In this time of technological transition from analog to digital film, along with changing practices, different perspectives, expectations and demands are at play. Scholars are re-evaluating the object of their study and archivists are rethinking the aims of their work. Both are questioning the nature of film and how film is changing while moving from grain to pixel. It is precisely at this time of transition that the dialogue between scholars and archivists can be particularly valuable for both theory and practice.

However, although both film archivists and film scholars are dealing with similar dilemmas, the dialogue between them is limited. In particular, archivists are quickly discouraged by theoretical approaches that seem far away from their practical concerns and scholars are suspicious of practice driven by compromises. As a result, scholars often neglect film as material artifacts, and archivists work with little reference to theoretical frameworks derived from academic research. As film theorists today can rightly pose the questions:

What is left, then, of cinema as it is replaced, part by part, by digitization? Is this the end of film, and therefore the end of cinema studies? Does cinema studies have a future in the twenty-first century? (Rodowick, 2007: 8)

The same questions can be rephrased and posed by film archivists:

What is left, then, of film as it is replaced, part by part, by digitization? Is this the end of film, and therefore the end of film archives and museums? Do film archives have a future in the twenty-first century?
Answers that address both questions are rarely attempted. There is very little theoretical work in the field of film and media studies with explicit reference to archives and archival practice. In a way, reading film and media literature one might think that the materiality of film, the significance of film as material artifact, has very little importance for theory, and that the objects of the scholars are not necessarily the same of the archivists.

There are a few important exceptions to this lack of dialogue, as a number of seminal works have been inspired, in one way or another, by the already mentioned FIAF Conference held in Brighton in 1978. Two decades later, the Brighton Conference has gained an almost mythical status in the field, in part because it inspired a new stream of studies by scholars such as Elsaesser, Gunning, Uricchio, Gaudreault, Kessler, Verhoeff, Peterson, and others.105

As Thomas Elsaesser pointed out in his article on “The New Film History” (1986), by the second half of the 1980s a new wave of historians had brought about a new way of approaching film history. The Brighton Conference has undoubtedly been a determining factor for this development and has led to an unprecedented access to films and related sources from the silent period, bringing the “dissatisfaction with the surveys and overviews, the tales of pioneers and adventurers that for too long passed as film histories” to an end, as pointed out by Elsaesser (1986: 246). The Conference also led to unprecedented collaborations between scholars and archivists, and, in Uricchio’s words, it “gave novel stimulus to the distribution of archival films, but first of all to its restoration” (2003: 29-30).

Indeed, with the first large preservation and restoration projects financed in the 1980s, archives have become more open to the public and to researchers in particular.106 It is in this decennium that a few attempts have been made to suggest a theory of film archival practice.

It should, however, be noted that the collaboration between archivists and scholars inspired by the Brighton Conference has been mainly in the field of film history. The “novel stimulus” to film restoration is of particular importance here. As Uricchio also points out, interpreting archival films based on their restorations can be somewhat dangerous:

In a move not without serious conceptual dangers, this historical perspective effectively enabled the translation of historical insights and interpretations into historized artifacts (i.e., re-constructed or restored films), closing the loop between interpretation and text. (2003: 30)

The “serious conceptual dangers” mentioned by Uricchio, and appreciated by most scholars and archivists, have rarely been addressed in a programmatic discussion.107 Indeed, as argued by Uricchio, archived films in general and
their restorations in particular, are first of all “historized artifacts”. Restorations of archival films are not original film artifacts shown for the first time to an audience, but, conversely, artifacts that have been historized both on a material level (e.g. the film has been damaged by projection and chemical instability is causing decay), and on a conceptual level (e.g. the film is a product of its own time as the people who restore, study, and watch it). What is missing in my view are some of the conceptual tools that can help archivists and scholars to recognize the “conceptual dangers” interwoven with film artifacts and their restorations. The archival life of film needs to be opened to the academic discussion, especially now that it is dramatically changing with the advent of new digital means.

In a theory of archival practice the film as artifact, in its different possible meanings, is central. In this work the term artifact is used in two different definitions, the material and the conceptual. The material film artifact is typically the film preserved by the archivist, whereas the conceptual film artifact refers to its abstraction as an historical and aesthetic object. The dichotomy between material and conceptual artifacts plays an important role also within the archive and manifests itself in the tension between the preservation and the exhibition practices. Such tension has always been present in film archives’ tradition (think of the dispute between Henri Langlois and Ernest Lindgren mentioned earlier), and it is at times embodied by the figures of the Programmer and the Conservator within the same film archive.

In visual arts the material artifact and the conceptual artifact would not easily be thought in separation (when discussing Leonardo’s Last Supper there is no doubt that the fresco in Santa Maria delle Grazie in Milan is the artifact in discussion). Film has a different status because of its inherent reproducibility. Also, because of its performative dimension as a projection, it is more similar to performative arts (when discussing a theatrical performance of Hamlet, Shakespeare’s handwritten manuscripts are usually not the artifacts in discussion). If compared to art restoration and to the academic reflections around it, film restoration and media studies have never been closely related. As pointed out by Mark-Paul Meyer, the limited academic interest for film restoration practice is particularly striking when compared to the lively academic debate taking place among art scholars every time a painting undergoes a restoration (1996: 18-19). Only the restoration of titles like Metropolis (Germany, 1927) or Napoléon (France, 1927) attract attention and stimulate discussion, while hundreds of less celebrated titles are restored every year, unnoticed. Archivists seldom provide accessible documentation about these restorations and academics seldom ask for it.

These considerations, besides underlining once more the lack of dialogue, lead to the question of whether film, with its restorations, is compa-
rable to other arts at all. The issue of “film as art” has been pushed forward from the 1910s by film theorists onwards, starting with Ricciotto Canudo and his manifesto *The Birth of the Sixth Art* (1911), as well as by pioneers of film archives, within the cinémathèque tradition sketched earlier. This issue plays a central role in the discourse on film ontology and it will be proposed later in this chapter as one of the relevant frameworks for theorizing archival practice.

Formulating a theory of archival practice in a time of transition to digital technology is particularly challenging, as there are no existing theories of archival practice to refer to, not even for analog film. It should be noted, however, that the archival field has produced important articles and books in the last two decades, many of which address film preservation and restoration in relation to existing theories of art restoration. These works form the basis of what the field refers to as the “ethics of film archiving and film restoration”. The work of Raymond Borde (1986), Paolo Cherchi Usai (1991 and 2000), Mark-Paul Meyer (1991 and 1996), Michele Canosa (1992), Gianluca Farinelli and Nicola Mazzanti (1994), Ray Edmondson (1998), Paul Read and Meyer (2000) and, more recently, Andreas Busche (2006) and Julia Wallmüller (2007) is an important contribution to the definition of a film archival deontology. The reflection on archival practice mainly originates in the professional field (only Canosa is a film scholar at the University of Bologna, whereas the other contributors are all film archivists), and it is not surprising that the leading question addressed by these articles and books moves from and around ethical questions. The need for ethics, a discipline of practice, is indeed felt in the first place by those who carry out preservation and restoration practices.

Although I agree that ethics is key to define the limits within which film restoration work should be carried out, I argue that the often invoked “code of ethics” for film archival practice is not necessarily what film archivists need at this point. The FIAF’s Code of Ethics constitutes a valid document of general guidelines for the field. However, as I will discuss in the following pages, especially in the cases discussed in Chapters Three and Four, the particular theoretical framework embraced when carrying out a film restoration project can lead to a different set of ethical standpoints. From this perspective, one of the most emblematic examples is the discussion around the definition of “the original”. The FIAF’s Code of Ethics states that: “When restoring material, archives [...] will not seek to change or distort the nature of the original material or the intentions of its creators.”110 As will be discussed further on, “the original” can be many different things, from the film as the filmmaker wanted it, to the film as it was recovered by the film archive, bearing the marks of its material decay. Also in the discourse around “the original” the tension between the material and the conceptual artifact becomes central. “The original” can indeed be one of the possible conceptual artifacts (e.g. the direc-
tor's cut or the film as shown to the audience) or one of the possible material artifacts (e.g. the original camera negative or the only existing fragment of a projection print recovered by the archive). Because ethical guidelines are inevitably challenged or interpreted differently by those who embrace a different framework, I will focus on defining the relevant theoretical frameworks embraced in archival practice rather than proposing new ethical guidelines.

In this work, preservation and restoration are central because these are the archival practices that are most radically changing with the advent of the digital, and because some of these changes are tied with the ontological question around film, which will be addressed in the following pages. It should be noted, however, that preservation and restoration do not happen in isolation and, therefore, they cannot be discussed separately from other archival practices, such as collecting, providing access and exhibiting, and without framing it in the field and with the relevant players, namely restorers, curators, archives, laboratories and funding entities. Other archival practices, like collecting and exhibiting, have consequences in forming perspectives on film aesthetics and history but do not lead to irreversible actions on the film artifacts themselves. Preservation and restoration, on the other hand, act directly on the film material artifact, (re)shaping the way it will be available to archivists, scholars and users in the future. This is true for analog as well as for digital technology. Once again the artifact appears to be a crucial issue to be addressed. Furthermore, the transition from analog to digital gives a new connotation to the film artifact. As discussed earlier, films today are hybrid, being produced at the same time analog and digital. Although new films may perhaps become all digital soon, film-born and hybrid-born films (i.e. films from the analog past and films made during the transition) are destined to a perpetually liminal status. As material artifacts they are both analog and digital (e.g. the nitrate film stored in the archive’s vault and its digitization stored on a server and available on-line); as conceptual artifacts they are both the historical artifact and the historized one (e.g. the nitrate film and its re-enactment via a digital projection). Hence the urgency of formulating a theory of practice in medias res of this technological transition.

What happens to the film artifact in film archives, i.e. the archival life of film, defines the film (artifact) that will be available to a user in the future. This is the main reason why film archivists, especially curators of film collections and those who are responsible for policies with regard to preservation, restoration and access, and film scholars cannot work in isolation. The archivist should make informed decisions that take into account developments in film historiography and theoretical discourse around film, and keep scholars informed of the developments in film archival practice. Theorists, on the other hand, should know what drives archival policies and understand the
archival theories that stand behind them. Therefore, it would be of great benefit if film theory and film archival practice would interlace in a dynamic and constructive discourse rather than grow as separate domains with different, and at times conflicting, agendas.

As pointed out earlier, the introduction of digital tools raises questions on the nature of film. In the first part of the chapter, I will discuss different approaches to film ontology arising from the transition to digital. Also, I will link the discourse on film ontology to the tension between film as a material and as a conceptual artifact. The different approaches to film ontology will be further discussed in view of the four theoretical frameworks that I will distinguish and propose as the most relevant for the archival life of films. These frameworks are “film as art”, “film as original”, “film as dispositif” and “film as state of the art”, and I will argue that they are all retraceable in the policies of film archives.

It should be noted that in this work I use the term framework as the conceptual framing within which theories and policies are formulated and practices are carried out. As discussed earlier, I have chosen for the terms “framing” and “frameworks” (instead of, for instance, context and paradigm) because they better suit the object and the point of view of this research, namely that of an ever ongoing transition that calls for a dynamic relation between analytical tools and the analyzed objects.

I mainly refer to framework, embracing Thomas S. Kuhn’s definition for paradigm, namely the “constellation of beliefs […] shared by the members of a given community” (Kuhn, [1970] 1996: 175), in this case that of theorists who agree on a similar interpretation of film. Frameworks here work as paradigms but are less binding. They can be of reference, explicitly or implicitly, in the interpretation process of the archival film.

In the second part of this chapter, I argue that the question of whether film’s nature changes with the digital can be addressed from the perspective of transition. Also, I relate transition to three of the most influential theoretical concepts proposed by recent scholarly works, i.e. “remediation” (Bolter and Grusin, 2000), “media convergence” (in particular as reflected upon by Jenkins, 2004) and “simulation” (Manovich, 2001 and Rodowick, 2007), which, in my view, are the ones guiding today’s film restoration practices.

I use the term concept here as the interpretation process of defining what we refer to. The “beliefs”, in Kuhn’s words, “shared by the members of a given community.” (Kuhn, [1970] 1996: 175) Concepts define something and are shared by a community. As here I am trying to define film archival practice in transition, and I am focusing on film restoration, the concepts to be discussed are those defining film restoration, and, in particular, restoration technology in the transition to digital.
If a framework is a “constellation of beliefs” or concepts, the concepts I am discussing in this chapter can indeed be part of different frameworks. Furthermore, one and the same framework can draw upon different concepts. The frameworks and concepts proposed in this chapter form the conceptual tools that I use for theorizing archival practice in the second part of this work.

2.1 FILM ONTOLOGY BETWEEN REALITY AND MIND

Film theory, then, is our best hope for understanding critically how digital technologies are serving, like television and video before them, to perpetuate the cinematic as the mature audiovisual culture of the twentieth century, and, at the same time, how they are preparing the emergence of a new audiovisual culture whose broad and indiscernible outlines we are only just beginning to distinguish. (Rodowick, 2007: 189)

Film theory, in agreement with Rodowick, is the most suitable field to look at when searching for answers regarding the changing nature of film. Film theorists have long debated on the ontology of film, as defined by Noël Carroll:

The question, “What is cinema?” (which we derive from an unequivocally marvelous collection of essays by the distinguished film theorist and critic André Bazin) is an ontological one. “Ontology” is the study of being. The ontology of cinema is an inquiry into the being of cinema, or, to put it less awkwardly, it is an inquiry into the kind of being, the kind of thing, cinema is. To what category does it belong, or, in other words, under which concept do we classify it? […] The ontology of cinema interrogates the mode of existence of cinema – its manner of existing (of being). It aspires to establish the kind of thing cinema is essentially. Another way of framing the ontologist’s question is to ask “What is the essence of cinema?” (Carroll, 2008: 53)

From the Italian theorist, Ricciotto Canudo, who wrote in 1911 about the “birth of the seventh art”, to Hugo Münsterberg, Rudolf Arnheim, and continuing with a long list including Sergej Eisenstein, André Bazin, Siegfried Kracauer, Jean Mitry, Jean-Louis Baudry, Stanley Cavell, Gilles Deleuze and many others, all film theorists have offered their own approaches to the ontological question regarding film. Throughout the long history of theoretical discourse, one thing has become clear: a general consensus around the question “what is film?” has never been reached.

It is not the aim of this work to discuss the development of the theoreti-
cal discourse on film, nor to provide a complete overview of the enormously diverse argumentations that have accompanied it. The discourse on film ontology would deserve a broader and more nuanced discussion than the one I can afford here.

The main question I address in this work is whether the transition from analog to digital changes film’s nature and what the implications are of this transition for archival practice. In the following pages different relevant approaches to the ontological question will be discussed, also in relation to the archival film artifact. This discussion will lead to the identification of a number of frameworks, analytical tools which I propose as a foundation for my new theorization of film archival practice. My own approach to the ontological question, as an archivist and a scholar, will also emerge along the way, to be further developed in the second part of the chapter. However, I would like to point out that the theorization I propose intends to address all different approaches relevant to film archival practice, including (but not privileging) my own.

In the economy of the line of my argumentation for theorizing archival practice, I have chosen to bring different approaches together into opposite poles, or categories, namely those of realism and mind/film. The use of categories here is instrumental for combining common elements, or “symptoms”, within the thoughts of different theorists. In line with Deleuze, categories can be valid, “provided that we trace them to singular symptoms or signs rather than general forms. A classification is always a symptomology” (Deleuze, 2000: 368). The symptoms retraceable in the two approaches to film ontology addressed here are those of film as emanation of reality and film as product of the mind. It is in this spirit that I will frame the theoretical discourses relevant to the elaboration of my new theorization of archival films.

A number of theorists have associated the nature of film to its photographic (photochemical) basis. These theorists, including Bazin, Barthes, Sontag, and Cavell, see in the photochemical representation an emanation of reality and can be loosely referred to as realists (Carroll, 1996 and Prince, 1996). In spite of the differences among these theorists, it can be said that they have a common symptom as they all share “photographically based notions of cinematic realism” (Prince, 1996: 28).

Reference to “cinematic realism” can be found as early as 1898 in a letter by photographer Boleslas Matuszewski ([1898] 1995), where, based on such a notion, the call for the creation of a Cinematographic Museum is made. Matuszewski's realism, however, goes further than the realism I am discussing here as he argues that film is a truthful record of historical events. The claim that photographic reproduction can be considered a truthful record of real events, the “truth claim” or “documentary value”, as Kessler names it (2008), goes beyond the scope of this work’s discussion.\textsuperscript{113}
Roland Barthes describes the realistic approach eloquently when he writes that the “realists, of whom I am one [...] do not take the photograph for a ‘copy’ of reality, but for an emanation of past reality: a magic, not an art.” (Barthes, 1981: 88-89 – emphasis in the original). It should be noted, however, that Barthes discusses photography and not film, and that photography and film might even be seen as ontologically different if looked at from a different perspective, taking for instance movement as film’s specificity, as will be discussed further below.

Despite some differences, these critics share the common idea of a privileged relationship between photography and reality. For instance, Barthes writes that a “photographic referent” is:

> Not the *optionally* real thing to which an image or sign refers but the *necessarily* real thing which has been placed before the lens, without which there would be no photograph. Painting can feign reality without having seen it. Discourse combines signs which have referents, of course, but these referents can be and most often are ‘chimeras’. Contrary to these imitations, in Photography I can never deny that *the thing has been there*. (1981: 76 – emphasis is in the original)

In Barthes’ perspective the bond between referent and the real thing, what he refers to as the “photographic referent”, is much stronger than in any other system of representation. This privileged relationship between reality and its photographic reproduction, argued by Barthes and the realists, however, does not imply that what a photograph shows is a truthful representation. As Frank Kessler warns, “one should be careful not to glide from stating the object’s ‘having been there’ to the more global assertion that the image depicts ‘how it was’” (2009).

A similar way to look at such a privileged relationship between reality and its photographic reproduction, originally suggested by Peter Wollen (1969), is that of photographic indexicality, whose definition derived from Charles Sanders Peirce:

> Photographs, especially instantaneous photographs, are very instructive, because we know that they are in certain respects exactly like the objects they represent. But this resemblance is due to the photographs having been produced under such circumstances that they were physically forced to correspond point by point to nature. In that aspect, then, they belong to the second class of signs, those by physical connection. (1894: §4)
According to Peirce, the second class of signs is that of “indices”:

The index is physically connected with its object; they make an organic pair. But the interpreting mind has nothing to do with this connection, except remarking it, after it is established. (1894: §3)

Emanation of reality or indexical representation of it, both analog photography’s and film’s specificity are challenged today by the different relation with reality introduced by the digital technology, as Mary Ann Doane points out:

Certainly, within film theory, confronted with the threat and/or promise of the digital, indexicality as a category has attained a new centrality, as has the work of Bazin. One might go so far as to claim that indexicality has become today the primary indicator of cinematic specificity, that elusive concept that has played such a dominant role in the history of film theory’s elaboration, serving to differentiate film from the other arts (in particular, literature and painting) and to stake out the boundaries of a discipline. (Doane, 2007: 129)

Indeed, from the realists’ perspective the ontological question becomes fundamental at a time when a digital mode of reproduction is replacing the photochemical mode. Once a photographic image is transcoded into digits, it may be argued that it loses its direct correspondence with the real.

It is indisputable that the realists’ perspective has always had a very strong influence on scholars and film archivists, including myself, and it still does. Nevertheless, the question of whether photochemical reproduction is ontologically different from digital reproduction needs a more articulated investigation. Moreover, the discourse about the indexicality of film might lead to a dead end. According to Gunning, it might have reached the limits of its usefulness as “the discussion of cinematic realism cannot be allowed to ossify into a dogmatic assertion about the photographic nature of cinema or an assumption about the indexical nature of all photography” (35-36).

Some of the discussions within the archival field in the past decade have implicitly relied on this dogmatic assertion, leading to conflicting positions with respect to the transition to digital, read analog versus digital. Limiting the discussion to the ultimate essence of photographic reproduction and whether this is indexical or not, though, is not the right approach and does not lead to useful answers. As film is changing, it is appropriate to question the notion of photographic indexicality and (re)consider whether such a notion is useful in the discussion of film’s transition to digital. The very assumption that a realistic or indexical approach to film should mark an ontological separation
between photochemical (analog) and digital film, needs to be reconsidered in light of the technological transition to digital. The “assumption about the indexical nature of all photography” has been questioned among the scholars in light of the digital, and this on-going discussion is producing new perspectives. These perspectives invite, on the one hand, the abandonment of indexicality when discussing photography, as in the case of Gunning:

> The semiotic category of the index assimilates photography to the realm of the sign, and although a photograph like most anything (everything?) can be used as a sign, I think this approach prematurely cuts off the claims made by theorists like Barthes, Bazin (and I think Deleuze) that the photograph exceeds the functions of a sign and that this indeed is part of the fascination it offers. (Gunning, 2004-I: 48)

From this perspective, the thoughts of Barthes, Bazin and Deleuze are still valuable for addressing the digital image, as Gunning provides a welcome way-out of the impasse created by the unchallenged assertion about the indexical nature of photography. Also this perspective encourages new investigations of the fascination for photographic reproduction from this transitional moment.

On the other hand, there are also new perspectives maintaining that indexicality can still be a valuable conceptual tool for addressing digital film, but only if our thinking of it is reassessed. An approach where algorithms are bound to the digital images they produce by an “existential bond” comparable to that between reality and photographic image is proposed by Braxton Soderman (2007). This approach will be discussed further with regard to the “film as original” framework.

As mentioned earlier, the realistic approach to film ontology has always had a strong hold on the film archival field. On the one hand, it offers very strong arguments for stressing the importance of the original film artifact, as will be discussed with regard to the “film as original” framework. As Meyer argues, the closer a film artifact is to the original camera negative, the shorter the distance between the viewer and the “has been there” that has left its impression by light on the film (1997). On the other hand, in recent works, the realistic approach shows its validity also for the transition to digital as it has inspired new perspectives, some of which recognize an ontological difference between photographic and digital film (Manovich, 2001 and Rodowick, 2007), while others oppose it (Marks, 1999 and Soderman, 2007). The discussion of both these new readings of the indexical approach, crucial for film archives in transition, will be resumed further on when discussing the “film as original” framework as they have a bearing on old and new assumptions on the film archival artifact.
Within film theory also, a different approach to film ontology from the one just discussed can be found, which brings together various theorists from different periods and perspectives. I will call it the “mind/film analogy approach”, using a definition coined by Carroll.115 It should be noted that, as in the case of realism, I intend this as a loose category that has a pragmatic function in my discussion of the relevant theoretical discourses with regard to the archival film. Although realists are usually opposed to formalists in classical film theory (Prince, 1996: 28), I have chosen the loose category of mind/film theorists as it best covers those streams of thought that do not focus on photographic indexicality as the core of film ontology.

An eloquent definition for the film/mind approach can be found in Deleuze’s celebrated statement that cinema’s movement is placed directly in our brain: “Cinema not only puts movement in the image, it also puts movement in the mind. […] The brain is unity. The brain is the screen” (Deleuze, 2000: 366). According to Carroll (1996: 293-304), this approach was pioneered by Hugo Münsterberg in his The Photoplay: a Psychological Study (1916); it brings together scholars like Christian Metz and Jean-Louis Baudry, and it can be placed in the area of psychoanalytic semiotics. Differently than realism, the mind/film approach does not trace the nature of film back to its power of representing reality but rather to its effect (what it does) on the spectator. Rodowick gives a clear example of this approach when discussing Christian Metz’s thought:

In Metz’s elegant description, psychologically the spectator is always in pursuit of a double absence: the hallucinatory projection of an absent referent in space as well as the slipping away of images in time. The inherent virtuality of the image is a fundamental condition of cinema viewing where the ontological insecurity of film as an aesthetic object is posed as both a spatial uncertainty and a temporal instability. (Rodowick, 2007: 22)

Film’s realism is, thus, here a source of “ontological insecurity”, partly due to the “projection of an absent referent in space”, and partly due to the “slipping away of images in time”. The latter is particularly interesting when it is put in relation with the accent that Metz poses on movement in an essay written in 1965 and recently discussed by Gunning (2007-I), “On the Impression of Reality in the Cinema” (Metz, 1974). In this essay Metz argues that motion is responsible for cinematic realism, in his words:

The strict distinction between object and copy, however, dissolves on the threshold of motion. Because movement is never material but is always visual, to reproduce its appearance is to duplicate its reality. In truth, one
cannot even “reproduce” a movement; one can only re-produce it in a second production belonging to the same order of reality, for the spectator as the first. [...] In the cinema the impression of reality is also the reality of the impression, the real presence of motion. (9)

What seems particularly interesting here is that a different approach to film realism is implied. It should be pointed out that Metz’s essay as a whole raises more complex issues with regard to the bond between reality and its cinematographic representation that would place his work closer to the indexical approach than it could appear from my reading of this excerpt. On the other hand, I am quoting this particular passage because it does move the discourse from the pure photographic representation on the film artifact to its representation in movement, which can be experienced only when the film is projected and, thus, in its performative dimension, rather than looking at the single film frames. As Gunning argues, Metz’s description of cinematic motion offers an alternative approach to film’s indexicality:

Metz’s concept of the impression of reality moves in the opposite direction [than that of the indexical argument based in the photographic trace], toward a sensation of the present and of presence. The indexical argument can be invoked most clearly (and usefully) for films used as historical evidence. It remains unclear, however, how the index functions within a fiction film, where we are dealing with a diegesis, a fictional world, rather than a reference to a reality. [...] The effect of an index in guaranteeing the actual existence of its reference depends on the one who makes this connection invoking a technical knowledge of photography, understanding the effect of light on the sensitive film. Metz’s cinematic impression of reality depends on ‘forgetting’ (that is, on distracting the viewer’s attention away from—not literally repressing the knowledge of) the technical process of filming in favor of an experience of the fictional world as present. As he claims, “The movie spectator is absorbed, not by a ‘has been there’ but by a sense of ‘There it is.’” (2007-I: 47)

This brings us back to the previously mentioned difference between film and photography. A difference that Barthes also recognizes:

[...] the photograph, taken in flux, is impelled, ceaselessly drawn toward other views; in the cinema, no doubt, there is always a photographic referent, but this referent shifts, it does not make a claim in favor of its reality, it does not protests its former existence; it does not cling to me: it is not a specter. (1981: 89 – emphasis in the original)
In this perspective, the flux or movement, typical of film, marks the difference between Metz’s “has been there” and “there it is”. It has been argued that this difference disappears when looking at a film on a viewing table, frame by frame, photograph by photograph (Meyer, 1997), but it can also be argued that film is meant to be seen in movement.

Apart from the notion that film’s nature resides in movement, another argument of the mind/film approach is that of the performative character of a film exhibition. The performative character of film can be put in relation to Gunning’s “cinema of attraction” (1990), an approach to (early) film that is still of great influence and, among other important contributions, has shifted the focus from the narrative (or textual) to the performative aspect of film. The performative character of film becomes of relevance, for instance, when discussing avant-garde and experimental films. There, often the film dispositif goes beyond the traditional cinema dispositif, when, for example, multiple projectors, color filters and other forms of live improvisations are used during the film “performance”.

Whether looking at motion or at the performative aspect of film, the mind/film approach shifts the focus from the relation between reality and material film artifact, the photographic reproduction on film, to the relation between film and the viewer. This aspect is of particular importance for film archives, especially in the digital age when, as discussed earlier, users have a much stronger say on how and what of our film heritage they wish to access.

The mind/film approach with respect to the ontological question on the transition of film to the digital provides a theoretical basis for supporting the continuity between analog and digital, whereas the indexical approach, as discussed earlier, could serve to support both chasm and continuity. Indeed, by addressing the relation between film reproduction and reality, the indexical approach is concerned with the process by which photographic or digital film record such reality, whereas, an approach concerned with film motion and performativity, which I loosely defined mind/film, would disregard the recording process and would therefore not distinguish between analog and digital representation. On the other hand, as we have seen that continuity between analog and digital can be argued even maintaining an indexical approach, chasm can also be the result of a mind/film approach. For example, Rodowick argues that a digital film projection does not involve the viewer in time (2007: 164), whereas a film projection does.116

In the following pages, four theoretical frameworks will be proposed and defined. They all arise from the theoretical discourse on film and media and they are all relevant for the theorization of archival practice. I will argue that both approaches to film ontology discussed above find their way in these frameworks. All four frameworks testify to the tensions between the indexical
and the mind/film approach with respect to the ontological question, and also between film as material and as conceptual artifact. As pointed out earlier, my use of frameworks is pragmatic and instrumental for my new theorization of film archival practice.

It should be noted that the frameworks I propose are not always consciously adopted by film archives when defining their collection polices. Also, as I will show in the second part of this work, even though I take the liberty of associating the policy of a number of archives with one symptomatic framework, it should be considered that archives always operate within more frameworks at the same time.

Film as Original

The discussion around the idea of “the original” is central to film preservation practices. However, the meaning of “original” can change depending on the theoretical frameworks one embraces. “The original” can be a conceptual artifact (e.g. one particular version of a film) or a material artifact (e.g. the original camera negative), it can refer to the film as it was originally shown to the audience, as well as the material film artifact as it was recovered by the film archive. But it can refer to the film as text where its integrity is measured in terms of completeness and continuity (e.g. all the scenes that constitute the version as it was meant by the director, edited in their right order), or to the film as text and as technological artifact, where resolution, color depth and look in general are also integral parts of the whole. In view of all these different assumptions, “film as original” forms a framework of reference in itself and, as such, it lies at the core of the archival practice, the focal point for the discussion on the nature of (archival) film, again, both as material and conceptual artifact.

Looking at film as a material artifact, most archives can be associated with the “film as original” framework, as in the last decade the importance of keeping original film artifacts (i.e. the very artifacts made at the time of the film’s original production and distribution) as long as possible has been acknowledged by all archives (Meyer, 2001 and Enticknap, 2005: 192-194). But the “film as original” framework covers much more than the long-term preservation of film artifacts. The idea of the original is bound to that of authenticity and, therefore, addressing the authenticity of the film artifact is in my view the first step in defining the “film as original” framework. According to Walter Benjamin:

The authenticity of a thing is the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to
the history which it has experienced. Since the historical testimony rests on the authenticity, the former, too, is jeopardized by reproduction when substantive duration ceases to matter. And what is really jeopardized when the historical testimony is affected is the authority of the object. (Benjamin, [1936] 1979: 852)

The authority of the object is one of the main motors in the discourse on the archival life of film and it lies at the foundation of the archival mandate of preserving material artifacts. In 1936, Benjamin wrote of film as an exemplary form of mechanical reproduction. Authenticity, in line with Benjamin, ceases to matter when the object is mechanically reproducible, in other words when there is no difference between the original and its copies:

Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be. This unique existence of the work of art determined the history to which it was subject throughout the time of its existence. [...] The presence of the original is the prerequisite to the concept of authenticity. (Benjamin, 1979: 851)

From this perspective, one can say that a blockbuster’s simultaneous release in thousands of film theaters around the world undermines the idea of authenticity, as, according to Benjamin, from “a photographic negative, for example, one can make any number of prints; to ask for the ‘authentic’ print makes no sense.” (854-855)

Film is indeed a serial product, a commercial release. On the other hand, a newly recognized authenticity originates when film enters the archive; it becomes heritage and its copies museum artifacts. To bring back the discourse to Benjamin’s arguments, we can follow Boris Groys:

Benjamin views the distinction between original and copy solely as a topological distinction and as such completely separate from the physical existence of the piece of art itself. The original has a specific location and it is due to this particular location that the original finds its place as a unique object in history. Benjamin’s formulation in this context is well known: “There is one thing missing even in the most perfect reproduction: the ‘here’ and ‘now’ of the piece of art – its unique presence in its location”. On the contrary, the copy is virtual, without location, without history. From the beginning, the copy seems to be a potential multiplicity. The reproduction is a delocation, a de-territorialisation – it carries the piece of art into the net of topologically uncertain circulation. [...]

FROM GRAIN TO PIXEL
In this way, Benjamin’s new interpretation of the distinction between original and copy not only offers the possibility of making a copy from an original but also of making an original from a copy. In fact, provided there is only a topological, contextual difference between original and copy, it is not only possible to de-locate and deterritorialise a work of art, but also re-territorialise a copy. (Groys, 2002: 1-2)

In line with Groys, a film is multiplicity, delocation and deterritorialization, it is lost into the net of topologically uncertain circulation. However, when entering the archive, a film acquires authenticity status; the authority of the object is restored, the film copy is re-territorialized. Copies are compared and differences are assessed, such as different soundtracks (e.g. multilingual or dubbed versions), different texts (e.g. re-edited or censored versions), and different image qualities (e.g. different colors or different film stocks). If production and distribution histories tell us that it is “impossible to locate a single coherent text that could be characterized as the film’s ‘original’” (Hediger, 2005: 136), from the moment a film enters the archive, “after all each copy is in a way an ‘original’, each copy is a document of its own history” (Kessler, 1995: 30 – my translation).

When a film-born artifact is digitized, things get a new and interesting turn with regard to its authenticity. In particular, the discourse on authenticity crosses over the discourse on photographic realism (indexicality and referentiality), which, as we have seen, has received a renewed impulse with the digital. According to Michael Punt, digital is not different from the analog technology, as neither can guarantee the existence of a definitive reality. Punt points out that:

[... ] just as there is no technology that is not the product of human action so there are no autonomous digits in electronic data – just pulses of electricity. The digits are introduced much later, and at each successive interpretation of pulses into digits, and digits into pulses of light that touch the screen and produce an image, a software programme needs to be written. In the same way that the photo-chemical procedures of the nineteenth and twentieth centuries depended on prior views of reality to inform chemical engineers and lens grinders, so computer programmes emulate a prior view of what that image should look like. (Punt, 2004:12–13)

Even though human mediation is present in both photochemical and digital reproduction, it cannot be ignored that digital reproduction is based on a technology different from the photographic (analog). As discussed earlier,
the latter is based on a transcription from reality to representation (and from representation to its copy), whereas the former is based first on a transcoding from reality into a code, and only later into a representation (and again, from a representation to its copy). Some theorists claim that the translation of light into discrete data marks the rupture between image and physical referent, and, therefore, they join the argument that digital imaging cannot claim the indexical character of photochemical analog imaging. Others, such as Laura Marks (1999), transfer that physical connection to the “interconnected mass of electrons” that allows “materiality” to both kinds of images.

Similarly, Soderman argues that indexicality can still be applied to digital images by shifting the focus from the connection between the object of reality and its photographic representation to the process that makes a photograph reproduce reality. From this perspective, Soderman argues that, similarly to photographic images that are forced to correspond to reality, “digital images are produced under such circumstances that they are physically compelled to correspond point by point to a symbolic algorithm” (2007: 163). As mentioned earlier with regard to film ontology, Soderman’s argument offers a new take on the discussion on film indexicality from the perspective of the transition to digital. Like Punt, Soderman also moves the focus of the discussion on human mediation. By stressing the passage in Peirce’s words about the film being “forced to” reproduce an image, the accent is moved from the technical characteristic of a photograph to the human mediation. The fact that the analog photographic film reproduces reality becomes less important than the fact that it is designed and made to do so by someone. In this perspective, according to Soderman, the same applies to an algorithm for digital image reproduction:

The “existential bond” between a digital image and the algorithms that produce or modulate it is simply that the image is forced to appear according to the execution of the program. (2007: 163 – emphasis added)

The human mediation in taking a photograph, making a film, writing an algorithm, becomes of crucial importance in archival practice. It can mark the link between the film-born artifact and its digital copy. Moreover, human mediation can be the carrier of the authenticity from an original film artifact to its restoration. Restoring a film implies making a copy of an authentic film artifact: the authenticity of the new restored copy depends completely on how this copy is made, and the way the copy is made depends, in turn, on how the restorer instructs the process, whatever the process. Whether it is a photographic, analog duplication or a digitization, in this perspective is irrelevant for the authenticity of the result. In line with a similar interpretation of the
indexical approach, although the focus is still on the reproduction process, there is still continuity between analog and digital with the accent lying, not on the photographic or digital process, but on the human mediation that executes it.

By contrast, Paolo Cherchi Usai takes a position on film’s nature that does not consider a continuity between analog and digital film, not even between a film artifact and its analog copy. In *The Death of Cinema*, he writes that film is by nature auto-destructive. Chemically unstable, mechanically damaged by each run through a projector, film dies while living. Thus:

\[t\]he ultimate goal of film history is an account of its own disappearance, or its transformation into another entity. (2001: 89)

In this light, the profession of the film archivist is compared to that of a doctor easing his or her patience towards an unavoidable death:

Moving image preservation will then be redefined as the science of its gradual loss and the art of coping with the consequences, very much like a physician who has accepted the inevitability of death even while he continues to fight for the patient’s life. In monitoring the progress of image decay, the conservator assumes the responsibility of following the process until the image has vanished altogether, or ensures its migration to another kind of visual experience, while interpreting the meaning of the loss for the benefit of future generations. (105)

Indeed Cherchi Usai’s description fits with the practice of long-term preservation of the historical film artifact, which is kept in the vaults as long as possible in the best climatic condition an archive can afford. Nevertheless, the nature of film according to Cherchi Usai can be challenged. In my view, whereas artifacts are to decay, films do not need to disappear with them. In this line the archivist’s duty is that of a mediator who can make sure that film restoration does not become “a process involving a [...] spectrum of apparently unethical actions such as lying, cheating, stealing, and pretending” (Cherchi Usai, 2002: 25 – emphasis in the original).

Elsaesser raises the question of whether authenticity is verified by the institution rather than by indexicality:

Yet what if we were to turn the argument around, by claiming that the status of authenticity and proof of a photograph or moving image does not reside in its indexical relation at all, but is a function of the institutions in charge of its verification and dissemination? (1998: 207-208)
If we turn the indexical argument around with Elsaesser, the status of authenticity of a film artifact would be a function of the film archive in charge of its verification and dissemination. And it will become even more so in the future, with the further introduction of the digital. In addition, recognizing the framework behind the work of film archivists and restorers becomes a requirement for the verification process. This was already true with the analog, and the ongoing transition towards the digital is making it only more urgent.

The “film as original” framework is very strongly felt in film archives and it is the framework that is most heavily affected by the transition to digital. Whereas a analog photographic film artifact is an easily identifiable object, which can be defined as “original”, the definition of a digital film artifact, e.g. a digital intermediate stored on a digital tape or a hard drive, as an “original” is more problematic, and not only if one embraces indexicality in a strict sense. Even if one agrees with Marks’ or Soderman’s views, a digital intermediate is still much harder to define as a material artifact than a photographic film negative. A digital intermediate is, if you wish, a “virtual artifact”: it exists but it is not strictly bound to its carrier (e.g. a digital tape or a hard drive), it is unique but it can be “copied” without quality loss (if the copy is uncompressed). Making a copy of a digital film “virtual artifact” is not like making a copy of an analog film. Since a digital copy can be identical to the “original”, its duplication is referred to as migration. From an approach that considers indexicality applicable to digital film, like Soderman’s, the data are preserving their “originality” also with migration. The difference with photographic images in this context is that they do not necessarily lose quality. The case of a digitized film-born film is, of course, different since the film is both the material artifact (the photographic film before digitization) and the virtual artifact (its digital copy). The latter might or might not preserve its authenticity depending on the adopted view on film indexicality. Strictly speaking, only a photochemical copy can guarantee the preservation of the film’s “originality” (though there is a loss in image quality), whereas, if a less strict approach to indexicality is adopted (like Mark’s or Soderman’s), a digital copy of a film-born film preserves the film “originality” (without loss of image quality).

I have argued that reading Benjamin (1936) through Groys (2002), the “film as original” framework defines the historical film artifact as the carrier of the film’s authenticity, once it is re-territorialized by entering the film archive. Within this framework 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. This line will cease with the digital, from a perspective that places photographic indexicality at the core of film ontology (unless indexicality is still considered applicable to digital), or it will move on, from a perspective that focuses outside the material film artifact, for example on the human mediation pro-
vided by the film restorer by guaranteeing the verification of the new copy. 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 irreplaceable and thus granted with the consequence that its deterioration would be accelerated. In reality, most archives carry out a policy somewhere in between these two extremes.

**Film as Art**

Is film art at all? Rephrasing Benjamin:

> Earlier much futile thought had been devoted to the question of whether photography is an art. The primary question – whether the very invention of photography had not transformed the entire nature of art – was not raised. (Benjamin, 1936: 857)

Has film changed the concept of art? Benjamin puts the finger on a crucial issue, whether photography and film have changed (our perception of) the nature of art. This issue is particularly relevant today, seventy years later, when digital imaging is replacing analog photography and film. Is the digital transforming the nature of art or, at least, that of film as art? And, how are film archives dealing with this issue?

The question of whether film is art has been relevant not only for theorists, but also for the pioneers of film archiving that in the 1930s started setting up the collections that later became our contemporary film archives. Early film theorists, starting from Canudo (1911), avant-garde filmmakers, and pioneers of film archives, like, among others, Iris Barry, the first film Curator at the Museum of Modern Art, all agreed that film is a form of art. With the *politique des auteurs* in the 1950s, the “film as art” argument was reinvigorated by the definition of a genuine creative mind behind some films, the film director. From the 1970s, “film as art” has become an important argument also for scholars to promote the creation of film departments, and for film archivists to raise funds to support preservation and restoration programs, but also to affirm their *raison d’être* among other archives and museums.

The two main aspects traditionally associated with “film as art” that I see as the most relevant in relation to film archival practices are those of medium specificity and of the *auteur*. According to Carroll, the argument on film as art relies mainly on medium specificity:

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**THEORIZING ARCHIVAL FILM**
Medium specificity arguments are attractive for the purpose of transforming a new medium into a new artform, because they appear to provide a way of individuating arts and, thereby, isolating new ones. (1996: 7)

This tradition of argumentation can be brought back to Gotthold Ephraim Lessing, who in the eighteenth-century theorized that “each art, in virtue of its medium, has a uniquely appropriate range of effects such that only that medium can discharge” (Carroll, 1996: 7). Carroll has written extensively about this approach focusing on medium specificity, discarding it as an essentialist false doctrine, a “strategy for legitimatizing the new medium as a prospective art” (2-3).

In any case, medium specificity is a very strong argument for film archives since it lies at their origin and it is often intertwined with their very mission, that of collecting, preserving and promoting the art of film. For those archivists who feel that the art of film resides in the analog photographic film, it will be problematic to accept the digital as part of the same tradition. In this line, similarly to the indexical argument if taken strictly, the film specificity argument leans toward a chasm between analog and digital film.

A different take on the medium specificity argument is offered by Rodowick. Although sympathetic to Carroll’s antiessentialism, Rodowick fears that Carroll’s critique “might risk throwing the baby out with the bathwater” (2007: 40-41). Rodowick prefers to look at medium specificity from a non-essentialist perspective and to place emphasis on the hybrid nature of film and the multiplicity of its styles and practices:

For this reason, media are plural not only because they are various or admit historically to qualitatively different styles and practices, but also because the self-identity of a medium may accord less with a homogeneous substance than with a set of component properties or conceptual options. I am happy to admit as many hybridizations of media as artists can invent in their actual practice. But what makes a hybrid cannot be understood if the individual properties being combined cannot be distinguished. (2007: 41)

The coexistence of the specificities of different media is evident when looking at the variety of artifacts collected in film archives, from lantern slides to mixed media installation where film, video and digital have all been used. Rodowick’s line of thought eventually leads him to conclude that there is a fundamental difference between analog and digital, based on the different relations the two engage with time. What I find particularly interesting in his argumentation at this point, though, is his emphasis on the variety of media
hybridizations. This variety is becoming even more striking with the ongoing hybridization between analog and digital in mainstream film production. In fact, contemporary films can hardly be defined analog or digital specific, they exist as hybrids. On the other hand, it is the preservation of the “individual properties” of the hybrid that allows the idea of medium specificity.

This is another way to look at medium specificity, one of the founding reasons for film archives to exist as autonomous entities, other than contemporary art museums or audiovisual libraries. In this way, the transitional nature of film and its related hybridism can be incorporated in the medium specific argument. In line with this perspective, the argument of medium specificity, within the “film as art” framework, offers the grounds for film archives to preserve the film material artifacts as the medium specific manifestations of different phases of an art form in transition. Similarly, it encourages the preservation of medium specific exhibition forms, from peep shows to film projections, from digital projections to portable viewing consoles.

The second aspect that “film as art” can be based on is that of the auteur, a creative intent (usually coinciding with the film director) responsible for a film or a cinematographic oeuvre. In this case, the material film artifact and its related medium specificity arguments acquire more or less importance depending on the artist’s intentions, or on the film archive’s interpretation of the artist's intentions.

From this perspective, it can be argued that, for instance, the work of an avant-garde artist who has chosen film because of its photographic base could not be digitized without distorting the artist’s intention. This could be the case, for instance, for Peter Kubelka’s Arnulf Rainer (Austria, 1960), a film where both image and sound are also a reflection on traditional film projection. In most cases, though, “film as art” based on the auteur argument is more concerned with the filmmaker’s visual style (e.g. the mise-en-scene) rather than with medium specific arguments as in the example of Kubelka’s Arnulf Rainer.

An example might be found in the case of the auteur par excellence, Alfred Hitchcock. By looking at his oeuvre, it can be argued that Hitchcock’s artistry has a strong bond with film technology and therefore his films can best be re-enacted via an exhibition as close as possible to the original technology used (e.g. VistaVision widescreen format and Perspecta sound system in the case of The Man Who Knew Too Much, USA, 1956). In this case, only the re-enactment of such technological aspects would be true to Hitchcock’s intent. On the other hand, there are also good arguments to say that, because of Hitchcock’s interest for state-of-the-art technology, the aim in restoring his films should be that of best reproducing the impact of their original technological characteristics, even through digital means, where appropriate. This is not to say that Hitchcock films should be shown as if they were made with today’s state-of-the-art
technology, but rather that, within the “film as art” framework, Hitchcock’s intentions might be better simulated with new technologies than they would be by recreating the historical technologies by which his films were originally made and shown.

The “film as art” framework lies at the foundation of many film archives and, in particular, of those with the specific mission of preserving, for instance, avant-garde films or films of a particular filmmaker or auteur.

The “film as art” framework has a bond with the concept of originality and authenticity via the medium specificity argument as it is the case of “film as original”. However, especially from the auteur argument, the accent is more shifted towards the conceptual artifact (e.g. film style) than on the material film artifact. On the other hand, there are cases where the material artifact can also be closely related to the auteur. Especially in avant-garde cinema, the filmmaker may use the film as a canvas (e.g. Oskar Fischinger painting and scratching the film emulsion), or where film itself is central to the work (e.g. Kubelka’s Arnulf Rainer). Because of its close relation with the filmmaker’s intentions, the “film as art” framework is gradually incorporating the new digital medium, since many (avant-garde) filmmakers are more and more often adopting the digital themselves, as in the case of the recent digital work by Jürgen Reble or by Jonas Mekas.

Those archives that identify with the “film as art” framework can adopt an indexical approach to film ontology if they privilege the medium specificity argument and consider analog photographic film as the specific character of the art they strive to preserve. Or they can also accept hybridism as specific to film and inherent to its transitional character, in which case digital film would also belong to the same art. Differently, archives that favor the auteur argument within “film as art” are usually more concerned with the style or look intended by the filmmaker (unless the filmmaker reflects on the very film technology) and are, from this perspective, closer to the mind/film approach.

Film as Dispositif

The framework “film as dispositif” offers a way to look at film from a broader perspective than just looking at it as an abstract object of analysis. In “film as dispositif” film exhibition is central, therefore all archives with a 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.

The dispositif theory was introduced by Jean-Louis Baudry in the 1970s and is usually translated into English as the “apparatus theory”.

In an essay
published in 1975, Baudry “theorizes the screening situation in terms of a specific dispositif” and establishes an “analogy between the film spectator and the prisoners in Plato’s cave” (Kessler, 2006: 60). In a recent series of articles, Frank Kessler has revived this concept, though from a different perspective than that of the 1970s apparatus theorists. In particular, what Kessler writes in relation to medium specificity from the dispositif approach is interesting for us:

[An] implication of such an approach is that the notion of both textual and medial identity becomes problematic. On the one hand, any given text may trigger a number of different readings, depending on the context in which it is embedded, and on the other hand one can argue that in spite of a continuity in naming a given medium (cinema, television, telephone, etc.) its functions and its functioning can vary so much over time that it would be more accurate to describe the different dispositifs in which it takes shape, rather than to look for the ‘identity’ or ‘specificity’ of that medium. (2006: 62 – emphasis in the original)

From this perspective, film identity becomes a variable that realizes itself only within a dispositif, a situation if you wish, where the film meets its user. From the perspective of the archive this is certainly an interesting approach as it allows for a different way to look at films, namely, as dynamic objects where the material and conceptual artifacts are bound together. The preservation of historical dispositifs (how the film was shown at the time of its first screening or at the time or the re-release of a director’s cut, etc.) remains one of the main tasks for many archives within the “film as original“ framework. However, from the “film as dispositif” perspective, also showing a film within a different dispositif than its historical one becomes an equally important alternative. In this way a silent film viewed on an iPod should not be seen as a historical falsification but rather as one of the many possible dispositifs that can take shape within the “film as dispositif” framework. As Kessler writes:

[...] a historical analysis based on the concept of dispositif re-interpreted in a pragmatic perspective could actually take into account different uses of one and the same text within different exhibition contexts, or different institutional framings. (Kessler, 2006: 61)

The institutional framing of the archive would also be one to look at carefully, not only for the ways it should or could re-present films in terms of dispositifs, but also for all the dispositifs that it has produced throughout the years while carrying out its tasks of preserving, restoring and showing film heritage. If,
according to Gunning, “films must be approached as texts whose meaning is derived not simply from the maker’s intentions or the film’s own immanent form, but through a complex process of making meaning in the interaction of films with viewers and institutions” (2003-I: 24), every restoration by a film archive, once presented to the public, can be considered as a potentially new dispositif. In addition, it should be stressed that, in this view, it is impossible to re-enact the historical dispositif as it originally was. Indeed, the same combination of film, audience and environment is impossible to recreate. Obviously, even if the setting and all the technical aspects could be reproduced, the audience certainly could not.

The example of the iPod mentioned above shows how radically the film dispositif has changed with the introduction of portable digital consoles. If we can say with Rodowick that the “cultural presence of computers and digital imaging has profoundly changed the function of the screen” (2007: 134), nowadays, personal consoles have introduced an even more radical change. In this respect, the recent work carried out by Nanna Verhoeff introducing the concept of a mobile dispositif is very interesting as it stresses, in the case of the Nintendo DS (Dual Screen) console, “the multiplicity of the mobility of this mobile dispositif; it is a mobility of screen, user, and image” (2009). This kind of multiple mobility is indeed new when compared to the traditional film dispositif where screen and spectator did not move.

From the point of view of film archives, mobile dispositifs offer a whole new set of possibilities for making collections accessible to users, but they also pose a threat to their raison d’être. As discussed in Chapter One, archives are used to guide users through their film collections rather than open them to free and immediate access. A film viewed on a portable screen is the most striking example of such an unguided access. In this case the dispositif is the viewing situation of the mobile screen held by its viewer. Thanks to this new kind of mobility, the user would literally walk away leaving the archive behind with its historical forms of dispositifs. In a time of new and changing dispositifs, the film archive cannot hold the monopoly on films. As argued earlier, only by letting the films go there is a chance that (some of) the users will decide to come back for more, maybe even to try out some of the historical dispositifs that only archives can offer. Archives choosing not necessarily to be the chaperone of their collection will still have the responsibility of preserving films and making them available for traditional projections as well as new, not yet imaginable, dispositifs.

Considering the above, the question arises whether a digital cinema projection is different from a traditional film projection from the dispositif perspective. Baudry defines the difference between the technical apparatus, what he calls appareil de base, and the dispositif as follows:
In general, we distinguish between the *appareil de base*, which implies the equipment and the operations needed for making a film and projecting it, and the *dispositif*, which implies exclusively the projection, including the subject to whom the projection is directed. In this way the *appareil de base* includes the film stock, the camera, the processing, the montage in its technical aspect, etc. as well as the projection dispositif. (Baudry 1978, 31 – my translation; emphasis in the original).

Based on his words, it can be argued that by changing the technical apparatus and substituting, in the same cinema setting, the photographic film with a digital film, the *dispositif* would be unchanged. However, I argue that it depends on the “subject to whom the projection is directed” rather than on the setting. A viewer who is not aware of the specific technical apparatus in place (e.g. film or digital projector) will hardly notice any difference between an analog and a digital film projection and the digital projection, whereas a viewer who is aware of it will experience a different *dispositif*. Even for the earlier case it can be argued that the *dispositif* changes even if the viewer is not fully aware of the different apparatus as he or she will unknowingly perceive a different kind of projection.

Referring to the fact that a film projection is an alternation between image and a black screen forty eight times a second, whereas in a digital projection there is no black between images, Alexander Horwath argues that on a subconscious level “[…] it does make a big difference whether half of what your eyes see per second is black or not, as in digital” (2008: 108). Whether we agree with Horwath or not, the fact remains that when the viewer is aware of the different apparatus, the *dispositif* changes. From this perspective, a film archive may count on an audience that is aware of the apparatus, maybe because the archive has provided the necessary background information. Another aspect central to this discussion is that of the possibility of simulating a film *dispositif* through digital means (including the black between images), an issue that will be addressed when discussing the simulation concept.

Since “film as *dispositif*” places emphasis on the relation between film projection and viewer, rather than between reality and film artifact, I consider this framework to be closer to a mind/film approach rather than to an indexical approach. On the other hand, an indexical approach to this framework is also possible. In this case, digital projections of film-born films would not only be different *dispositifs*, they would essentially differ from the film *dispositif* as the bond between reality and projection (via the film artifact) would be broken.

Those archives that have a tradition of reflecting on their exhibition practices might be associated with the “film as *dispositif*” framework, as here the
focus is shifted from the film artifact to the relationship between projection and viewer. The conceptual film artifact and the mind/film approach to film ontology are stronger in this framework. As the “film as dispositif” framework can easily accommodate new media dispositifs along with traditional ones, it offers a more flexible perspective onto the transition to digital.

Film as State of the Art

“Film as state of the art” is a different framework than the previous ones, first of all because it has a stronger relationship with filmmaking practice than with the theoretical discourse. “Film as state of the art” is based on the idea that one of the driving forces in filmmaking is the search for pushing the limits of technology in order to translate ideas into moving images. State of the art, according to the Merriam-Webster Online Dictionary, indicates “the level of development (as of a device, procedure, process, technique, or science) reached at any particular time [...]”.\textsuperscript{122} Note that the level of development referred to here is a different one than that of the industry or the market. State of the art indicates a level of development that will not necessarily become an adopted technique or tool, neither a commercial standard nor product. The history of media counts many of these examples, like the legendary commercial defeat of the Betamax system in favor of the Video Home System (VHS).\textsuperscript{123} Other examples in filmmaking vary from the “bleach bypass” process for obtaining a higher contrast and de-saturated colors, discussed in Chapter One, to Sam Raimi’s “shaky-cam” (an alternative to the steady-cam); from the Gasparcolor system, introduced in the 1930s and used, among others, by Len Lye and Oskar Fischinger, to the Oscar winning algorithms developed by Anil Kokaram at the Trinity College in Dublin used for both special effects and film restoration.\textsuperscript{124} State of the art indicates cutting edge innovation regardless of its implementation and it should not be intended in a technological deterministic sense. In this line, I am equally interested in state-of-the-art innovations that have been applied once and have been nearly forgotten, as in those that have prevailed and have been mythicized as milestones of film history.

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. Many have contributed to redrawing the limits of the medium, and their work has often (but not always) ended up in the film archives.

The drive from the market for technological innovation in film production should of course be acknowledged. From this perspective, I am not interested in addressing “film as state of the art” as an artistic will for innovation
(this would rather fall into the “film as art” framework). Indeed, state of the art can be market driven, and innovation can be the result of the genius of a single person or of a whole team, of an independent filmmaker or of a studio. It can be applied to film production as well as to film preservation, in archives as well as in laboratories specialized in restoration. Confronted with films in need of restoration, restorers push technology beyond known limits to reproduce as closely as possible an obsolete film format or a color system.

From this perspective, “film as state of the art” is the framework where filmmakers’ drive to translate ideas into moving image meets the drive of restorers to reproduce the (ideal) image of what films had once been. As a consequence, this framework can be associated especially with those studios’ archives with a direct connection to film production, as part of the same enterprise, and with manufacturers and providers working directly with the film industry.

Since the awareness for preservation is a recent phenomenon in commercial studios, as will be discussed in the next chapter, the framework “film as state of the art” has become stronger in film archiving only in the last two decennia. It should be noted, however, that “film as state of the art” is not unique to commercial archives. There are examples of state-funded archives that have played a very important role in improving the technological means in the name of restoration, especially in those cases where a film archive runs an internal laboratory. A well-known example is that of the Cinémathèque Royale de Belgique and its laboratory, under the guidance of Noël Desmet, famous for its leading role in the restoration of tinting and toning of silent films. There are also cases where a film archive works very closely with a commercial laboratory, like the Cineteca di Bologna and the laboratory Immagine Ritrovata (recently taken over by the Cineteca), or the Nederlands Filmmuseum and the laboratory Haghefilm. The latter collaboration will be further discussed in the second part of this work.

Within the “film as state of the art” framework, different ontological approaches to film can coexist. A more indexical approach will call for medium specificity (a preference for analog photographic film), whereas a mind/film approach will be less concerned about the medium and more about the visual result.

As mentioned earlier, “film as state of the art” is different from the other three frameworks. It is the only one that does not directly relate to the theoretical discourse, and it brings in close relation filmmaking and film restoration. This relation, namely the will to create, for filmmakers, and the will to recreate, for film restorers, is not only a conceptual, but also a practical one. The equipment, the laboratories, the available techniques and the technicians involved in filmmaking (especially for post-production), and in film restoration, are often the same.
2.2 FILM ONTOLOGY IN TRANSITION

For if, for example, that ship of Theseus, concerning the difference whereof made by continual reparation in taking out the old planks and putting in new, the sophisters of Athens were wont to dispute, were, after all the planks were changed, the same numerical ship it was at the beginning; and if some man had kept the old planks as they were taken out, and by putting them afterwards together in the same order, had again made a ship of them, this, without doubt, had also been the same numerical ship with that which was at the beginning; and so there would have been two ships numerically the same, which is absurd. (Hobbes. De Corpore 11, 7, 2)\textsuperscript{125}

Part of the ontological question (i.e. what is the essence of something, what makes something that thing and not something else?) is whether something remains the same when undergoing a process of transformation. Its nature may change or, differently, only accidental aspects may be affected, leaving its fundamental core unchanged.

The transition of film to digital is comparable to that of ship of Theseus, as told by Thomas Hobbes. As its planks are substituted one by one with new ones and the old planks are reassembled, which of these two ships is then the ship of Theseus? Are the two ships ontologically different? This question resembles the one posed by Rodowick and quoted at the beginning of this chapter: “What is left, then, of cinema as it is replaced, part by part, by digitization? Is this the end of film […]?” (2007: 8). The analogy fits particularly well the transformation that films undergo in their archival life: they are literally replaced, frame by frame, by duplication through analog and/or digital means. The original pieces are kept, as in the case of Theseus’ ship, and “put together” in a can and preserved in the archive’s vaults. Which Beyond the Rocks (USA, 1922) is the same as at the beginning: the nitrate film print kept at the Nederlands Filmmuseum, too shrunken and fragile to run through a projector, or its analog restoration, projectable anytime on any screen equipped with a 35mm projector; or, a third option, when considering also the transition to digital, its digital restoration, projectable as such or after being printed back on film?

To answer this question, one could take film’s reproducibility as an argument. From this perspective, film is different from Theseus’ ship as it is from other art forms prior to photography. As there can be analog copies of the same film, so there can be digital copies. But are analog and digital copies ontologically the same? A possible answer to this question is, in agreement with Rodowick, that “film has no persistent identity” and that we have to deal with an “uncertain ontological status of the medium” (Rodowick, 2007: 23-24).\textsuperscript{126}
In my view, it is precisely film’s uncertain ontological status that spurs us to recognize a “non ontological change” in the transformation from analog to digital, but, rather, a transition.

Transition can be the negligible in-between A and D, A being all analog film and D all digital. We are now in that in-between. We can look back at A and realize that A never was such a well-defined place to begin with. A was already an in-between, a transition by itself. Maybe a transitory “compromise” in the history of television, from the camera obscura to the television set, as Uricchio provocatively, and convincingly, suggests (1994, 1997 and 2002-I). Or, maybe, a transition toward the convergence where the daguerreotype and Charles Babbage’s Analytical Engine merge into one, as Manovich argues (2001). Transition as I understand it here is not the defined path linking A to D, it is rather transition in itself, the very in-betweenness.

If the ontological question is addressed from this state of transition, seeking a “persistent identity”, a platonic essence of film, becomes irrelevant. In any case it is irrelevant for film archivists, as they see nowadays new films entering the archives that definitely do not share the same physical identity with those already sitting in the vaults. And it is irrelevant also in retrospect, as cinema “has never been one thing”, as Gunning points out:

> “It has always been a point of intersection, a braiding together of diverse strands: aspects of the telephone and the phonograph circulated around the cinema for almost three decades before being absorbed by sound cinema around 1928, while simultaneously spawning a new sister medium, radio; a variety of approaches to color, ranging from tinting to stencil coloring, existed in cinema as either common or minority practices until color photography became pervasive in the 1970s; the film frame has changed its proportions since 1950 and is now available in small, medium, and supersized rectangles (television, cinemascope, IMAX, for example); cinema’s symbiotic relation to television, video, and other digital practices has been ongoing for nearly half a century without any of these interactions and transformations – in spite of numerous predictions – yet spelling the end of the movies. Thus anyone 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).” (Gunning, 2007-I: 36)

In this vein, a dynamic approach better suits the ontology of film. Film belongs to those things that change throughout time, that are inherently transitional. From this perspective, film’s transition from analog to digital is a transformation that ontologically does not affect its (conceptual) artifact.
Based on this approach, that holds that film’s nature is not affected by the technological change, I propose to adopt a number of key concepts introduced by new media theorists and to adapt them for a theory of archival practice. These concepts are those of convergence, remediation and simulation, and they are particularly relevant in relation to film archiving practices, as I will discuss in the following pages. Also, I will propose them as functions of film in transition, activated by archives and laboratories in the practice of film restoration.

In the second part of this work, the concepts discussed here will be used in combination with the proposed frameworks to analyze the archival field and a number of restoration case studies. As mentioned earlier, the term concept indicates here the interpretation process that defines something, and is shared by a community, in this case that of archives and laboratories. Concepts refer to specific interpretations or beliefs by an archive or a laboratory with respect to the technological means adopted for the film restoration practice. As discussed earlier, whereas the frameworks are a “constellation of beliefs” (Kuhn, 1996: 175), the concepts I propose function within one or more frameworks as one of the shared beliefs within the film archival community. The concepts I have elaborated define different beliefs with respect to the practice of film restoration in this time of transition to digital. They can be part of any of the frameworks introduced earlier.

**Convergence/Divergence**

The concept of convergence/divergence proposed here is inspired by the idea of convergence as introduced by Ithiel de Sola Pool and more recently re-elaborated by David Thorburn and Henry Jenkins. Here, I intend to further elaborate on convergence as one of the most relevant concepts introduced by new media studies. In particular, I argue that convergence is a relevant and useful concept for theorizing archival practice in this time of transition.

Pool describes convergence in terms that are reminiscent of my earlier definition of transition:

Convergence does not mean ultimate stability, or unity. It operates as a constant force for unification but always in dynamic tension with change. [...] There is no immutable law of growing convergence; the process of change is more complicated than that. (Pool, 1983: 53-54)
Convergence thus defines an on-going process that does not necessarily originate in stability nor heads to a new stability. It should, however, be pointed out that, since the 1980s, the term convergence has started assuming a different connotation, as it has not been used to indicate a process but, conversely, a target, in a teleological sense:

Current discussion about media convergence often implies a singular process with a fixed end point: All media will converge; the problem is simply to predict which media conglomerate or which specific delivery system will emerge triumphant. (Thorburn and Jenkins, 2003: 3)

From similar misconceptions of media convergence, which seem to be surprisingly widespread, originates the idea that all moving images are already all digital, or will shortly become so. Filmgoers often think that they are already looking at digital projections whereas, as discussed earlier, the number of movie theaters equipped with digital projectors is still small. Similarly, it is my personal experience that most people visiting the archive, from students to delegates of funding entities, are puzzled when confronted with the fact that digital tools are used only to a limited extent for film restoration.

Philip Rosen describes the convergence rhetoric as a “strategy of the forecast”, where “purely digital practices become something like an inevitability that is nevertheless ‘not yet’” (2001: 316). The effects of this attitude in the field are manifold and range from a rush to digitization “before it is too late”, to confusion and paralysis. These attitudes, often retraceable to either blind confidence in the digital or mistrust of it, can also be found, with the necessary nuances, in film theory and in archival practice.

An example of mistrust originating in the convergence perspective emerges in Friedrich Kittler’s work. Kittler’s discussion of convergence reaches apocalyptic tones when he writes that:

Before the end, something is coming to an end. The general digitization of channels and information erases the differences among individual media. Sound and image, voice and text are reduced to surface effects, known to consumers as interface. Sense and the senses turn into eyewash. Their media-produced glamour will survive for an interim as a by-product of strategic programs. Inside the computers themselves everything becomes a number: quantity without image, sound or voice. And once optical fiber networks turn formerly distinct data flows into a standardized series of digitized numbers, any medium can be translated into any other. With numbers, everything goes. Modulation, transformation, synchronization; delay, storage, transposition; scrambling, scanning,
mapping – a total media link on a digital base will erase the very concept of medium. Instead of wiring people and technologies, absolute knowledge will run as an endless loop. (Kittler, 1999: 1-2)

Kittler offers a vision of total digitization where differences among media are erased, as they become a “standardized series of digitized numbers.” Digital technology, having once reached total convergence, will finally cut off people from its endless loop. Kittler and other theorists of (this kind of) convergence, are in my view missing the importance of this transitional moment. It is here and now that things are happening. Transition is the media of today with its hybridizations of analog and digital. It is the in-betweenness that is meaningful in itself, and not a step towards digital purity that may occur someday. Reading this transition through the glasses of a future that is (perpetually) “not yet”, is at the risk of prophetism, that will lead convergence as an idea to lose even more credibility, as Elsaesser warned already ten years ago:

The “convergence” argument around the digital media as the “motor”, by overstating the case, is in danger of losing credibility. It gives a false impression of destiny, and with it, a sense of disempowerment that overlooks a number of salient forces also shaping the current situation. (Elsaesser, 1998: 201)

I will elaborate on some of these “salient forces” in Chapter Three, where film archives, laboratories, policies at European level and global professional associations will be addressed as the forces that are reshaping the current archival practice.

Thorburn and Jenkins, both affiliated to the Massachusetts Institute of Technology (MIT), as Pool was, also criticize the idea of convergence as a teleological concept by bridging their understanding with Pool’s original concept:

[...] if we understand media convergence as a process instead of a static termination, then we can recognize that such convergences occur regularly in the history of communications and that they are especially likely to occur when an emerging technology has temporarily destabilized the relations among existing media. (Thorburn and Jenkins, 2003: 3)

Media convergence, in Thorburn and Jenkins’ understanding, is, like Pool’s, similar to what I define transition, that is a process of becoming. More recently, Jenkins has further refined his definition of convergence in his book Convergence Culture: Where Old and New Media Collide. Here a shift of focus can be registered towards the media cultural dimension as Jenkins welcomes the reader to “convergence culture”: 
where old and new media collide, where grassroots and corporate media intersect, where the power of the media producer and the power of the media consumer interact in unpredictable ways. [...] By convergence, I mean the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want. (Jenkins, 2006: 2-3)

Nevertheless, the idea that media will converge towards an all digital something, be it the Web or else, still risks bearing a teleological approach. Jenkins alerts the reader in this respect with warning words:

Keep this in mind: convergence refers to a process, not an endpoint. There will be no single black box that controls the flow of media into our homes. Thanks to the proliferation of channels and the portability of new computing and telecommunications technologies, we are entering an era where media will be everywhere. Convergence isn’t something that is going to happen one day when we have enough bandwidth or figure out the correct configuration of appliances. (Jenkins, 2006: 15-16)

To avoid misunderstandings about the meaning of convergence, and to clearly differentiate it from the popular idea that convergence refers to an endpoint where a black box will control all media flows, I propose to add its antonym to the concept: divergence. Convergence/divergence are two inversely related concepts. They constantly remind of the dynamics of change and differentiation and, therefore, their use in combination best defines the transition in the media environment. In the case of archival practice, convergence/divergence describe what is happening in a field stretched between two forces, one heading towards convergence of technology, standards, and means, and the other heading towards diversification of means, multi-specialization and, literally, divergence.

Remediation

The concept of remediation discussed below has been derived from Jay David Bolter and Richard Grusin’s seminal book, Remedia**ion. Understanding New Media** (1999).

I argue that remediation, in the case of archival film, defines the practice that remediates old restoration technologies attempting to “rival or refashion them in the name of the real”, using Bolter and Grusin’s words (1999: 65). The
“real” in the case of film restoration stands for the film artifact to be restored and corresponds to the idea of the “original” as discussed earlier. The idea of the real to remediate, as well as that of the original can vary according to the adopted framework, from the material film artifact as it has survived through the years to the film as it might have been when it was first shown to an audience.

Bolter and Grusin have elaborated on the concept of remediation, originally introduced by Paul Levinson (1997: 104-114), describing the logic by which media refashion and improve themselves by competition:

We offer this simple definition: a medium is that which remediates. It is that which appropriates the techniques, forms, and social significance of other media and attempts to rival or refashion them in the name of the real. A medium in our culture can never operate in isolation, because it must enter into relationships of respect and rivalry with other media. (Bolter and Grusin, 1999: 65)

In Bolter and Grusin’s perspective, thus, remediation is not typical of the digital but, rather, typical of media in general. Also, in their theory an a-teleological approach is embraced, based on the idea that also older media refashion themselves when challenged by new media:

But ours is a genealogy of affiliations, not a linear history, and in this genealogy, older media can also remediate newer ones. (Bolter and Grusin, 1999: 55)

Remediation works, thus, by refashioning both the old and the new media in a continuous process. If convergence/divergence indicate a process where, as media tend to converge, still a different force pulls towards higher specialization and divergence through niche techniques, remediation, on the other hand, is rather a parallel process where old and new media interact, influencing one another.

In this line, remediation also matches the idea of transition as discussed earlier. This is even more evident if one considers that remediation is not a new phenomenon introduced by digital media:

We can identify the same process throughout the last several hundreds years of Western visual representation. A painting by the seventeenth-century artist Pieter Saenredam, a photograph by Edward Weston, and a computer system for virtual reality are different in many important ways, but they are all attempts to achieve immediacy by ignoring or denying the

This logic of achieving immediacy by ignoring the medium represents one crucial aspect in the remediation theory proposed by Bolter and Grusin. Remediation operates following the two opposing logics of immediacy and hypermediacy:

**hypermediacy** A style of visual representation whose goal is to remind the viewer of the medium. […]

**immediacy (or transparent immediacy)** A style of visual representation whose goal is to make the viewer forget the presence of the medium (canvas, photographic film, cinema, and so on) and believe that he is in the presence of the objects of representation. (1999: 272-273 – emphasis in the original)

The dialectic between these two logics can be found in archival practice as well, in particular in the work of film restoration. A film restorer can be seen as a mediator, as I have suggested earlier when discussing the “film as original” framework in relation to Soderman’s reading of indexicality. I have argued that human mediation can be carrier of the authenticity from an original film artifact to its restoration. In view of the remediation concept, the task of a film restorer is that of finding the subtle line between immediacy (be true to the artifact) and hypermediacy (be true to the medium). In other words, the restorer can choose immediacy, making the viewer forget the medium of restoration (either photochemical, digital or a mix of the two), or hypermediacy, reminding the viewer of the restoration process. For example, restoring the film as it possibly appeared at the time when it was first shown (immediacy), or adding elements that are typical of contemporary restoration tools (hypermediacy). An example of hypermediacy could be that of adding stills, animations or texts where a scene is missing in order to complete the narrative line and illustrate to the audience what used to be there but is now lost. Most restorers, however, will aim for something in between immediacy and hypermediacy, depending on their framework of reference.

This role of mediator (or re-mediator) did not begin with the introduction of digital technology for restoration, but it has certainly been amplified by it. Restorers gain so much more power with the digital that their role is becoming very influential, as the subtle line between immediacy and hypermediacy is much more difficult to draw. Indeed, as Bolter and Grusin also stress, “[t]he digital medium can be more aggressive in its remediation. It can try to refashion the older medium or media entirely” (1999: 46).
Interestingly, Bolter and Grusin point out the connection between remediation and restoration. However, they never make the link with archival practice and (media) restoration activities:

The word *remediation* is used by [...] environmental engineers for “restoring” a damaged ecosystem. The word derives ultimately from the Latin *remederi* – “to heal, to restore to health”. We have adopted the word to express the way in which one medium is seen by our culture as reforming or improving upon another. This belief in reform is particularly strong for those who are today repurposing earlier media into digital forms. (1999: 59 – emphasis in the original)

An example of such a form of media repurposing in the archival field could be that of a digital projection of a film from 1912. This could even be seen as a double remediation where the old film medium (nitrate film stock, photographic reproduction, stencil colors, inherent image instability, etc.) is remediated into the digital medium and, at the same time, the digital medium is repurposed in order to recreate the characteristics of the old medium.

**Simulation**

The concept of simulation is based on the idea that one typical characteristic of digital media is the ability to simulate analog reproduction media (Manovich, 2001 and Rodowick, 2007). Here I argue that such ability is already present in analog film and I propose a simulation concept that is relevant for theorizing film restoration practice.

Lev Manovich suggests that the digital is particularly suitable to create a faithful copy of a photographic image:

 [...] what computer graphics have (almost) achieved is not realism, but rather only *photorealism* – the ability to fake not our perceptual and bodily experience of reality but only its photographic image. [...] Once we came to accept the photographic image as reality, the way to its future simulation was open. (2001: 200-201 – emphasis in the original)

Manovich understands the photographic image as indexical, bearer of a direct bond with reality, and he points out simulation as a typical characteristic of the digital image, because the latter is non-indexical and therefore cannot refer directly to a reality but only simulate it. A similar conclusion is drawn by D.N. Rodowick when he argues that:
This process [simulation through calculation] enables a new series of powers of synthesis and manipulation wherein, for example, computers can simulate analogical recording and editing devices in all their functions. (2007: 127)

In this case it is not only the simulation power to recreate a photographic image but also that of recreating a mode of reproduction (analogical recording) and tools (editing devices). Manovich and Rodowick point out that the digital has a potential for simulation unknown to analog representation.

From this perspective, simulation is a concept that brings restoration closer to filmmaking. If special effects are a good example of film’s simulation ability of creating a realistic image from scratch, similarly, such ability enables the film restorer to recreate an image that was there and is now gone. This is particularly evident with the creation of a synthespian in a new film (e.g. the Gollum character in The Lord of the Rings) and with the restoration of an image, or part of it, which has been removed by decay in an archival film (examples are shown later with regard to the restoration of Beyond the Rocks). But the case of The Aviator, discussed in Chapter One, where the look of Technicolor for a new film was recreated by digital means, also shows an approach similar to the one that would be taken in the restoration of a Technicolor film.

An approach that puts simulation into a broader media perspective than the one addressed above for the digital, is offered by Philip Rosen. In discussing “digital mimicry”, his definition of digital simulation, Rosen argues that digital mimicry is more entangled with old media than is often assumed, in the false dichotomy that sees analog/indexical as old and digital/non-indexical as new:

The quest for digital mimicry has been one of the driving forces in the history of digital imaging. All of this means that, to a significant degree, digital imaging is not separable from prior histories of mediated representation on screen surfaces, but overlaps with them. Any argument that treats digital imagery as radically novel must deal with such overlaps. [...] These overlaps may take on the appearance of a variety of admixtures or hybrid cases, which imply, among other things, temporal or historiographic conflations. (Rosen, 2001: 314-31)

These overlaps are certainly evident when embracing the point of view of the archivist. It is the archivist’s everyday experience that films from the last twenty-five years are nothing but hybrids of analog and digital, as described in Chapter One. Hybridism, as argued earlier, can be seen as a function of film’s transitional nature and, in this way, it should be seen as inherent to film in
general, and not only to film in transition to the digital. In other words, film hybridism was already part of film before the digital and digital is just another expression of film’s temporal conflations.

Similarly, simulation should be seen as a characteristic of film independent from the digital. Only accepting the dichotomy analog/indexical and digital/non-indexical, simulation would be seen as exclusively digital. Once such a dichotomy is questioned, simulation can be seen as typical of reproduction media in general. I argue that this line of thinking applies to film restoration. As I discussed already elsewhere with regard to early color films (Fossati, 1996), restoration is simulation. Film restoration is based on the best possible simulation of the original film artifact (where original is something in between the material artifact, as it has survived, and the idea of what it originally looked like), carried out using different technologies. The restorer can take his or her pick among available film stocks, printing and processing equipment and, since a decade ago, digital tools in order to simulate as closely as possible archival films that were made with different technologies. This is true for a nitrate stencil film from the 1910s as well as for a Techniscope film shot in the 1970s. Because the history of cinema has seen a succession of different film formats and color and sound systems, all of which have become obsolete or have been modified one way or the other (as is typical of state-of-the-art industrial products), the restorer has no other choice than to simulate what was there by means of the tools available at the time of restoration.

The parallel drawn earlier between simulation in filmmaking and in film restoration was also true before the advent of the digital. Double exposure techniques to introduce an element in a shot that was not there during shooting were there long before the digital, and could have been applied also to film restoration if the costs would not have been that high. Similarly, a Technicolor look can be simulated with analog tools both for giving a certain look to the picture as in the case of *The Aviator*, as for restoring a Technicolor archival film. The difference is only that the digital can do it more accurately at ever decreasing costs.

The great potential of the digital for simulation has been one of the main reasons why, in the last decennia, the digital has been defined by many as a tool for obliterating the real, at least with regard to representation. In line with the traditional indexical argument, discussed earlier, the digital breaks the supposedly objective link with the referent that is the real. One of the most vibrant voices supporting this idea is that of Jean Baudrillard whose theory of simulation and of the simulacrum has been elaborated throughout his writings since the late 1960s:
with the digital turn the entire analog photography, the image conceived as convergence of the object’s light and the sight, is sacrificed, irrevocably doomed. (Baudrillard, 2006: 44 – my translation)

This perspective is based on photographic indexicality and Baudrillard brings it as far as conceiving an all-pervasive simulation:

Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal. (1983: 2)

Baudrillard’s theory also calls upon a nostalgic sense of loss. According to Andreas Huyssens:

To see the entanglements of the real as no more than simulations designed by the system to feign that something is there, a presence, a referent, a real, is a form of ontologizing simulation that betrays, perhaps, nothing so much as a desire for the real, a nostalgia of loss. (Huyssens, 1989: 8)

The “desire for the real”, the idea of “nostalgia” and in general pessimism on the future of film, have been, in my view, all very strongly present within film archives in the last decennia. Probably the few archivists who have attempted a theorization of their practice have been somehow influenced by French theorists such as Baudrillard, Debray and Virilio, who all share a similar view on the crisis of the real.130 On the other hand, such a perspective can be disputed by acknowledging the role of the media users. Baudrillard’s theory of simulation is reminiscent of Kittler’s idea of convergence, discussed earlier, as they both disregard the users’ role.

Taking simulation as the interpretive key for the use of digital technology for film restoration, it can be said that the digital can theoretically provide the most suitable means for restoring and recreating the experience of an archival film. This is quite the opposite answer to the curatorial value offered by Cherchi Usai et al. (2008), which states that:

As interpreter of history through the audiovisual collection for the benefit of present and future generations, the curator must ensure that the work is experienced in a form as close as possible to the way it was intended to be seen and/or heard at the time of its creation. (153)
Whereas the above suggests that the curatorial value is strictly linked to the original apparatus (e.g. a film projection for a film-born film), it can be argued that a proper digital restoration and exhibition can recreate much more thoroughly the experience of an archival film, especially those made with a now obsolete format, which is the vast majority (e.g. long gone aspect ratios and color or sound systems).

Based on Manovich’s definition of the computer graphic’s photorealism (2001: 200-201), the ability of new media for simulation can be defined as the ability to simulate photographic images. Taking the concept a bit further by covering also the domain of film restoration, I argue that digital simulation can lead both to the creation of special effects and, in the case of a film restoration, to the recreation of elements that were once in a film image but have been erased from the emulsion by physical damage. On the other hand, if one agrees that simulation is a typical characteristic of media in general, it can be said that the digital makes it only more visible. From this perspective, digital restoration is a continuation of previous analog restoration but it does provide a more effective tool.

In conclusion, I argue that in this moment of transition from analog to digital a dialogue between film theory and film archival practice is particularly urgent. While film theory is reflecting on its usefulness in view of the digital and new media theory is proposing new perspectives for looking at the future and past of media, film archivists are questioning their role as their practice and the practice around them is changing by the day. Both discussions contribute to our understanding of film heritage and could therefore concur in determining its future, in terms of preservation, exhibition and access.

At this moment, a theory of film archive practice is necessary for promoting a mutual discourse among film archivists and film scholars. Film archivists can look at their practice from new perspectives based upon the theoretical discourse. In turn, a theory of archival practice can provide scholars with the tools for understanding the archival life of film, namely, for understanding film once they have been archived, restored, digitized, in other words, historized by archivists.

In this chapter I have elaborated a number of frameworks and concepts that form the basis of my theorization of archival practice. I have derived frameworks and concepts from both the academic and the archival discourse. The conceptual tools I have introduced are deeply related to the discourse on film ontology and to different assumptions among film theorists and film archivists on the film artifact, intended as both a material and a conceptual object. My theorization intends to comprise different and even opposite conceptions of the nature of film, from the indexical to the one I have loosely
defined “mind/film”, and different assumptions of the nature of the archival film, from the ones focusing on the material film artifact to those privileging the conceptual film artifact. Nevertheless, I have also argued that transition offers an appropriate way to look at film’s nature and that the most productive perspective on this particular transition, from grain to pixel, is that of looking at film as inherently transitional.

In the second part of this work I measure these new theoretical tools against film archival practice in transition by addressing the question of whether the frameworks and concepts proposed provide a suitable means for investigating the archival field and, also, how the elaborated conceptual tools reflect (upon) archival practice and, in particular, film restoration case studies.