distributors. FHIs have developed a number of useful websites with information about their holdings with no direct access to collections (e.g. *screenonline.co.uk* or *filmarchives-online.eu*). Besides these, AV materials from the collections are available on a variety of platforms, which we can classify into four categories:

- (1) Websites which fulfil the function of footage libraries, which are therefore mainly devoted to commercial users (e.g. *IWM Film* launched by the Imperial War Museum in 2014);
- (2) Heritage-focused platforms non-directly managed by single institutions, but as collective shared projects (e.g. *European Film Getaway* linked to *Europeana*);
- (3) Channels within non-heritage and commercial AV platforms (i.e. *Youtube* or *Vimeo*);
- (4) Video-on-Demand platforms for the general public, such as the BFI Player, the only VoD platform that has been carefully devised to monetise over film collections (DCMS, 2014).

VoD platforms aimed at the general public, such as the BFI Player, are costly to implement, and the economic gains are yet to be demonstrated. The BFI invested around £100,000 to launch the platform, and another £500,000 has been provided from the Department of Culture, Media and Sport (Cox, 2013). It constitutes the core of the BFI digital strategy. Although numbers seem to be encouraging, it is still impossible to evaluate the economic impact of the project both for the institution and the broader industrial context (British Film Institute, 2015; 2016; DCMS, 2014).

BFI Access Table (data is taken from BFI reports and DCMS, 2014)

Key Performance Indicators	2015/2016	2014/15	2013/14	2012/13	2011/12
UK Cinema Admissions (distributed by the BFI)	830k (archive only - including Southbank)	Not available	535k (DCMS) 550k	522k	458k
Southbank Admissions		Not available	277,300	293k	295k
Overseas Admissions	163k (archive)	Not available	260k (DCMS) 250k	298k	254k
DVD (Units sold)	“on the rise” but no data available	Not available	285k (DCMS) 267k	276k	273k
Online					
BFI Player views	2 million views	153k (archive material) 250k overall (until October 2014)	164k (DCMS)		
Screenonline visits			615k 1.3 million (DCMS)	9,797	7,618
YouTube views	3.9 million overall	1.6 million (archive) 3.6 million (overall)	2.2 million (archive) 3.4 (overall) 2.3 million (archive) (DCMS)	2,205	3,807

As far as footage sales are concerned, archivists explicitly talked about a “grand delusion” in terms of demand and income generated via online platforms. David Walsh, for example, took as an example his own institution, the Imperial War

Museum (IWM). The IWM in London is one of the few institutions in this context to hold or administer the copyright of its own collection. This pushed the archive towards a very proactive access strategy to generate economic gains.¹⁰⁸ Walsh noted:

Well, this is the *grand delusion* that you can make money out of film archives. [...] we own the copyright or we administer the copyright on behalf of the government so we are in a very lucky position. [...] But even organisations like us cannot cover anything like the cost of managing a film collection from the revenue we gain. As far as the new digital world is concerned, it does at first glance look like an opportunity that here's something you can put online, you can make micro sales of lots of material, and the money will be rolling in. It's never going happen: it's very difficult to set up systems to make this work (Walsh).

Developing infrastructures, creating demand, and building up business models is a very difficult task that requires skills and resources that archives do not have at their disposal. Dilmann, from a German perspective, seems to confirm the challenges in relation to revenues:

Answering your first question whether there is really a business model for film heritage, in the net or elsewhere, I don't think so. Your example of Images for the Future shows it in a way, they have far less income than they had expected. Of course it's incredibly important for us to be on the Internet, give insight into our archives, and to show our films, but you can't earn sufficient money with this cultural task, not when facing the costs. That's ridiculous (Dilmann).

The focus is on the fact that developing infrastructures and building up business models is a very difficult task that requires specific skills and resources. In the face of this, these investments generate incomes that can only cover a small proportion of the running budget of the archives. The same preoccupations seem to be confirmed by the failure of *Ximon*, the Dutch VoD platform aimed at the general public.¹⁰⁹

The following passage in the interim evaluation report of *Image for the Future* put the stress on another important issue:

Since the emergence of such platforms as YouTube, it has become customary for digital audiovisual services to be available free of charge. Within the world of education, there is little willingness to pay for services, partly because the government has now focused its policy on the free availability of publicly-funded learning resources (Consortium Beelden voor de Toekomst, 2010).

¹⁰⁸ In 2012 the archive won the "Best Use of Footage in a Home Entertainment Release" award assigned by FOCAL (Federation of Commercial Audiovisual Libraries).

¹⁰⁹ The platform was closed as the VoD market did not grow as fast as they thought. The web site is still available here: <http://www.ximon.nl/>

However, although not economically disruptive, we can say that digital platforms can potentially improve the services FHI offer to their clients, as we have seen with the Swedish *filmarchivet.se* in the previous section.

DVDs are still the most important non-theatrical distribution channel for classic films, as they benefit from consolidated marketing strategies (Dale, 2015).¹¹⁰ Even for small and large institutions, DVDs are still the most effective medium to create some form of income, especially for those institutions that cannot count on film theatres and/or complex digital strategies. This appears clearly from the interviews of a number of professionals:

It's just that a broadcaster will ring up and you'll have to produce some sample and then when they have chosen from the sample, you'll then have to extract the clips that they want. The amount of work involved for the financial return is probably not as good as publishing a DVD for general sale to the public (Clark).

Antoniazzi: So basically DVDs is one of your main sources of income?

Eckert: Yes, it is. Online is not important at all. We have to be on the platform but it's not important yet.

There is a market, yes, we can charge [for footage]. A lot of people will pay £50, £60 for a 3 minutes piece of film, so it's possible. It's not a huge amount of money we make that way but it's probably £5/6,000 pounds a year. We have a series of DVDs that we've made and we sell those too. We probably net about £16,000 a year at the moment, something like that and we are always looking for ways to expand that (Patterson).

¹¹⁰ Macchitella et al. (2005) identify two market strategies for archival products. The “train-like strategy” is based on attaching non-marketable products to highly marketable ones that are “able to pull along a certain number of cars” (10) – e.g. a famous film in a DVD box with less famous ones, or with “behind the scenes” materials. The second, which the writers are proposing, is called the “bundling strategy”. This consists of attaching a number of non-marketable products to a “bundle” such as a particular theme (e.g. footage of Italians in Argentina), a genre (British horror short films of the 80s), or a director (e.g. “Hitchcock in England”). Another strategy is to market classic film products with non-film materials such as publications or by providing extra materials that talk specifically about the version or the edition in question (e.g. an interview with the restorers). What we might call “intellectualisation” is a very important feature of the package as such products are addressed to film-educated clients, which are often looking for highly contextualised experiences. This model can even be utilised to promote theatrical screenings of classic films (Chiche in Hopewell, 2016, no pagination).

DVD sales are still important but sales figures may decrease significantly in the next few years. Thus, “[t]he ability to amortize the preservation costs through a DVD or Blu-ray release is becoming less and less likely” (Horak in Keslassy, 2013). Indeed, online streaming is indeed cannibalising the DVD market (Yu et al., 2017). If one takes MHSs, they are not really economically benefitting from the decrease in DVD sales in favour of emergent distribution channels: “[f]or the studios each video on demand (VoD) showing contributes \$3.50 in revenue, far less than DVD sales” (Hitt et al., 2015, 306). As commercial success is among the main objectives of the BFI player (DCMS, 2014), such antagonistic relationships (according to the data available not yet identified) might constitute a problem for the success of the project as the BFI is also involved in DVD sales. We will see in the next section whether theatrical distribution can realistically provide a fix or an alternative to such dilemmas.

6.3.2 Theatrical Exhibitions

Some film distributors (such as Gaumont, Pathé, Park Circus) were already involved in the theatrical redistribution of classic films before recent years. Digital technology opens up more business opportunities as the cost of distribution of digital copies is much lower than its analogue equivalent. Some FHIs seem to be more interested in theatrical distribution, and this may attract some investments in the coming years. We read in the *BFI Annual Report and Financial Statements* (2015) that this is among the main priorities of the institution:

Core to the strategy of working with widest possible range of venues across the UK was the rerelease of Ridley Scott’s Director’s Cut of dystopian masterpiece *Blade Runner* (1982) and a nationwide re-release of Stanley Kubrick’s visionary *2001: A Space Odyssey* (1968), which alone reached audiences of more than 65,000 across 170 UK venues. We secured a host of special guests, including the film’s stars Gary Lockwood and Keir Dullea and a great panel which included Professor Brian Cox (BFI, 2015, 15).

An interesting project was undertaken by the Cineteca di Bologna (Italy), a relatively small organisation but a prestigious one, called *Cinema Ritrovato al Cinema*, which started in 2013. The project aims at systematically redistributing restored classic films of the calibre of *Amarcord* ([1973] 2015) or *Des Cabinet des Dr. Caligari* ([1920]

2016). Data from 2013 shows that the average attendance for each screening was above the national average: 32 admissions against 44 (SIAE, 2014, 22). The average box office income for each of the first three titles was around €8,000 (Acerbi, 2014). However, the last four films distributed by Cineteca di Bologna (at the time of writing) had an average box office income of about €42,000 (*from cinetel.it*).¹¹¹ The project would not have been possible without the advent of two important factors. Firstly, the Cineteca changed its legal status from public to private non-profit organisation, which allowed it to operate in the commercial market. Secondly, as I mentioned at the beginning of this section, the project was encouraged by the low cost of reproduction and transportation costs of the digital copies. Once a DCP of a given title is generated, reproduction (making copies) and transportation costs are fairly low for distributors (hard disks are far less cumbersome than film reels). In 2013, the Cineteca started by doing 20 copies of each title. The total amount needed to make those copies and to deliver them has been calculated at about €3,000 (Acerbi, 2013). These costs may decrease even more in the future. For example, the Swedish Film Institute (SFI) has recently announced that its digitised films will be distributed via fibre optic cable upon paying a fee (Unique Digital, 2016).

These encouraging data from ticket sales and specialised events attendance (film festivals) encouraged a potentially ground-breaking investment (around £6,5 million) undertaken by the French company Gaumont-Pathé. The newly refurbished *Les Fauvettes* cinema reopened on 6th November 2015. It is currently the only for-profit multiplex (five screens) in the world that will exclusively screen restored films. Also, the success of the *marché du film classique* (classic film market), which started in 2013 in the context of the Lyon Film Festival, seems to point to an increasing attention towards film heritage and its possible theatrical reuse. However in France in 2012, the box office market share of classic films was not bigger than 4% of the

¹¹¹ This not really enough to cover the cost of preservation and restoration of each of the feature films, but those incomes can be used to amortise those costs. Indeed, a similar revenue stream is confirmed in the Triennial Review of the BFI: “The estimated cost of the restoration was £115,000, which was fundraised. The box office income was £33,205 and the revenue from DVD sales was £32,350 in March 2014. It is difficult to calculate the commercial value of the *Epic of Everest*, as DVD sales will continue, but this example demonstrates that even where a restored film may be expected to generate good sales, generating a profit from this kind of restoration is a challenge” (DCMS, 2014, 46).

total admissions, it is very unstable and it does not seem to be growing (leParisien, 2013; 2015). One ambitious initiatives comes from the US. Turner Classic Movies (Time Warner) and Phantom Events, a company which broadcasts live shows in movie theatres via satellite, have signed an agreement to bring classic films to almost 500 screens (Lafayette, 2015).

Economist Harold Vogel in relation to MHS libraries has written that “the structural constraints are such that the industry cannot in the aggregate regularly deploy in the domestic and foreign markets more than about 1,000 or so (5%) items a year from its full catalogue” (Vogel, 2014, 102). Vogel acknowledges the lack of studies in relation to the economy of footage libraries, the high risk of investments, and the fact that the rate of library transfers can vary widely (Vogel, 2014, 99-104). If we look at the performance of some of the major players in the market for classic film in the US, we do not yet see a great deal of change in the last few years (see Figure 8). If we look at the recent year’s box office trends (from Box Office Mojo) we clearly see a quite unstable picture. It seems very early to say whether these attempts will be commercially successful.

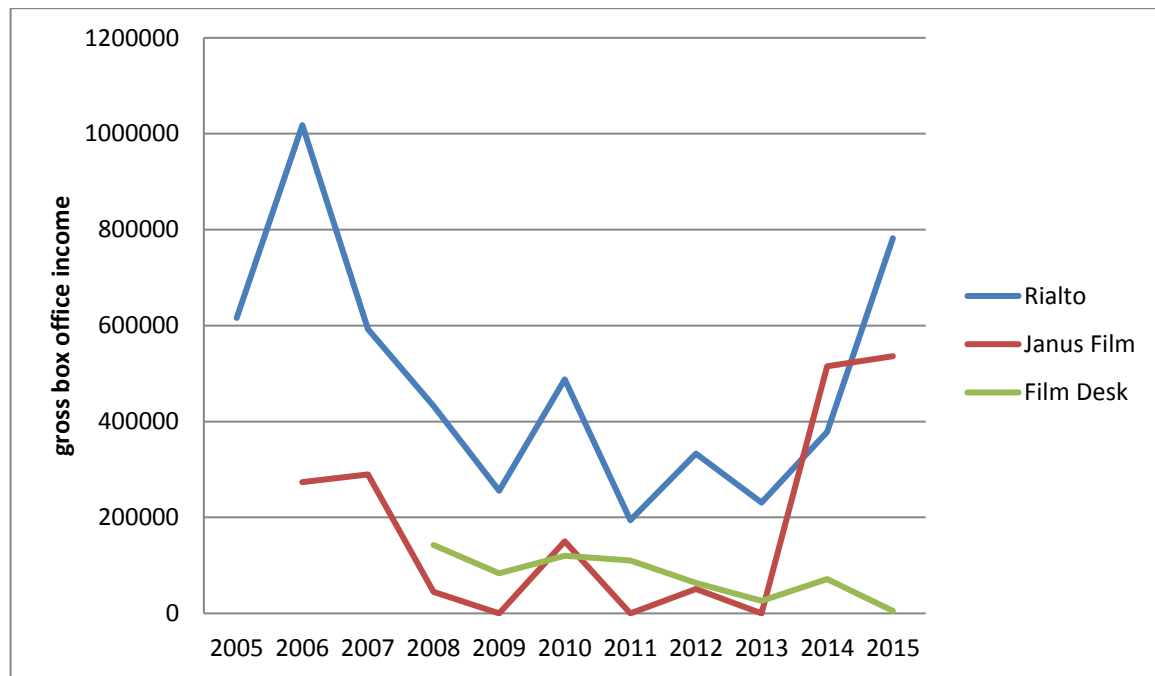


Figure 8 - Classic Films Box Office

Indeed, in recent years, going to the cinema with the same spirit as going to a fine art museum is still a niche social practice. Transforming this into a more popular habit can only be achieved with large investments and, as far as Europe is concerned, via forms of collaborations between the public and the private sector.

6.4 Way Forward: a More Complex Value Proposition

In this section I present the findings in relation to the important theme that I have called value proposition. Thanks to the findings of this research the discussion between Mazzanti (2005) and Horwath (2005) about the function of FHIs can be clarified and, by bringing the discussion on questions of cultural value, to some extent expanded (see section 2.4.3). Indeed, their discussion on the function of FHIs should be rooted on a deeper conversation of the value of FH for society.

Discussions on cultural value are complex and should not be underplayed. For example, as far as online resources are concerned, caution when evaluating successes and failures is suggested by scholars and professionals. Measuring the number of subscribers or the number of views is not sufficient. As we know from the literature (Finnis et al., 2011; Tanner, 2012), the task of assessing the value of digital resources, especially online, is not an easy one, and such evaluative tasks have been underestimated by heritage institutions in general. Indeed as argued by Cooke et al. (2015):

It is therefore important to make a clear distinction between what might be considered digital accessibility and digital engagement. The former pertains to availability and reach, whilst the latter is more properly a measure of the impact that digital encounters have on heritage audiences (15).

Clear value proposition, priorities and clear extra-economic indicators need to be discussed and established by each institution before investing resources. In particular communities of users should be identified and consulted to device effective digital strategies (Tanner, 2016; Finnis et al., 2011).

The next sections are meant to help us with understanding the value articulation that FHIs create, as only after this effort one might attempt to assess the possible implications that digital technology might have in relation to value

creation and outreach. These types of debates are yet to be carried out within the community. Indeed, the value proposition is still not clear and unequivocal among professionals. The uncertainty of determining the unique and distinctive traits of film heritage emerges for example in this passage:

Antoniazzi: So you say social value. Why should governments invest in film heritage?

Fossati: I mean I'm not saying that film heritage in particular I think heritage in general.

Antoniazzi: I mean, very often film is considered entertainment. They say you can make DVDs and distribute them, why should we treat film as heritage?

Fossati: This is too big a question to answer in five minutes. I'll be happy to come back to you when we have a correspondence.

Vague and resolute statements on the value of FH are often found in policy documents. Although sharable and welcomed, they remain little more than rhetoric if not articulated and properly supported. Take for example the following excerpt:

European film archives hold an enormous amount of interesting, rare and valuable material. The educational, cultural and economic value of this material is indisputable. Digitisation allows not only access for all, but offers innovative ways for the user to interact with the cultural content (ACE, 2012)

Film collections are surely “valuable”, as I stressed in section 1.1.1, but perhaps not indisputably as policymakers and scholars have for so many years neglected or marginalised them. So even if the above statement is intuitively right, there is no evidence to point at that specifically deal with the value film collection. Also, the expression “access for all” might seem a rhetorical statement in light of the issues raised by the critiques of digital optimism (see section 2.4.1), or by what I just described in section 6.2 in relation to copyright.

As cultural products that are industrially produced, audiovisual expressions constitute one of the most important cultural languages of our time. Such products can have both broad cultural outreach (thanks to global markets) and social depth (as consumed by a wide range of social groups and classes).¹¹² Besides those aspects, Abby Smith identifies something “suggestive” and unique to cinema heritage:

¹¹² Cinema, initially meant to be entertainment for the masses, has along the years been embraced by a wider number of social classes (Wasson, 2005; Baumann, 2007), even upper-classes with avant-garde films (Cosandey and Tode, 2000). The role of the avant-garde and the upper-class was important for the legitimation of cinema as an art form only to a limited extent: “Nevertheless, the avant-garde constituted a miniscule, fragmented and fragile

The primary use of cinema for decades was as commercial entertainment, as “product.” Not enough people understood its secondary value as historical testimony and cultural heritage to make preserving it a priority, given that it is difficult to preserve. [...] The denser the information storage medium, the more possible value it has recorded on it. Image technologies are incredibly dense information carriers and can convey so much information at once. In a melodrama from 1906 we can see the way people dressed, walked, held their hands, and made gestures; or the shape of the landscape 100 years ago; what faces looked like before contemporary dentistry, universal inoculation against small pox, or modern nutrition (Smith, 2007, 15).

This is of course far from being a satisfying value proposition, and it is important to consider the specific contribution, even if minimal, of FH to collective well-being. However, thanks to archivists and professionals’ inputs, it is possible to provide a more complex, although preliminary, articulation of the specific characteristics of FH value.

It is possible to identify three areas from which one might start mapping the value proposition of FHIs. It is possible to follow the paths of sister institutions, namely, libraries, archives and museums (LAMs). Their common feature is the fact that all of them mediate between us, our past, and our future. At first glance, it might be argued that these three types of organisation have been established to look after different types of physical artefacts. Some writers have therefore written about a supposed process of institutional convergence among LAMs, as the materials they preserve will share the same technological base (Trant, 2009; Given and McTavish, 2010). Similarly, at the end of one his recent talks McKernan (2016b) seems to refer to the same type of issues in relation to AV heritage and the Web: “What web archiving may promise, though, is the end of audiovisual archives as we know them. Once text, image, audio and video are all preserved as one, why should we specialise? That’s the question that lies at the heart of the future management of digital archives” (no pagination).

Other writers have insisted contested such claims. As Robinson has effectively stresses though, is that LAMs offer three models as a means for “remembering things differently” (Robinson, 2012, 12). Drawing on Robinsons’ contribution, I would

formation that was more geared towards temporary interventions and tactical skirmishes than durability and longevity.” (Hagener, 2014a, 2).

maintain that the relationship that these three types of heritage institutions establish between past, present, and future is different in nature: primarily probatory for archives, educational for museums, self-emancipatory for libraries. In the next section I will show how FH professionals refer to those categories of value.

6.4.1 Historical Evidence: Authenticity, Integrity and Provenance

This section presents the results in relation to what one might call the historical reliability of archival collection. In this context, the value is created when reliable historical records are made available, which means assuring that three key values are delivered: authenticity, integrity, and provenance, as described by Lynch (2010).¹¹³

In the archival context, expanding access and presentation to the general public, even if necessary, is functional to preservation as the process of safeguarding and understanding the collection. Leaving aside the historical reconstruction of the origins of archives, it can be affirmed that modern archives are engaged in preserving primary sources as records of the purposeful activities that have generated them. Archival items acquire the status of historical evidence thanks to an appropriate “archival jurisdiction, acquisition policies and plans, and by remembering that archivists are mediators and facilitators, custodians and preservers of societal evidence, not documenters and interpreters, or even judges, of societal deeds” (Duranti, 1994, 343). Meaningful relationships between records and the context of creation can be established so that they acquire a probatory nature. The archivist’s focus is therefore on the careful preservation of both the physical and the intellectual form of such documents so that they can be trusted as evidence. So,

¹¹³ Conceptually, these ideas do not vary from the analogue to the digital environment. The main point of Lynch’s (2010) paper seems to be that in the digital environment, authenticity and integrity appear to converge in a single concept as in the digital environment “checking integrity of an object means comparing it with some precisely identified and rigorously vetted “original version” or “authoritative copy” (321). *Authenticity* is assured by “verifying that an object is indeed what it claims to be, or what it is claimed to be (by external metadata)” (320). *Integrity* is assured by answering the question “[h]as the object been changed since its creation, and, if so, has this altered the fundamental essence of the object?” (315). *Provenance*: “is documentation about the origin, characteristics, and history of an object; its chain of custody; and its relationship to other objects” (322).

even if all records are documents, not all documents are records (Thomassen, 2002, 374).¹¹⁴ Archivists, aspirationally, should try to keep at the minimum the interpretative intervention and value attribution to records. Although debates refer to what one might define as “archival truth” (Cook, 1998), it can be said that objectivity and impartiality are aspirational goals of records management. If the cultural mission of a particular FHI prioritises this set of values, it may take a more reactive than proactive approach in terms of dissemination. Such institutions, for example, might privilege research or curatorial excellence rather than developing online access strategies. Among film archivists and in the policy documents, the cultural and historical value of film is very often, if not always, acknowledged (although in practice it is quite neglected from governments, as shown in section 4.1.3). This set of values and such archival mission is advocated by scholars such as Taylor (1996); Enticknap (2013); Chapman et al. (2007). They have understood their pivotal importance for the understanding of media history. Archivists stressed such an important role of their institutions to knowledge production. Guaranteeing the historical reliability of FH is perceived at the core of the profession. As far as this is concerned, Edmondson acknowledges:

I think that many researchers are simply going to look at what they see on their computer screens, taking this a starting point, and just making assumptions [...] I'm not sure that archives have been very good at that [encouraging research and communicating their value] in the past, but I think we have to do it in the future (Edmondson).

Edmondson goes on to talk about the importance of understanding the technological history of cinema as invaluable to assessing the integrity of the archival items. Important information about these objects is embodied in the film base; in the emulsion, in the perforations and edge codes. So, film archiving is also about preserving and understanding the technological base of the artefact and the understanding of the industrial context in which such materials were created and experienced. He gives an interesting example:

¹¹⁴ It has to be stressed that the concept of preservation is not to be considered as a passive activity addressed at halting deterioration. Archival quality is achieved via complex work in which “methodology is the analysis, recording and maintenance of the links between the function of the information recorded on the one hand, and its form, structure and provenancial context on the other” (Thomassen, 2002, 382).

There's an apocryphal story of the academic who wrote an article on Eisenstein's use of subliminal messages in *Battleship Potemkin*. Well, he was looking at a print that was made from a negative that just had flash frames where the [inter]titles went. He would not have known the way that the negatives were compiled for printing. The titles were printed on a high contrast stock and spliced in. The image was printed on orthochromatic stock which was processed differently. So, he assumed that this was the way Eisenstein deliberately made the film. So, unless you know the industrial background, you can misread what you are watching (Edmondson).

He has talked about the same story in the last edition of one of his most important work prepared for the UNESCO (Edmondson, 2016, 58). However, I could not find evidence of Edmondson's story. Even that, the story is surely plausible, as these pieces of technical information are not only crucial to properly maintain the physical conditions of the collections, they are indispensable to answering key questions in relation to the authenticity and integrity of archival holdings.

More stress on contextualisation is found in Christensen's interview. The historical reliability of archival items is indeed not guaranteed if only the object itself is preserved. A detailed description of context of production and reception (information about the artistic intent, industrial relations, and cultural contexts) is essential to meaningfully preserve cultural artefacts:

[...] even though we will go digital and everything can be spread and anyone can take care of it, I do think that our institutions provide value because we are the ones that guarantee that the film is the film; and this connects to our [the Danish] approach, where we both collect the film, but we also collect the marketing material that goes around it, and we also present it in a contextualized way. We need to somehow survive this thing that: "it's digital therefore it's everybody's and it doesn't have substance" (Christensen).

The process of archival curation, although there is a passive side to it (i.e. conservation), is largely an active process, the process of exploring and understanding the collections both in relation to born-analogue and to born-digital film records. So, what seems to preoccupy archivists is that answering such questions, in certain situations, might become more difficult due to:

- (1) The disappearance of analogue film competences in the digital environment (as anticipated in section 5.5.2);

- (2) The fact that digital objects are very malleable and vulnerable to highly invasive and/or frequent modifying interventions (e.g. migrations);
- (3) The fact that decontextualized experiences can be created by online access, especially in the case of commercial platforms which often do not provide context to the images they disseminate.

In other words, once such born-analogue or born-digital materials start to circulate, their intrinsic characteristics or significant properties might change substantially, so that it becomes difficult to tie them to the purposeful activities that created them, making it more difficult to use them to reconstruct historical processes.

On a more pessimistic note, it is to be stressed that, even these days, moving images have hardly been used as historical evidence. I am afraid that the itinerary to reach the point in which film and audiovisual materials will be used systematically as historical evidence of modern times is still very long. This does not only matter in relation to scholarly research, as Waters (2002) has written “good archives make good scholars. If we accept the proposition that a free society depends on an educated citizenry, it is not a great leap of logic to conclude further that good archives make good citizens” (95). The neoliberal push towards a notion of value that de facto prioritises quantitative indicators (clicks, views, subscriptions) subtly argues against purely archival values as an impediment to the valorisation of the collections (in this context general public access is indeed not a priority). That seems to be the reason why policymakers, implicitly, push FHIs towards library models and charge archival values with allegations of elitism or unrealistic naivety.

6.4.2 Social Education: Aesthetic Excellence, Historical Salience and Cultural Identities

This second set of values is generated by fulfilling the museum function of FHIs which revolves around curatorship (Cherchi Usai et.al, 2008; Horwath, 2005). The value is created through the work of experts (curators) who select exceptionally valuable elements of film history in relation to acquisitions, preservation and exhibition. Historically speaking, public museums appeared during the

Enlightenment period (Abt, 2006). The Louvre was the first museum in history to provide public access to what was conceived as public patrimony, so that “[e]legant men and women of the world rubbed shoulders with artists and simple countryfolk” (McClellan in Abt, 2006, 128). Museums offer a highly mediated experience that depends on curatorial choices made by experts for their audiences, “rarity and preciousness remain key to the attraction of their objects; it gives them their aura” (Trant, 2009, 372). As Robinson has put it “the distinctive value of museums is their ability to contextualise collection objects within broader thematic and narrative groupings, enabling visitors to engage with more complex ideas about history and ‘memory’” (Robinson, 2012, 422). The highly mediated experiences and the aura that is sometimes perceived around museum exhibitions allow us to consider museums as social educators, and as being influential in determining “good” and “bad” in terms of aesthetic excellence; the “important” and “unimportant” in terms of historical salience; the traits of identity formations and of what is marginal or diverse to the mainstream. Some writers, drawing on Foucault’s concept of governmentality, describe museums as sites of the exercise of power (Bennett, 1995) – see also section 1.2.1. Even if nothing specifically relates to film heritage, the relationships between heritage, identity and place have been explored extensively (Graham and Howard, 2008; Ashworth et al., 2007). Identity-building and membership “provide[s] the basis for supportive social interaction, coherence and consensus” (Douglas in Ashworth et al., 2007, 5). However, the question of identity is dialectically bounded to the question of diversity. Identity-making is a key process to define otherness or minorities, and indeed can sometimes degenerate into a process of exclusion, distrust and even discrimination in relation to the “others” (McDowell, 2008). UNESCO has indeed stressed the importance of safeguarding diverse cultural expressions as the “manifold ways in which the cultures of groups and societies find expression” (UNESCO, 2005, 7).

The “museum ideology” is mentioned several times in the interviews. In general terms, it seems that FH professionals consider their work to be directed at encouraging the development of historical salience/aesthetic excellence and a sense of rootedness to the places and the communities that these images depict. Below are two examples that illustrate this point:

Based on the pressures that archives have to face and to overcome them, you actually have got to communicate to people something about museum ideology. For example, take the Mona Lisa case. If you want to look at the Mona Lisa, the worst way to see it is to go to France, and go to the Louvre, because it's surrounded by crowd of people [and you can't get near it]. To [study it closely] you can see fantastic copies of it on the net (Edmondson).

What visitors to archives and museums need and want is the authentic representation of the historical source. This is the absolute objective a film archive needs to follow, just as any museum for Renaissance paintings must (Krebs).

Aesthetic excellence, drawing on (Cherchi Usai, 2006), might be achieved by looking at the accuracy of three components of film experiences: narrative, aesthetic (i.e. photography and sound) and environmental (the location in which the film is experienced). As we have seen in the previous chapter, if one takes preservation aside, aesthetic excellence seems to benefit from digital technology because of the increased range of possible interventions in film restoration. Also, we can avoid damage to or deterioration of the projection prints when projected.¹¹⁵

One of the most interesting (and intense) passages is found in the transcription of the interview with Thomas Christensen. He talks about a connection between people and what he calls the “uniqueness and rootedness” of film, the ability to create links between social identities and places:

I think we now fund both kinds of films in Denmark nationwide, so we are trying to say; well this is art and this is popular or both. We need to never lose sight of that profound connection and rootedness that you find in cinema, and slightly more rarely you find in television. This is why film is so fantastic, because it has something unique (Christensen).

So, one might argue that Christensen is convincingly making the point that FHIs can remarkably contribute to create local and national cultural identities by breaking boundaries and embracing a broad range of social groups and classes interested in “popular culture, art or both.”¹¹⁶

¹¹⁵ I dealt specifically with digital restoration elsewhere, see Antoniazzi (2017).

¹¹⁶ The nature of the experience can include both entertaining and enlightening experiences. In cinema, and other cultural forms industrially produced, such a distinction (popular culture vs. art) is a problematic one. An example is the *Commedia all' Italiana* (Comedy Italian Style) that combines grass-roots hilarity with profound and fine criticisms of Italian and Western society (see directors such as Dino Risi, Mario Monicelli and Ettore Scola).

The other value that is deeply connected with museology is identified as the diversity of cultural expressions on film, as described in the section above. Defining and measuring diversity is not an easy task, but it can be loosely described as the availability of aesthetically and ideologically diverse film cultural expressions that challenge the mainstream cultural production of a given community (namely MHS and national film industries products). For example, some FHIs are, and rightly so, prioritising the digitisation of content which is less marketable (“for curatorial reasons”), leaving products such as sound features to the industry to digitise and redistribute:

So we have a large video collection that is accessible on site which contains the major part of the Danish sound features which you can access at the Film Institute but most of them are commercial releases made by the Danish film producers and distributors so we are leaving the sound features for the industry to distribute and give access to [because they are marketable]. Then [...] I personally have been working on silent cinema, and most of our digitization lying in the silent era and the documentary side of our collection (Christensen).

So, what we in the selection committee do, it's not choosing a film that will be very popular or used, we do it for other reasons, for very curatorial reasons. But for the remaining 20% we will invite rights holder to come to us saying “Oh we would like you to digitise this one” (Wengström).

As I have shown in section 6.3, once the material is digitised and copyright is cleared, circulating materials among FIAF members and independent cinemas is far easier than before thanks to DCPs. It is therefore possible to circulate high resolution materials around wider geographical spaces at a relatively low cost. This can facilitate the organisation of archival film festivals and special events both within specialised and non-specialised contexts:

There're a lot of advantages of course. Because when it comes to lending out a 35mm print, in Sweden there are less than ten screens that maybe could handle prints. In 5 years from now probably, no one. But also in the past there were only a very limited number of theatres which could borrow our prints. Because we didn't allow facilities which didn't have proper equipment or who didn't handle the print properly, they could not borrow our prints. Once we have a DCP, it's not 10 screens in Sweden, but there are 830 screens. So the potential in making the heritage more available also in a theatrical context is much, much bigger (Wengström).

We can therefore say that diversity might be improved in future years. We might see what one could call “horizontal diversification” which increases intergenerational equity by increasing the venues in which archival titles are exhibited (e.g. rural areas or relatively small towns).

Potential is also found for non-fiction archival footage to be screened in theatres of the regional film archives, art houses or on occasion at local events. *Leeds on Film*, curated by the Yorkshire Film Archive, was a success in the context of the 30th Leeds International Film Festival. It was impressive to see people being moved by old images of their own city. Wet and muddy football matches from the end of the 1960s, old and gloomy industrial suburbs, flowers blossoming in middle-class gardens between Headingley and Hyde Park – deep emotional engagement between such images and the audience’s most intimate life experiences were palpable in the room (loves, pleasures, frustrations).¹¹⁷

6.4.3 Self–Emancipation: Learning Assistance, Community Building, Cultural Participation.

The ability to unleash this set of values entails the ability to respond to the demands of their audiences where VoD is only part of a broader mission, namely individual or collective self-emancipation. This might connect to the “library function” of FHIs (Mazzanti, 2005). In regards to emancipation, I draw from Nicholas Garnham’s Kantian definition; it refers to people’s capacity to freely exchange “[...] ideas about the world and about social relations with fellow-citizens [...] to free themselves from dogma” (Garnham, 2000, 41 and 83). There seems to be three ways in which FHIs might encourage such process: learning assistance, community building and cultural participation.

Public libraries are institutions primarily devoted to the dissemination of knowledge embodied in secondary sources (interpretations of primary sources preserved in archives). The model is user-centred as the institution provides services to stimulate and satisfy (or respond to) a demand for access to its holdings. In order

¹¹⁷ The Yorkshire comedy *Fatman* (1967), a spoof of the famous series, was just hilarious. A clip is available here: <http://www.yorkshirefilmarchive.com/film/fatman> (Accessed: 27/09/2016)

to achieve that, they collect, organise, index and develop search engines and access strategies. “The librarian is an enabler in the discovery phase of the research process” (Trant, 2009, 370); from such statement might follow that libraries can be seen as intergenerational communication enablers. Cubitt wrote that “the library can be understood as the unit of media” (Cubitt, 2006, 581) that audiences can access and explore. The library, or the mediatheque¹¹⁸ building, is the crossroad and access portal to an incredibly vast net of information streams that expands spatially and temporally. Antonio Panizzi, principal librarian of the British Museum library between 1855 and 1866, in a famous passage on leaning assistance stated:

I want a poor student to have the same means of indulging his learned curiosity, of following his rational pursuits, of consulting the same authorities, of fathoming the most intricate inquiry as the richest man in the kingdom, as far as books go, and I contend that the Government is bound to give him the most liberal and unlimited assistance in this respect (Antonio Panizzi in Cubitt, 2014, 129).

A good example within the audiovisual domain, is the *Archives+* project in Manchester, thanks to which digital materials coming from the Northwest Film Archive and other heritage institutions are accessible through computer stations and other interactive devices at the Central Library. In general terms, more research should be carried out to understand the specificity of AV language and film in particular. What might be their unique contribution to leaning processes? What can be achieved via audiovisual communication that is special and unique?

Besides learning assistance, there is also evidence that libraries are important social players and they might foster community building. Research has in fact shown that public libraries also convey social value as places of aggregation and social inclusion (Aabø and Audunson, 2012; Aabø, 2005). Some of the film heritage professionals seem to be very aware of that potential, especially those working at the local level. As emerged in my conversation with Washbrook, FHIs, precisely as public libraries, can function as a catalyst for sociality and community building:

¹¹⁸ In order to acknowledge the multimediality and intertextuality they deal with, some institutions are changing their names or creating subdivisions called “mediatheque”, as we have seen above. The word library is indeed etymologically bounded to books as physical objects (from the Latin word *liber* meaning book).

Washbrook: [...] the collections provide brilliant social history, so you have people often who recognize themselves or their relatives.

Antoniazzi: So the archive is sort of an agent of socialization?

Female Speaker: That's a very good way to put it.

Washbrook: That's a very good way to put it. [...]. Absolutely, [the connection with local communities] it's key and we go out regularly and we take films out to the local societies and groups for them to see and that's what connects you to the people that use your collections and I think that is really important thing to always remember.

This reinforces the above Garnham's definition of emancipation which stresses the centrality and inescapability of its collective and social dimension.

FH professionals acknowledge the importance of participatory processes and the proactive attitudes towards audiences' engagement in producing culture:

If we want to continue to be funded through public funding, we need to maintain our public work and demonstrate our public value. [...] To continue to demonstrate not just how wonderful it is to be able to see the past on film but more importantly how to engage with the public and how we all contribute to the work of an archive. It is something which is shared (Grey).

More pragmatically, below we find a good example of a participatory project in which the cultural offer is curated by the institutions, but which establishes a connection with the audience that goes beyond providing access:

Eckert: Two years ago, we were working together with some newspapers, local newspapers in northern and southern Germany, and asked for donations for local films [to be digitised], films that took place in this area [Mecklenburg-Vorpommern]. [...] Such a campaign is not really about the money that you get at the end, €8.000, but it's about the whole marketing thing. [...] they donate money and you write back a letter and say... get the DVD or whatever. At least you stay in contact.

Antoniazzi: [...] the audience can influence your activity, your output so they are part of the game in a way, they participate in what you do. Participation is very important...

Eckert: Yes, that's true in a local area [...] and especially with documentaries if people recognise their home...

In general terms, the mention to this set of values seems to me to be particularly lacking in the interviews with professionals who stressed much more the musicological and purely archival function of FHIs. Much more attention should be devoted to how film can offer a chance to take part in cultural production, and to build communities around processes of self-emancipation. So, as I mentioned above,

the library function of the FHIs and its correlated set of values is therefore not only related to VoD or leaning assistance, which of course digital access can improve (Mazzanti, 2005). A broader set of initiatives are needed to fulfil such a function. Much more empirical research is needed though to understand the specific types of socialisation that FHIs might contribute towards creating.

6.5 Summary

In this chapter I argued that the economic potential of digital distribution relies more on traditional theatrical circulation than on online distribution. Online distribution is still economically marginal, and can potentially develop to the detriment of DVD sales. Online platforms offer useful services to the public such as contextual information about collections or research engines. However, the severe copyright legislation, the cost of developing sufficiently rich catalogues and business models substantially limit FH online presence.

The value proposition that emerges from the interviews develops along three main lines that can be connected to the traditional value systems of sisters' institutions, libraries, museums and archive: historical evidence; social education; self-emancipation. However, this is surely an area that requires further exploration. As we know from the literature, the clarity of the value proposition is crucially important to reach sustainable stewardship (Maron and Loy, 2011; Blue Ribbon Task Force, 2010). What is peculiar to film heritage that other forms of heritage are not able to express? What is unique in it? Why should society care about it? The answers to such questions might seem obvious or intuitive. However, the value of film heritage is too often taken for granted and not well communicated. Further empirical research is therefore needed, and the involvement of audiences is indispensable to reach satisfying conclusions (Kaszynska, 2015). As Hesmondhalgh (2013b, 56) has noted, the corporeal and sensorial aspects of cultural experiences are fundamental here. For example, what are, if any, the bodily reactions to the theatrical experiences of a classic film or archival footage that distinguishes it from new productions? How does this differ from a "small screen" experience? How can these bodily sensations specifically contribute to individual and societal well-being? We all know that the economic resources for culture are limited. The reasons why

local and national authorities should invest in film archiving, instead of investing in a new film school or a new fine arts museum, still appear difficult to provide with clarity.

7. CONCLUSION

This research was motivated by the challenges that digital preservation poses to the ways in which FHIs operate and, subsequently, to the understanding of film and media history for future generations. In fact such rapid technological change is creating sustainability problems for cultural institutions, particularly in relation to the preservation of digital data. This research was intended to explore the specific case of European FH by asking two questions: *how are FHIs responding to the changing technological and cultural landscape in which they operate? How might FHIs achieve sustainability?*

In general terms, I have argued that FHIs are reacting largely with an open-minded approach and realistic attitudes to tackle the challenges and grasp the opportunities of technological change. As I showed in Chapter Four, FHIs unfortunately remain, on the whole, distant from the political sphere and isolated from other heritage sectors. Meanwhile, as shown in Chapter Five, the preservation of digital data poses exceptionally serious problems to which FHIs have no solid response to offer. It is true, as Chapter Six argues, that digital technology is opening up new distribution channels. However, these new avenues are expensive to develop and/or under corporate control so their potential is still substantially weak. In conclusion, I argued that, given the intuitional context, digital challenges outweigh the benefits.

Public policies, perhaps devised at the European level, are urgently required to regulate the relationship between the IT industry and the heritage sector. Also, governments need to sustain investments to create infrastructures under their direct management or control. How such policies should look and where they should lead ought to be the main concern of the FH community in the coming years. I provided some suggestions at the end of each empirical chapter, which I will re-state and develop in section 7.2. If those policies are not devised and implemented my view of the future is, ultimately, pessimistic.

7.1 How are FHIs responding to the changing technological and cultural landscape in which they operate?

I divided the first research question (see the title of this section) into two sub questions: *Q1.1 how are external relationships being reshaped? Q1.2 how are internal processes, from acquisition policies to dissemination strategies, changing as a consequence of digitalisation?*

As far as Q1.1 is concerned, we can say that the economic function of FHIs, namely supporting the volatile European film industry, remains qualitatively intact (see section 4.2.1). As shown in sections 4.3.1 and 4.3.2, the relationships with adjacent fields such as other heritage sectors and higher education, although enhanced in some cases, generally remain fairly weak. This seems to lead to the relative marginalisation of FH studies at the academic level and to the fact that film is still de facto not fully recognised as a legitimate and valuable heritage form. Indeed, despite the calls from international organisations, such as UNESCO, governments still pay relatively little attention (with some exceptions) to the preservation of film collections.

Within the broad institutional context, the main “game changer” is the diffusion of Schumpeterian ideas about change and innovation. These ideas rely on a mixture of digital optimism and economic instrumentalism, as described in section 4.2.3. The digitalisation of the film industry and the development of audiovisual internet services have allowed the diffusion of such a way of thinking. Its promoters normally build their arguments on the economic potential, real or supposed, of digital dissemination of archival materials. To a lesser extent, as I described in sections 4.2.4 and 4.2.5, we can also see the growth of managerialist credos and corporatisation. The positive side of this process is that politicians have been keen in some cases to communicate with archive professionals and to put “soft” funding schemes in place to allow digitisation (e.g. Unlocking Film Heritage in the UK).

However, archivists remain generally critical about their relationships with politicians as they see them as too keen to accept the over-optimistic narratives of the IT industry and their lobbyists. FHIs have been invited to put greater stress on digital accessibility, at the expense of other activities. The potential of digital

technology to democratise access and/or to increase the competitiveness of the industry has often been supported uncritically.

In relation to Q1.2, Chapter Five outlined the issues related to acquisitions and preservation both in relation to born-analogue and born-digital materials. As far as the former are concerned, the increased incoming flow of analogue materials (due to the disbanding of film collections by distributors or film laboratories) has forced some institutions to enlarge their storage vaults. There is therefore an on-going process of reorganisation and readjustment of some archival practices, aimed at the rationalisation of storage space. Archival guiding principles remain substantially unchanged. Worryingly enough, some FHIs, even those in more affluent countries, are still struggling to achieve optimal storage conditions for their analogue holdings. Funding for digitalisation is mainly project-driven and access-centred, and it is sometimes available for rights holders who are normally obliged to deposit a digital copy with the archive. “Soft money” funding forces FHIs to hire personnel on a short-term basis. This often impedes the development of know-how and its retention within the organisation. This does not help these organisations to cope with the challenge of infrastructural change mentioned above. However, even if such policies are short sighted, they are partially justified as massive investment in long-term infrastructural solutions is exceptionally expensive (and risky). Also, mass digital cloning would generate material that would be economically unsustainable in preservation terms and, due to copyright legislation, largely inaccessible without copyright clearance.

The technological base of the external environment has rapidly changed so that FHIs are now acquiring digitally produced material. The contemporary film industry publishes around 80% of its products in digital form. However, solutions to preserve such materials are largely provisional, fragmented and underdeveloped at the skills base (with some Nordic exceptions). According to this research, none of the institutions considered has achieved even the basic trustworthiness certificate (Data Seal of Approval). Infrastructural costs are increasing but technological change is not increasing work productivity or making the work process more efficient. Curation is time driven as the margins for automatization are limited. In light of this, as I argued in section 5.4.2, these institutions seem to suffer an acute form of Baumol cost disease. Labour costs and fixed costs are constantly growing and it

seems impossible to substantially increase revenues (due to copyright and weak demand for access). Indeed, as shown in section 6.3, online platforms have been created by some FHIs and some business initiatives have been undertaken. We can see a weak online demand for such collections and very modest economic gains as online materials are increasingly expected to be free of charge. Potentially, theatrical distribution could be a more fruitful market as DCPs allow for relatively cheap distribution costs so that classic films can be appreciated to their full aesthetic potential and in broader geographical areas. In conclusion, given the challenges generated by the dangerous neoliberal mix of digital optimism and economic instrumentalism, it is now worth to reconsider the sustainability principles identified in section 2.1.

Intragenerational equity can be realistically enhanced with the use of digital technology. Copyright restrictions are a huge problem though. The fight to change copyright law is very hard as the forces at play are disproportionate since the cultural industries constitute the major lobbying force. However, a good initiative, the Orphan Work Directive, will perhaps help to develop services to engage the general public and the audio-visual industry. The directive will facilitate the free publication of materials where the copyright holder is unknown or not traceable. However, the potential of the directive could be suffocated by the fact that FHIs must conduct “diligent searches” before publishing such materials. Diligent searches can be costly and time consuming.

Intergenerational equity, is of course put at risk by the challenges of digital preservation. This is not only a technical question, it involves a range of intellectual questions and ethical principles that govern the preservation process. However, as I pointed out in this thesis, this must also involve the institution of stronger regulations for the IT sector and the institution of state-owned infrastructures.

As far as the *maintenance of diversity* is concerned, we face the possibility of having fewer amateur materials available in the future, as many regional archives have seen their accessions substantially decreasing. Fewer foreign films will be available in national archives as often the DCPs that circulate internationally are encrypted and therefore useless after the expiry date. Networks of “trusted” national institutions will be fundamental to the international spread of film culture.

The *precautionary principle* is currently safe as traditional archival principles seem to survive, although readjusted, within the digital era. For example, the reversibility of digitisation or digital restoration is still guaranteed as documentation is carried out (or should be) and source materials retained. None of the archivists interviewed support the idea of mass deaccession of analogue collections. In the future, we will therefore should be able to access the analogue masters of digitised materials. However, it is not madness to think that arguments in favour of mass deaccessioning might spread sooner or later and fundamentally question key archival values and the very *raison d'être* of FHIs. We are already seeing this happening with public libraries for example (see section 5.7).

The most dangerous threat to sustainability is, in my view, the lack of a sufficiently complex and clear value proposition. Cinema production is strongly supported with public money because its cultural value is recognised. This fact is often recalled in policy documents related to FH to underline its value. This is a strong argument, but it is surely not enough. In fact the reality is that often film subsidies have more to do with employment policy and the promotion of tourism rather than cultural production as a form of meaning making. As far as online distribution is concern, as previous research tells us (Tanner, 2012; Finnis 2011), clicks, subscriptions, and downloads per se cannot be taken as cultural value indicators. More robust intellectual frameworks need to be built to allow assessment processes like, for example, Simon Tanner's (2016) Balanced Value Impact Model which has been used for libraries.

7.2 How might FHIs achieve sustainability?

I shall answer Q2 by starting from the perspective of the institutional environment. Enhancing and systematising lobbying activities is fundamental to sustaining the whole sector. Engagement with politicians, intellectual and cultural elites must be carried out at all levels, from the regional and national to the international. However, the lobbying potential at the international level seems quite limited. Organisations like FIAF are mostly used to communicate with other heritage organisations or to get information about new technological solutions. As shown in

section 4.4, more lobbying potential can be found at the local level and at the European/national level. It is incredibly important to strengthen the relationship with universities, which is not simply an issue of setting up relevant training courses. As argued in section 4.4, media heritage studies need to find a permanent space in the broader umbrella of media and heritage studies (which are however also engaged in a political fight to gain legitimation).

As far as purely infrastructural issues are concerned, I argued that cloud storage does not offer a comprehensive solution to the challenge of digital preservation as there are economic and ethical issues related to the archival control over public assets. The Cloud uses a locked-in business model (cheap to upload, expensive to move), which could lead to what I called “cultural enclosure”. As explained in section 5.7, the collective might be de facto dispossessed from part of its cultural heritage and forced to constantly negotiate with private enterprises to access, to reshape or erase its collective memory.

As also shown in section 5.7, alternatives to the Cloud are infrastructural solutions centred on state-owned digital preservation infrastructures. The best option seems to be the development of centralised infrastructures specifically devoted to audiovisual materials. This might be a good compromise between pursuing economies of scale and developing specialised arrangements, knowledge and ethics. This model sits between the Finnish/German model (reliant on large state-owned data centres) and the Swedish/British model (reliant on individual infrastructures developed by single institutions).

As far as long-term digital preservation is concerned the solution relies on regulation and public policy. The pace of change within the IT industry is simply unsustainable for heritage organisations. Such public policy should guarantee or encourage the industry to produce archival-born materials, encourage the adoption of carriers with archival lifespan and the adoption of interoperable software or non-proprietary file formats.

As far as born-analogue collections are concerned, developing archival scanners, like the CNC is doing in France, is surely a wise initiative. The CNC is certainly a rich and large organisation but such initiatives would not be possible for the majority of European FHIs. However, if large institutions join forces it becomes a realistic option. This permits, at least in the mid-term, the avoidance of mass

digital cloning (and mass digital preservation) of archival holdings without threatening accessibility. Also, the future disappearance or the increased cost of film stock is not to be taken for granted. The percentage of films shot on film stock seems to be stabilising at around 20% (Follows, 2016) of the total production. In the short term it might still be possible to use film for preservation purposes. This, again, saves on digital storage space.

Less stringent copyright is of course also needed. Audiences pay a share in each single link of the film industry value chain, from production to archiving, either via their taxes or via tickets sales. Access should be given with far more ease. For the time being, I do not see a better way of describing such a model than by using Thomas Christensen's quote, "putting public money in private pockets", where the pockets are often not those of the creative workers.

As I mentioned earlier, the value articulation of FH needs more intellectual and empirical exploration. I provide a provisional articulation of what a potential value proposition might look like. Archivists understand very well how important their contribution to knowledge production is (in particular, but not only, for media historiography or for those who use historical approaches to media studies). However, besides this function, which can be labelled as purely archival, I also identified the values of self-emancipation and social education. The former is delivered via appropriately responding to the demand for access to film culture (what public libraries do with written texts). As for the latter, social education, it is disseminated via the process of curatorship, so that shared aesthetic canons can contribute to social cohesion and identity building. These values are equally important. Therefore, the optimal solution would be to set up a national collecting system constituted by institutions with varied cultural missions. This can facilitate the decision making (what and how to preserve?) as it provides a larger spectrum of potential criteria to guide the acquisition process. This will also contribute to building more diversified collections for future generations.

7.3 Limitations and Future Research

As with any research effort this thesis suffers from some limitations which might be addressed with future research. One set of limitations relates to the sample, a second one to the research methods. As far as the latter is concerned, the research would have benefitted from quantitative data especially in relation to the economics of digital preservation. So, for example, it would have been interesting to focus more on the cost trends of digital preservation. However, the heterogeneity of the solutions in place, the fact that some of them are under development and the sensitivity of such information discouraged me to pursue such a research path. Integrating more “hard data” to the qualitative data on which I based the arguments of this thesis is surely a priority to address in future research.

Now to the sample. As I mentioned in Chapters Three and Six, the involvement of audiences would have contributed to enrich the provisional value model I put forward. I recognise this as the main limitation and the most urgent limitation to be bridged with future research. There are other social groups that deserve attention, namely politicians and non-elite professionals. Information about such groups somehow derived from the interviewees who, to some extent, are in contact with both groups. However, given the timeframe and the resources available for the research, the sample could not be further extended. So, providing more variety to the sample would have necessarily meant to break it down in a number of smaller sub-categories which would have included only few participants. That would have made generalisation impossible, weak or even misleading.

Going beyond the limitations of this study, I believe that future research in relation to FH should focus on questions of public policy, labour and cultural value. As far as public policy is concerned, it is important in my view to formulate some clear propositions to regulate the relationship between the IT sector and those in the FH sector. I really do not know at this stage what can be done in practice. For example, what administrative level might one want to intervene at? What level of invasiveness can this regulation reach? The institution of a (European) interdisciplinary task force, on the model of the Blue Ribbon Task Force (BRTF), would be a really useful effort. The DAEFH was certainly a good start, even if I made my reservations on that document clear. The BRTF brought together a broad group of experts from a range of disciplines, from economics to library science, which

produced a fine socioeconomic analysis of the sustainability of data preservation. Such collective and interdisciplinary approach is fruitful and should be reproduced.

The process and the organisation of heritage labour also need to be explored. To my knowledge the field of cultural labour studies has largely neglected heritage. The field of film heritage has neglected questions of labour. We need to be asking questions such as how is the work force organised? What motivates this type of cultural worker and what are the differences with other types of cultural work? What are the best work conditions to allow them to use their skills and express their vocations?

As for questions of cultural value, I would venture to say that audience research is the place from which to start. It is of course not only a question of mapping the social geography of the audiences using categories such as class, age, gender and ethnicity. We need much more profound research on what these cultural experiences can add to people's lives or how they can contribute to social and individual wellbeing. The work of scholars involved in the discussion of cultural value can offer interesting research insights (Cooke et al., 2015; Kaszynska, 2015).

In conclusion, and going back to the really beginning of this work, the main message I tried to convey is that technology should not be charged ideologically. There are no technologies of freedom or imprisonment. Technological change must be considered in relation to the broader social and political context. Indeed, as famously written by Neil Postman, technological change is a sort of Faustian bargain between generations and social groups, "[t]his means that for every advantage a new technology offers, there is always a corresponding disadvantage" (Postman, 1998, 1). It is on the behalf of the collective, or it should be, to decide what to keep and what to let go in order to emphasise advantages and minimise disadvantages. The political struggle that the FH community on behalf of society as a whole is willing (or not willing) to conduct, will determine to what extent the process of digitalisation will be a sustainable one or will result in numerous and painful losses. In other words, the future of FH largely depends on collaborative political actions. This may, and should, lead to a critical and meaningful process of evolution of those organisation.

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APPENDIX ONE: THE INTERVIEWEES

INTERNATIONAL

- David Walsh, Head of the FIAF Technical Commission (also Curator of Film Collections, Imperial War Museum, London) *Technology* (T)
- Lars Gaustad, Head of the Technical Committee, International Audiovisual and Sound Archive (T)
- Michael Loebenstein, FIAF Secretary General (also CEO National Film and Sound Archive Australia) *Management & Policy* (P)
- Nicola Mazzanti, Director of the Association of European Cinémathèques (also Director of the Cinémathèque Royal de Belgique) (P)
- Ray Edmondson, co-chair of the Advocacy Committee AMIA and Chair of Asia and Pacific Regional Committee for Memory of the World (P)
- Taylor Whitney, co-chair of the Preservation Committee AMIA (T)
- Richard Ranft, IASA Chair of National Archives Section (P)

EUROPEAN NATIONAL

- Charles Fairall, British Film Institute, Head of Conservation (UK) (T)
- Claudia Dillman, Director of the German Film Institute and Filmmuseum (DE) (P)
- Daniel Borebstein, Head of Preservation, CNC (FR) (T)
- Eric Le Roy, Head of Access and Presentation, CNC (FR) (P)
- Frank Gray, Chair of Film Archives UK (also director of Screen Archive South East) (UK) (P)
- Giovanna Fossati, Chief Curator, EYE film Institute (NL) (T)
- Jon Wenstrom, Head Curator, Swedish Film Institute (SE) (P)
- Martin Koerber, Head Curator, German Cinémathèque¹¹⁹ (DE) (T)
- Thomas Christensen, Head of Preservation at the Danish Film Institute (DK)

¹¹⁹ Officially this is not a national archive, but is financed by the federal government and it has national relevance.

(T)

EUROPEAN LOCAL AND REGIONAL

- Anke Wilkening, Head of Preservation, Murnau Foundation (DE) (T)
- Gerhild Krebs, Founder and Director, Saarländisches Filmarchiv (DE) (P)
- James Patterson, (former) Head of Media Archive of Central England (UK) (P)
- Nicholas Clark, Technical Officer, Screen Archive South East (UK) (T)
- Ralf Forster, Curator, Technology Collection, Potsdam Filmmuseum (DE) (T)
- Sean Kelly, Technical Officer, East Anglian Film Archive (UK) (T)
- Stefanie Eckert, Managing Board Advisor and Proxy, DFTA Foundation (DE) (P)
- Ruth Washbrook, Manager of Screen Archive Scotland¹²⁰ (UK) (P)

PRIVATE SECTOR

- Michael Utley, vice-Director and Founder, *ProTek*
- Reto Kromer, AV Preservation by reto.ch (also member of the executive board of the Association of Moving Image Archivists, AMIA)
- Rob Hummel, Group 47 (DOTS technology)
- Senior Manager, ICT Multinational operating in Europe and North America (anonymised).

¹²⁰ This is officially a national archive but it also serves de facto as a local archive.

APPENDIX TWO: THE QUESTIONNAIRES

Preliminary questions (for everybody)

1. Can you introduce the organization/institution you work within? What are the activities your organisation is engaged with?
2. What is your role in the organisation? What are roughly your tasks?

Questions for technical experts (slight adjustments needed for each level of analysis)

Part 1. (Analogue collections)

3. Can you tell something about the policy you have adopted, if any, for making digital copies of your 'born analogue' material? If so, can you please describe it briefly?

Topic checklist:

(1) How much is digitised and how much is to be digitised;

(3) Guiding principles behind the digitising decision making: substantially proactively or reactive approach;

(4) Goals of digitisation: preservation, access or both?

4. What do you see as the most critical current issues in preserving analogue collections? Can you briefly describe them?

Topic checklist:

(1) Technical issues [in relation to acquisition, preservation and access];

(2) Organisational issues [ditto];

(3) Economic issues [ditto].

5. What do you think about film preservation in Europe? What do you think are the most important current issues that policy makers should address?

Topic checklist:

- (1) Mass digitisation;*
- (2) Keeping alive film production (for preservation purposes) with public investments (Horwath's position). Develop a digital preservation infrastructure only for born-analogue material.*
- (3) Hybrid system: digital is used only for access and circulation of information whereas film employed for long-term preservation (this implies acquiring DCP and transfer their "content" again onto film).*

Part 2 (born-digital collections)

6. How are you dealing with the so called "digital revolution"? How it has impacted your organisation?

Topic checklist:

- (1) Acquisition: legislative framework and technical specifications of the acquired elements;*
- (2) Preservation: Developing your own infrastructure or agreements with a service provider?*
- (3) Access: copyright issues*

7. Again, what are in your opinion the most problematic issues around this transition? Would you try to describe them briefly?

Topic checklist:

- (1) Technical issues [in relation to acquisition, preservation and access];*
- (2) Organisational issues [ditto];*
- (3) Economic issues [ditto].*

8. What do you think should be the initiatives in matters of preservation to be undertaken at both national and international level? What do you think are the most urgent priorities?

Topic checklist:

(1) developing digital preservation infrastructure;

(2) Hybrid system: digital is used only for access and circulation of information whereas film is employed for long-term preservation (this can include acquiring born-digital elements and transfers of their “content” onto film).

Questions for directors of institutions

Part 1 (curatorial practices)

1. To what extent is your curatorial decision-making influenced by documents and recommendations released by national or international institutional bodies (such as UNESCO, EU, AMIA, and FIAF)? What is your relationship with these organisations?

Topic checklist:

(1) Relations between Film Heritage Institution (FHI) and external organisations;

(2) Relevance of “corporate-level” policy documents;

(3) Level of cooperation among FHI.

2. Could you say something about how your curatorial policy has developed over the years? In other words, how do you identify what to acquire, what to preserve, what to digitise and what to make accessible?

Topic checklist:

(1) Need for new technical and curatorial competences (developing and acquiring);

(2) need to preserve old technical and curatorial competences (preservation of preservation skills).

3. To what extent, in your opinion, will digital technology increase the demand for access? How could the technological shift change the role of FHIs?

Topic checklist:

- (1) Archive as online platform (content provider);*
- (2) Archive as interpreter of history.*

Part 2 (policy and governance)

4. As a public (or non-profit) FHI, which kind of relations do you have with the private and public financing bodies?

Topic checklist:

- (1) Public sector: (1a) Budgetary problems; (1b) the “ideological” use of the concept of access to get funded.*
- (2) Private sector: the thrust of the private sector; (4) the thrust of the donors.*

5. Do you think there should be a new coordination/cooperation strategy among AHIs and between AHIs and external organisations?

Topic checklist:

- (1) Proactive and reactive approach;*
- (2) centralized system or managerial independence;*
- (3) Relationship with the media industries (film industry, IT suppliers and internet).*

6. Do you think the digital revolution will require changes in the governance of FHIs?

Topic checklist:

- (1) new funding schemes;*
- (2) new professional figures;*
- (3) new managerial structure.*

Private sector

Part1 (technology)

7. Can you talk about the products you bring to the market? What kind of technology are your products based on? Data on disc, on tapes or solid state memory?

Topic checklists:

(1) Pros and cons of the above-mentioned technology

(2) Pros and cons of the other technologies.

8. How would the perfect digital preservation system be organised? What would be its structure and its main features?

Topic checklist:

(1) Migration system (hardware);

(2) Software;

(3) Recommended file formats.

9. Who are your most prestigious clients? What are their usual requests?

Topic checklist:

(1) Specificities (if any) of each infrastructural unit (e.g. the amount of data to be stored or the services they want to offer to their public);

(2) Changes in software and hardware in each infrastructural unit.

Part 2 (economics)

10. How can we predict the long-term infrastructural costs of digital preservation systems?

Topic checklist:

(1) Internal (e.g. services offered) and (2) external variables to take into account (e.g. level of market;

(3) Key Cost drivers.

11. What is the costs tendency of your products? What do you think is the most influencing factor that determines this tendency?

Topic checklist:

(1) Reduction of the digital hardware cost (Kryder's Law);

(2) Labour cost;

(3) Power consumption.

12. How do you imagine a preservation system of the near future at the national/international level?

Topic checklist:

(1) Possibility of digitising all the analogue material currently at disposal at to assure reliable preservation;

(2) Hybrid systems.

APPENDIX THREE: LIST OF POLICY DOCUMENTS

INTERNATIONAL

- CCAAA, 2005, Issues paper on a new UNESCO instrument for the safeguarding and preservation of the audiovisual heritage
- CCAAA, 2007, Policy statement: sharing of heritage
- FIAF, 2014, Basic principles of digital archiving
- FIAF, 2008, Code of ethics
- FIAF, 2007, Declaration on fair use and access
- FIAF, 2009, Technical commission recommendation on the deposit and acquisition of D-cinema elements for long term preservation and access
- FIAF, 2009, Technical commission preservation best practices
- UNESCO, 1980, Recommendation for the safeguarding and preservation of moving images
- UNESCO, 2003, Charter of the Preservation of Digital Heritage
- UNESCO, 2011, The Moscow declaration on digital information preservation
- UNESCO, 2012, Vancouver declaration on the Memory of the World in the digital age digitization and preservation
- UNESCO, 2015, Recommendation concerning the preservation of, and access to, documentary heritage including in digital form

EUROPEAN UNION

- ACE, 2010, Position Paper for “Comité des Sages” hearing
- ACE, 2013, Response to the “Green Paper on the online distribution of audiovisual works in the European Union: opportunities and challenges towards a digital single market”
- Council of Europe, 2000, Conservation and enhancement of European cinema heritage;
- European Commission, 2011, Recommendation on the digitisation and online accessibility of cultural material and digital preservation
- European Commission, 2014, Film Heritage in the EU – Report on the

Implementation of the European Parliament and Council Recommendation on Film Heritage

- European Parliament and Council, 2005, Recommendation on film heritage and the competitiveness of related industrial activities
- Mazzanti (eds), 2011, Digital Agenda for European Film Heritage

INDIVIDUAL INSTITUTIONS

- BFI Annual report and financial statements 2013/14
- BFI Annual report and financial statements 2014/15
- BFI Annual report and financial statements 2015/16
- BFI National archive collections policy
- CNC Rapport d'activités 2013/2014 (section patrimoine)
- CNC Rapport d'activités 2014/2015 (section patrimoine)
- DFI Facts and figures 2013/2014
- DFI Facts and figures 2014/2015
- EYE, 2014, Collection policy
- IFI, 2013, Irish film archive digital preservation and access strategy
- SFI, 2012, Policy of the archival film collections of the Swedish Film Institute
- SFI Facts and figures 2013/2014
- SFI Facts and figures 2014/2015