UvA-DARE (Digital Academic Repository)

Film Heritage Beyond the Digital Turn

Fossati, G.

Publication date
2017
Document Version
Final published version

Citation for published version (APA):
Fossati, G. (2017). *Film Heritage Beyond the Digital Turn*. (Oratiereeks; No. 572). University of Amsterdam. http://cf.bc.uva.nl/download/oraties/Oraties_2016/Fossati_Giovanna.pdf

Film Heritage Beyond the Digital Turn

Film Heritage Beyond the Digital Turn

Rede

uitgesproken bij de aanvaarding van het ambt van
hoogleraar Filmerfgoed en digitale filmcultuur
aan de Faculteit der Geesteswetenschappen
van de Universiteit van Amsterdam
op vrijdag 28 oktober 2016

door

mw. prof. dr. G. Fossati

Mevrouw de Rector Magnificus,
Mijnheer de Decaan,
Geachte collega' s en relaties,
Dear students and former students,
Dear family and friends,

What is film heritage? And more specifically, what is film heritage today, between the recognized materiality of the celluloid films and the presumed immateriality of digitized or digital films?

What is film heritage, between the practice of film archives and the conceptualization of film, a medium that is dramatically changing, not only as a technology but as a cultural phenomenon at large?

The question "What is film heritage?" and, even, "What is film?" are very topical today. Film is no longer the strip of celluloid that we have known for so long. Films are not shown today only in movie theaters. Today, we have 'digital films'. They are watched on computer monitors, tablets, smartphones. They are screened on buildings or within exhibitions. Not less important, moving images are produced and consumed and 'archived' by everybody, everywhere.

Film

Dan Streible has recently argued (2013) that talking about 'digital film' today is an oxymoron. Indeed, a 'film' is a strip of celluloid with a succession of photographic images impressed in the layer of emulsion on its surface. As such, film by definition does not come in a 'digital' format. I would argue, on the contrary, that using the term 'film' today also for 'digital films' is not only legitimate but necessary. It is necessary, to claim the continuity of 120 years of film history. It also serves the objective of stressing the materiality that digital films still share with their analog predecessors, a characteristic of digital film that is too often overlooked.

In fact, the term 'film' had already lost contact from its original meaning (i.e. "a thin flexible sheet or coating") already in the past century when syno-

nyms such as 'movie' and many others started to be used as well. What is so beautiful and unique about the word 'film' is that it refers to the medium's materiality, which is one of the levels at which the science of film continues to operate also in today's 'digital film culture', a material level that most people never directly access and thus fail to recognize.

A roll of hand-coloured nitrate film at EYE Filmmuseum

Photograph by Joshua Yumibe

The term 'film' does not refer only to moving images but to a cultural, social, aesthetic and, I stress, 'material' sphere that finds its roots in the experimentation of the late 1800s. It all started with a flexible film of celluloid covered with a layer of silver emulsion. At that time most people could not access such material layers, much in the same way that they do not have direct access today to the binary codes on the digital film carriers. However, everybody understands that there are 'material things' that in one way or another are necessary to support what we see on the screen. Such awareness has been at the basis of the development of film heritage as a science. As also Strieble recognizes:

> [it is not] necessarily incorrect to refer to digital or electronic moving images as films. Rather, if we forget to specify what photochemical film

was, we stand to lose important historical knowledge and awareness. Important distinctions become lost if we neglect what preservationists, archivists, and technical experts have brought to recent film historiography. (2013: 229)

'Film', as I would like it to be intended, is a broader concept that transcends the technological differences such as that between the analog and the digital. Film heritage includes all the elements that inform and form film culture. And while film culture today has happened to become more and more 'digital', it is based on more than a century of analog film and analog film culture.

Film Heritage Studies

Film heritage comprises the theory and practice of collecting, archiving, preserving and presenting films. This field emerged in the 1930's with the opening of film archives in the Western World. The first film archives to be established were the film department of the New York Museum of Modern Art, the British Film Institute, the Cinémathèque Française in Paris and the Reichsfilmarchiv in Germany (Houston, 1994). Many more archives were established after World War II, including the Historisch Filmarchief in the Netherlands, founded in 1946, which later became the Nederlands Filmmuseum and in 2010 has changed its name into EYE Filmmuseum.

Some of the main goals of public non-profit archives were those of collecting, preserving and showing national film heritage. But they also had a strong focus on international avant-garde films. This can be linked to the strong connection that emerged in the 1920's and 1930's between avant-garde filmmakers and early film theorists who were establishing film as a form of art. Film archives subscribed to that idea, which strengthened their very *raison d'être*. Note that until then, films were mainly seen as a form of entertainment and, after commercial exploitation, they were usually destroyed to recover the silver in the emulsion.

Films have started being considered part of our cultural heritage with the film archive movement. In 1938 the International Federation of Film Archives was founded and a number of principles were defined that are still binding today for film archives world-wide. The practice of film archives has developed since then. This practice has been quite inaccessible and, at times, even secretive, partly due to the complex legal issues. Indeed, the copyrights of many films held by archives were in fact owned by commercial companies that could (and at times did) claim their rights on the films. The inaccessibil-

ity of film archives was also partly due to and favored by a limited interest in archival films by the larger audience and the academic community.

This situation came to an end in the late 1970s. At the 34th Annual Congress of the Federation of Film Archives held in Brighton in 1978 a group of film scholars was invited to view and discuss several hundred early films, approximately dating from the period 1900-1906. This event has been indicated by many as the starting point of a new relationship between the practice of film archiving and academic film studies. Since then the Brighton congress has gained an almost mythical status in the field and has inspired a new stream of studies by scholars concerned with film heritage, such as Tom Gunning and André Gaudreault (who both participated to the Brighton congress), Thomas Elsaesser, William Uricchio, Frank Kessler, and many more in recent years.

As pointed out by Elsaesser in his "The New Film History" (1986), the 1980s saw the emergence of a wave of historians who initiated a new way of approaching film history. The Brighton congress has undoubtedly been a turning point that helped opening the archival vaults to film researchers and led to unprecedented collaborations between scholars and archivists. In Uricchio's words, Brighton "gave novel stimulus to the distribution of archival films, but first of all to its restoration" (2003: 29-30).

In 1984 the first academic master program in film archiving was launched at the University of East Anglia in collaboration with the East Anglia Film Archive in Norwich, UK. With this program, the academic history of film heritage officially started. Since then a number of similar programs have followed. These include the MA program Preservation and Presentation of the Moving Image at the University of Amsterdam, founded by Thomas Elsaesser in 2003 in collaboration with the Nederlands Filmmuseum (today EYE Filmmuseum) and the Dutch Institute for Sound and Vision, and directed by Julia Noordegraaf during its first decade. Other programs established around the same time are the Moving Image Archive Studies program at the University of California in Los Angeles; the Moving Image Archiving and Presentation program at the New York University; and the master degree at the University of Rochester, NY, in collaboration with the L. Jeffrey Selznick School of Film Preservation at the George Eastman Museum. More recently similar academic programs have been introduced worldwide, including those at the universities of Udine, Berlin, and Frankfurt.

The proliferation of academic programs and the establishment of the chair Film Heritage and Digital Film Culture at the University of Amsterdam are a sign of the novel growing interest in the field.

Due to its relative young age as an academic discipline, film heritage studies form an unevenly charted territory that has historically grown out of film and media studies, but that is always in dialogue with other disciplines such as heritage and museum studies, art history, digital humanities and, more recently, computer science. One thing that has become evident in the first two decades of academic film heritage programs is the importance of keeping theory and practice in balance through a fertile collaboration and interplay between the scholars and the archivists leading education, research and practice in the field.

Interestingly, the establishment of the first film heritage study programs coincided with the discourse on the demise of cinema, which started in the 1980s, under the threat of multiplexes, and continued later with the rise of the home movie industry and by the advent in the film industry of digitization at large. As Marijke de Valck recently pointed out:

> [i]t might very well have been the sense of crisis surrounding cinema and the demise of an intellectual culture of film that fed into simultaneous visions to create programs that would deliver the new generation of archivists, curators and programmers that could save the cinema that was so clearly perceived to be under threat. (Valck, 2015: 3)

It is thinking along similar lines that I realized early on in my research that the experience in the archival practice offers a privileged perspective to reflect on the nature of film. Working in a film archive has allowed me to look very closely at what has been happening to film in the transition to digital, with born-digital films coming into the archives and replacing celluloid films, and new tools for digitization, restoration and access allowing film-born films to be made available to a much broader audience than ever before.

Also known as the 'digital turn', this technological and cultural transition is rather a long wave that started rising a quarter of century ago when digital sound, digital editing and digital effects entered film production in the early 1990s. From the joint perspective of theory and practice, I started realizing that 'transition' in reality is a constant in film history, a steady state of film if you wish. As such, transition can be pivotal for developing a theory of film archival practice.

If we look closely, we realize that the changes introduced by the advent of the digital in film making today are similar to the transformation that films have always undergone in their *archival life*: in the restoration process, films are literally replaced, part by part or frame by frame, by duplication through analog and/or digital means. The original films are preserved in the archive's

vaults but it is their new copy (being analog, digital or hybrid) that is shown, projected on a cinema screen or streamed to a computer monitor.

Indeed, the replacement of parts has always been inherent of film and of film archival practice. As an art and a technology of reproduction, a new film (copy) is typically struck from a previous one: a positive from a negative, a restoration from an older print. In this process, technologies, formats, color and sound systems have always been translated by necessity into different ones throughout film history, and have happened to include also digital technologies in more recent decades. This will be readily recognized, especially by film archivists, who are confronted with the transitional nature of cinema every day, together with what is lost and gained in this continuous translation process. And by film historians as film, in Tom Gunning's words, "has never been one thing", but rather "a point of intersection, a braiding together of diverse strands […] [A]nyone who sees the demise of the cinema as inevitable must be aware they are speaking only of one form of cinema (or more likely several successive forms whose differences they choose to overlook)." (2007: 36)

Film belongs to those things that change by necessity and are, therefore, inherently transitional. From this perspective, film's transition from analog to digital is a significant transformation but one that ontologically does not affect its (conceptual) artifact.

From Grain to Pixel

As I mentioned earlier, the combination of theory and practice lies at the foundation of my work both as a scholar and as a museum curator. I have always felt very strongly that bridging theory and practice is essential, and especially urgent today because the technology, the expertise, and the conceptualization of film are changing so rapidly. For the same reason, today more than ever, the *archival life of film* (that is what happens to film heritage once it enters the archive) needs to be re-opened to discussion, paying attention to new developments in the film discourse and new trends within film making and film culture.

For instance, a development that is taking place in the larger landscape of film and is affecting the film heritage discourse is the so-called 'material turn', which is a renewed longing for the experience of the materiality of the film medium. This can be found in work by filmmakers and artists alike, including Peter Delpeut, Gustav Deutsch, Bill Morrison, and Tacita Dean, and, more

recently, also Hollywood filmmakers such as Christopher Nolan, Paul Thomas Anderson and Quentin Tarantino.

The 'material turn' in film could be interpreted as a reaction to the digital turn, emphasizing the haptic interaction with the material as opposed to the experience of the perceived immateriality of digital access. In a broader sense, this turn to materiality is reminiscent of the idea of mining audio-visual archives for matter and, literally metals, as recently discussed by Patricia Pisters in her paper "The Filmmaker as Metallurgist" (2016).

In my view, the material turn is intrinsically related to the digital turn, but is not in opposition to it. It is rather its companion. In fact, there is no such thing as immaterial digital film. A digital film is as material as any other object. It is carried on a material carrier, it is projected through a material digital projector and screened on a material screen or viewed through a device (computer, tablet or smartphone). And it is immersed in a material cultural environment, that of its makers, users and caretakers, like analog film, before. In this line of reasoning, digital films are the result of a tradition of a century of analog films and as such they bear the same material and cultural traces, and digitization is not a replacement but the latest technological shift.

In order to further clarify my position on film archival practice and introduce the direction that my academic work will take in the near future, I would like to briefly recount some of the ideas exposed in my work *From Grain to Pixel. The Archival Life of Film in Transition* (Fossati, 2009 and 2011), which is, in fact, an attempt to lay the foundations for a new approach to both film archival theory and practice. *From Grain to Pixel* was published in 2009 and I still consider it a valuable tool even a few years further in the transition from analog to digital as it continues to provide guidance in the relatively young discipline of film heritage studies. But it is also a limitation as I feel compelled to return to it at times when I would rather move on to something else.

In *From Grain to Pixel* I have addressed the questions "what is film?" and, by analogy, "what is film heritage?" in the technological and cultural shift to digital. There I moved away from the unproductive opposition analog *versus* digital and proposed to look at film's nature from the perspective of transition. Considering that film as a medium has never existed in one form, the digital turn is only making its transitional character all the more evident. Film archivists and curators have always made choices about what to preserve, what and how to restore and what and how to exhibit, based on different interpretations and conceptualizations of film's nature and on different ways of approaching film archival practices.

By analyzing the cultural, aesthetic, economic and social factors behind the choices made, we come to recognize different frameworks that have informed

the archival practice (in a more or less conscious way). And by recognizing these frameworks, it is possible to start defining a theory of the archival practice.

The four relevant theoretical frameworks defined in *From Grain to Pixel* function as a dynamic grid upon which a theorization of archival practice can be built.

The "film as original" framework defines the historical film artifact as the carrier of the film's authenticity, once it enters the film archive. Within this framework, reading the concept of original as discussed by Walter Benjamin (1969 [1936]) through its analysis by Boris Groys (2002), it can also be argued that each copy of a film does acquire authenticity as it is a subsequent sign of a film's life-line.

The "film as original" framework could lead to opposite archival practices: on the one hand the original artifact could be considered so precious that it becomes untouchable, on the other hand access to the original artifact could be considered an irreplaceable experience and thus be fully granted, with the consequence that its deterioration would be accelerated. In reality, most archives currently carry out a policy somewhere in between these two extremes.

An example of the "film as original" framework is the Nitrate Picture Show at the George Eastman Museum. During this annual gathering of film historians and archivists, original nitrate films, rather than restored versions, are screened. A similar phenomenon, nowadays, is the proliferation of art houses dedicated to screening celluloid prints rather than digital versions.

Another example is the project behind the recent publication *Fantasia of Color in Early Cinema* (Gunning et al., 2015). In this project, single colored frames were scanned from the nitrate prints at approximately 5K (that is 5000 pixels per horizontal line) or 4800 dpi, and presented to allow a broader audience to experience early color films. One of the goals of this project is to give access to original heritage films in a manner that was once the prerogative only of film archivists and a selected group of film historians.

The "film as art" framework lies at the foundation of many film archives today and, in particular, of those with the specific mission of preserving avant-garde films or films of a particular filmmaker or *auteur*. Examples are the Austrian Film Museum, the Pacific Film Archive in Berkeley, California, the MoMA and Anthology Film Archives in New York.

Frame of the film *Dutch Types* (France, approx. 1915) reproduced in the book *Fantasia of Color in Early Cinema* (AUP, 2015)

Courtesy of EYE Filmmuseum

Within this framework the focus is typically directed towards the conceptual artifact, the film as it was intended by the artist. On the other hand, there are cases where the material artifact can also be closely related to the *auteur*. In avant-garde cinema, for instance, the filmmaker may use the film as a canvas (e.g. Oskar Fishinger's painted and scratched film emulsions or Peter Kubelka's film sculptures). It is also important to point out that, in recent years, while many film artists have moved to digital (as in the case of Marijke van Warmerdam), others have conversely rediscovered analog film, as in the case of Tacita Dean and Rosa Barba (whose work has been recently shown at EYE in the exhibition *Celluloid*).
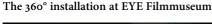
"Film as state of the art" is a framework with a stronger relationship with filmmaking practice than with the theoretical discourse. It is based on the idea that filmmaking, for the pioneers as much as for contemporary makers, is often a search for pushing the limits of technology in order to translate ideas into moving images. Throughout film history there are many examples of filmmakers, cinematographers and special effects engineers challenging contemporary technology and striving for new means to realize their visual ideas. In this way, many have contributed to redrawing the limits of the medium, and their work has often ended up in the film archives.

In the last two decades, studios' film archives, Sony Pictures Entertainment and Warner Brothers, in particular, have been relevant examples of this framework because of their consistent use of the most advanced techniques available for film preservation and restoration.

The "film as *dispositif*" framework derives from Jean-Louis Baudry's 'apparatus' theory (1986 [1970]) as recently re-elaborated by Frank Kessler (2007), among others.

"Film as *dispositif*" places film exhibition (that is the time and space where film, apparatus and audience or users meet) as central, therefore all archives with a strong tradition of film exhibition are bound to reflect on it. This is even more the case today with the transition to digital and the multiplication of new possible *dispositifs* that come with it. Among other archives, EYE Filmmuseum has had a long tradition in reflecting on *dispositifs* within its preservation, restoration and presentation practice.

It should be noted that early cinema and other film forms were also experienced within *dispositifs* alternative to classical film projection in a dark cinema. In this framework, film archives typically promote the practice of exhibiting films by way of *dispositifs* other than the traditional one.

The 360° installation at EYE Filmmuseum

Photograph by Mike Bink

More recently I have included the "film as performance" framework (Fossati, 2012), an approach to film heritage that has also been discussed in recent publications by scholars Vinzenz Hediger (2011), Barbara Flueckinger (2012)

in relation to film restoration, and by Julia Noordegraaf (2013) within the field of media art conservation.

This framework opens up the discussion to a broader, even more ephemeral dimension than that of the film artifact, its projection and the *dispositif*. Indeed, it includes the elements that make each 'performance' of a film a unique event, in that sense bearing similarities to music, for instance, as Hediger points out.

In *From Grain to Pixel* I focused on film restoration and on presentation practices of restored films. I felt that the restoration practice was still too little understood by those who are not directly involved with it and too little 'explained' by those who are. The first necessary step to promote a renewed dialogue on archival practice was to make visible some of the possibilities and choices made by film restorers based on their interpretation of film and their use of technology. At the time I focused only on film, and in particular, on recognizable film titles (rather than other film-related objects, and other archival activities) as I thought this was the most effective way to start.

We are further in the process now, and I believe time has come to shift the focus to a broader and more integral view. I feel that film restoration and presentation, the most visible activities within film archival practice, cannot be isolated from the rest of the work around film heritage.

A move in a new direction, searching for a broader territory and a more general theorization will allow analyzing, discussing and, at some level, influencing film heritage practice in a more comprehensive way. It will not only focus on restoration and presentation, but also look at acquisition, selection, digitization, access, innovative projects for data mining, on-line and on-site forms of presentation of film heritage. Also in terms of objects, it is time to consider film heritage as an integral corpus that includes film-related collections as well as what can be broadly defined as 'intangible heritage', borrowing UNESCO terminology (the memory of cinema-going or the knowledge of obsolete post-production practices, to name a few examples).

In this line, new conceptual framings are needed that can be particularly productive for defining activities around film heritage at large and can help to define its historical and societal relevancy.

Monument, Document, Event

I wish to introduce here three framings 'Monument', 'Document' and 'Event'. I will briefly illustrate the scope of such framings for film heritage and will

touch upon a number of new areas that I consider important to pursue in research and practice in the years to come.

The conceptual framings of Monument and Document bear a strong relation with the tradition of Nouvelle Histoire scholars. I am referring, in particular, to the work of historian Jacques Le Goff and his discussion of the mixed-concept Document/Monument, when he stated that the main goal of an historian is "to critically assess a document […] as if it were a monument." Indeed, any document has been materially altered by an editing process effected by the society and era that produced it, and it is also an interpretation in itself, "a product of later eras during which the document lived – or was perhaps forgotten, during which it was retouched – albeit by silence. […] Document is monument." (1978: 38)

The tradition of Nouvelle Histoire scholars, and their rejection of earlier positivistic approaches to the study of history that focused on Monuments (such as big political events having 'great men' as main actors), bears a clear connection with the New Film History, which similarly marks a shift in focus towards the Document and a rejection of the earlier tales of the pioneers and teleological recounts of 'first times'.

The New Film History movement marked a turning point in Film Studies but it also forms part of the background against which film archivists and scholars started a dialogue in the late 1970s that is still quite influential today for both research and archival practices, from the earlier mentioned Brighton congress on.

What can be identified as recognized monuments of film heritage? A fitting example is Fritz Lang's *Metropolis* (1927) as this film stands out as one of the most celebrated and most frequently restored film titles in the history of cinema. And, as such, it was one of the first film heritage objects to be included in the UNESCO Memory of the World Register in 2001.

In film restoration practice, following the tradition of art restoration, films are typically approached as Monuments, and restored as close as possible to what they originally were, choosing the best analog, digital and hybrid technology can offer and that we can afford, no matter which framework we embrace.

Recognizing the monuments of film history, in a similar way as we do for other arts and disciplines, have always been important as these are the most visible and best studied objects in the field. They have had and still have an important role in drawing audiences to film museums and funding to research and restoration. Although this is a valid strategy, it is important to work towards a more comprehensive approach that explicitly acknowledges

the complementary dimensions of Document and Event as equally informing the restoration work.

What has already changed in the last 30 years, also thanks to the Nouvelle Histoire tradition, is that we have a broader and less monolithic idea of what these Monuments are. For instance, multiple versions of the same film have been researched and restored. In the case of the mentioned *Metropolis*, a number of different restorations have been carried out in the last two decades reflecting different versions of the film. Also, entire collections of films and film-related objects have been recently included in our idea of Monument.

Photograph of Jean Desmet's travelling cinema, Desmet Collection

Courtesy of EYE Filmmuseum

An example is that of the Jean Desmet Collection held at EYE Filmmuseum, which includes the archives left behind by the Dutch film distributor and cinema owner Jean Desmet (1875-1956) and consist of approximately 950 films produced between 1907 and 1916, a business archive of more than 100.000 documents, some 1050 posters and around 700 photos. In the past decades the Desmet collection has become of key importance to research on

early cinema, for its unique objects, as well as for the richness of the associated business archive. As such, the Desmet collection is a fascinating example of the framing Monument/Document.

Because of these features, it was inscribed in the UNESCO's Memory of the World Register in 2011. Since then the Desmet collection has been completely restored and digitized and has been object of several scholarly research and archival presentation projects.

Screenshot of the online demonstrator Mapping Desmet

mappingdesmet.humanities.uva.nl/

The project "Data-Driven Film History: a demonstrator of EYE's Jean Desmet collection" explores the potential and pitfalls of digital methods for research into early cinema history (Olesen et al., 2016). In this project, a tool was developed for studying the distribution, screening and stylistic features of the films in this collection, focusing in particular on visualizing the relations between their distribution and screening. A tool like this provides valuable insights also into the quality of the available metadata, which often was produced with different objectives, and into the way metadata affect the film historical insights we are hoping to gain.

There are many more projects emerging today where film heritage can be analyzed through new digital tools. As we speak new tools are being researched and developed that, for instance, reconstruct obsolete film apparatus, as the work done at the University of Groningen as part of the Network

of Experimental Media Archeology, recreate entire vanished movie theaters through 3D modeling, such as the Cinema Parisien 3D project recently led by Julia Noordegraaf (Noordegraaf et al., 2016), or allow searching digitized collections through sensory aspects such as color and movement. Within the Document framing, this is indisputably one of the most important tracks of research where scholars and archivists will work hand in hand in the years to come.

The framing Event is in line with what Elsaesser suggested in 2009 as a new direction of research and archival practice with regards to non-fiction films:

> The event has its own temporal and spatial coherence, but as a process and usually tied to a site […]. Events as spaces tend to be centrifugal, multi-layered, and heterogeneous in their consistency and materiality; an event implies the notion of programming and planning, but also of accident and coincidence. (Elsaesser, 2009: 32)

Approaching film heritage also as Event opens up new possibilities for research, restoration and presentation practices. For instance, it allows including the role of changing circumstances, audiences and users in the restoration process. And it can also account for changing materiality as part of the way films are preserved, restored and presented. Furthermore, it opens the way to including other approaches to film heritage preservation than the ones typical of the Western world, as for instance intangible heritage. As a case in point, Caroline Frick in her book *Saving Cinema* refers to the case of the Japanese Ise Temple that is 'preserved' by being rebuilt every 20 years following traditional methods, "thus ensuring that the living heritage (the knowledge of *how* to build such a structure, and so on) endures." (2011: 162) This is a promising new direction for theory and practice I intend to focus on in the future.

In conclusion, the framings Document, Monument and Event are new overlapping filters that will add an additional dimension to the theorization of archival practice proposed in *From Grain to Pixel*. They will help us further discuss and analyze film heritage at large and propose new directions that will inform the discourse and the practice in the future.

Conclusions

Back to our original question: what is film heritage today?

I hope that in my talk I was able to illustrate that film heritage today is a young and lively discipline that builds on 120 years of tradition, experimentation and knowledge. Right at the time when film has been declared dying (since the 1980's), a renewed interest has grown around the study of film heritage, preservation and restoration. And a new generation of film archivists and curators is being formed in our programs today that is well equipped to bridge theory with practice and the analog past with the hybrid and digital present.

As heritage is now receiving a renewed attention by policy makers, also thanks to the new possibilities offered by digital access, it is imperative that a well-informed discussion continues to take place between scholars and archivists so that we can promote sustainable policies for our field at large.

Thanks

There are many people I would like to thank, starting from those who have supported me during my PhD research. William Uricchio, Frank Kessler, and Nanna Verhoeff at Utrecht University, in fact, have been with me through my entire career, from the Amsterdam International Workshop on Colour in Silent Cinema in 1995, when we first met. Thank you for your advice, guidance, and inspiring ideas.

At EYE Filmmuseum, where I work since 1997, I find my inspiration and motivation every day. This certainly comes from its rich and fascinating collection but, most importantly, from the knowledge, creativity and enthusiasm of the people working there. For this, I would like to thank all my colleagues at EYE, past and present.

I am indebted, in particular, to our indefatigable and always resourceful director, Sandra den Hamer. Thank you for your constant support and trust. Special thanks to Anne Gant, Frank Roumen, Mark-Paul Meyer, Irene Haan and Gerdien Smit, for your friendship and for contributing to all the great projects we have worked on together through the years.

At the University of Amsterdam, I am grateful to Frank van Vree, Patricia Pisters and Julia Noordegraaf, for having made this chair possible. Many thanks also to the Executive Board, the Dean Fred Weerman, and the Depart-

ment Chair Richard Rogers, for supporting this chair and recognizing its importance within the Faculty and the Department.

I am also grateful to my colleagues at Media Studies. I would like to mention, in particular, the staff at the MA Preservation and Presentation of the Moving Image, Eef Masson, Carolyn Birdsall, Manon Parry, Joost Bolten, Christian Olesen, Floris Paalmen and Darren Carter for being such an inspiring team. And our students, for making me be even more passionate about my work with their energy and curiosity. Thirteen years after the master program has started, I see so many former students now working as professionals in universities and museums around the world. Thank you all for being such great students and colleagues.

I would also like to thank Mieke Bal, for being a continuous source of inspiration and for helping me find my way within this University.

There are so many other international friends and colleagues I am indebted to. I would like to mention at least a few.

At the University of Bologna (where I studied before moving to Amsterdam) I wish to thank Antonio Costa, Giovanna Grignaffini, Leonardo Quaresima and, in particular, Michele Canosa, who is responsible for my early fascination for film archiving and film restoration.

My partners in the research project and book *Fantasia of Color in Early Cinema,* Tom Gunning, Joshua Yumibe, Jonathon Rosen, Elif Rongen-Kaynakci, and Guy Edmonds. It has been a privilege working with such a wonderful team.

Thank you also to Sabina Gorini and Claudy Op den Kamp, first of all for being good friends, and also for making copyright issues exciting; Annie van den Oever for all the inspiration and fun with the film apparatus project; and Jeroen Sondervan and Chantal Nicolaes at Amsterdam University Press for the fruitful collaboration on our Framing Film series.

And finally my family. Silvia Levis, my mother, who has taught me to be curious and observe without judgement; Marco Fossati, my father, from whom I learnt the value of bridging the present with the past; Gloria and Matilda, my daughters, who make me laugh and keep me sharp; and my life partner, Andrea Battiston, whose humor, constant support and precious advice I could not do without.

Ik heb gezegd.

Bibliography

Benjamin, Walter. 1969 [1936]. "The Work of Art in the Age of Mechanical Reproduc-
    tion." Translated by Harry Zohn. In *Illuminations,* edited by Hanna Arendt. New
    York: Schocken, 217-251

Baudry, Jean-Louis. 1986 [1970]. "Ideological Effects of the Basic Cinematographic
    Apparatus." Translated by Alan Williams. In *Narrative, Apparatus, Ideology*, edit-
    ed by Philip Rosen. New York: Columbia University Press, 286-298

De Valck, Marijke. 2015. "Poetic Objects or Open Data? Challenges and Changes to
    Contemporary MA programmes in Audio-Visual Archiving, Preservation and
    Presentation." In *Film Studies* 12/1, 3-9

Elsaesser, Thomas. 1986. "The New Film History," *Sight & Sound* 4, 246-251

Elsaesser, Thomas. 2009. "Archives and Archaeologies. The Place of Non-Fiction Film
    in Contemporary Media," ed. Vinzenz Hediger and Patrick Vonderau, *Films that
    Work: Industrial Film and the Productivity of Media*, Amsterdam University
    Press, 19-34

Fossati, Giovanna. 2009 and 2011. *From Grain to Pixel. The Archival Life of Film in
    Transition*. Amsterdam: Amsterdam University Press.

Fossati, Giovanna. 2012. "Multiple Originals: the (Digital) Restoration and Exhibition
    of Early Films." In *A Companion to Early Cinema,* edited by André Gaudreault,
    Nicolas Dulac and Santiago Hidalgo. Malden: Wiley-Blackwell, 550-567

Flueckinger, Barbara. 2012. "Material properties of historical film in the digital age."
    NECSUS. European Journal of Media Studies, 1/2, 135-153 – http://www.necsus-
    ejms.org/material-properties-of-historical-film-in-the-digital-age/

Frick, Caroline. 2011. *Saving Cinema: The Politics of Preservation*. New York: Oxford
    University Press

Groys, Boris. 2002. "The Aura of Profane Enlightenment." In (*The World May Be*)
    Fantastic. Ed. by Ewen McDonald. Exhibition Catalogue, Sydney Biennale

Gunning, Tom. 2007."Moving Away from the Index: Cinema and the Impression of
    Reality." *Differences: A Journal of Feminist Cultural Studies* 18/1, 29-52

Gunning, Tom, Joshua Yumibe, Giovanna Fossati and Jonathon Rosen. 2015. *Fantasia
    of Color in Early Cinema*. 2015. Amsterdam: Amsterdam University Press.

Hediger, Vinzenz. 2011. "Original, Work, Performance: Film Theory as Archive Theo-
    ry." In *Quel che brucia (non) ritorna – What Burns (Never) Returns: Lost and
    Found Films*. Giulio Bursi and Simone Venturini (eds.). Udine, Campanotto Edi-
    tore, 44-56

Houston, Penelope. 1994. *The Keepers of the Frame. The Film Archives*. London: Brit-
    ish Film Institute.

Kessler, Frank. 2007. "Notes on dispositif. Work in progress." Utrecht Media Research
    Seminar – http://www.frankkessler.nl/wp-content/uploads/2010/05/Dispositif-
    Notes.pdf

LeGoff, Jacques. 1978. "Documento/Monumento." In *Enciclopedia,* vol. 5. Torino:
    Einaudi, 38-39

Noordegraaf, Julia, Loes Opgenhaffen, and Norbert Bakker. 2016. "Cinema Parisien 3D: 3D Visualisation as a Tool for the History of Cinemagoing." In *Alphaville: Journal of Film and Screen Media* 11, 45-61

Noordegraaf, Julia. 2013. "Introduction." In *Preserving and Exhibiting Media Art. Challenges and Perspectives.* Ed. by J. Noordegraaf et al. Amsterdam: Amsterdam University Press, 11-18

Olesen, Christian, Eef Masson, Jasmijn van Gorp, Giovanna Fossati and Julia Noordegraaf. 2016. "Data-Driven Research for Film History: Exploring The Jean Desmet Collection". In *The Moving Image* 16/1, 82-105.

Pisters, Patricia. 2016. "The Filmmaker as Metallurgist: Political Cinema and World Memory." In *Film-Philosophy* 20/1, 149-167

Uricchio, William. 2003. "Historicizing Media in Transition." In *Rethinking Media Change: The Aesthetics of Transition*, edited by David Thorburn and Henry Jenkins. Cambridge, MA: MIT Press, 23-38