

A Film Scholar's Guide to Writing Silent Film Restoration Reports

by

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Master of Arts, University of Toronto, 2008

A thesis

presented to Ryerson University

in partial fulfillment of the

requirements for the degree of

Master of Arts

in the program of

Film and Photography Preservation and Collections Management

Toronto, Ontario, Canada, 2018

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A Film Scholar's Guide to Writing Silent Film Restoration Reports

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Abstract

Authoritative film archival texts demand documentation of film restoration projects. Film archives often produce overly technical internal documentation, and although researchers occasionally publish film restoration reports, the ratio of reports to restoration projects is skewed in favour of films that stir academic debate. Film scholars can be recruited to engage with archives to write reports for lesser-known films, thereby increasing and improving film restoration documentation. However, the relationship between film scholars and film archivists must be improved, as these groups tend not to interact during the film restoration process. Based on a survey of 30 silent film restoration reports, a guide is provided to help film scholars approach archives and archivists to attain information for those reports. The guide is applied to *Gräfin Küchenfee* (1918), a silent film restored by EYE Filmmuseum for *Il Cinema Ritrovato*, to showcase usage of the guide and produce a report on the film's restoration.

Acknowledgements

This thesis was made possible by the understanding, time, patience, and encouragement of many people. Primary thanks goes to my first reader, Marta Braun, for her expertise and candor during the writing process. Although the thesis is directed at film scholars, it was ultimately written to impress her. Thanks also to my second reader, Christina Stewart, for her insightful comments and for being the person who let me touch motion picture film for the first time. There's no going back.

Thanks to the professors and students of the Film and Photography Preservation and Collections Management master's program at Ryerson University. Their abilities, attitudes, and devotion to their work made heading back to school at 36 feel like the right decision.

I also owe a great debt of gratitude to everybody in the Collections Centre at EYE Filmmuseum. In particular, thanks to Anne Gant for her supervision, advice, faith, and recommendation. Thanks to Gerdien Smit for her kindness and hard work on the This is Film! lecture series. Thanks to curator Elif Rongen-Kaynakçi for always reminding me through her excited reactions to new discoveries that silent film is something to care deeply about. Thanks to Annike Kross, for imparting her expertise, for being a person who restores films for a living, and for being a friend. Thanks also to Giovanna Fossati for, in addition to so much else, thinking this was a good idea. I would not be poised to enter the hallowed field of film preservation without these incredible women, whom I will aspire to emulate in every project moving forward.

Finally, thanks to my friends, family, fiancée, and Peanut Butter for waiting. It's good to be home.

To Samantha



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Chapter 1

Introduction

This thesis is motivated by a research residency in the Film Conservation and Digital Access Department of the EYE Collections Centre in Amsterdam, the Netherlands. At the Collections Centre, employees and interns inspect nitrate materials from EYE's collections to improve their internal documentation so that they can be better identified, evaluated for restoration projects, and ultimately registered in EYE's public-facing collections management software, Collections EYE (CE). CE contains metadata for all of the films in EYE's collection, such as genres, cast lists, plot synopses, and lists of film elements available in the collection, along with information about reel lengths and material composition. However, EYE does not publish documentation such as viewing reports with specific details about the condition of original nitrate elements, lab work performed on titles selected for restoration, invoices for work performed, and print loan statuses. Although all documentation is important, most of the film restoration documentation currently written by EYE and other institutions is aimed at archivists and laboratory technicians and primarily serves to make restoration workflows more efficient.

Texts considered authoritative in the film archival field, such as Paul Read and Mark-Paul Meyer's *Restoration of Motion Picture Film*,¹ Paolo Cherchi Usai's *Silent Cinema: An Introduction*,² and Ray Edmondson's *Audiovisual Archiving: Philosophies and Principles*,³ invoke documentation as an ethical principle or rule for restoration, and the International Federation of Film Archives (FIAF) *Code of Ethics* currently mandates that "[t]he processes involved in generating the copies, and the technical and aesthetic choices which have been taken,

¹ Paul Read and Mark-Paul Meyer, *Restoration of Motion Picture Film* (Oxford: Butterworth-Heinemann, 2000).

² Paolo Cherchi Usai, *Silent Cinema: An Introduction* (London: British Film Institute, 2000).

³ Ray Edmondson, *Audiovisual Archiving: Philosophy and Principles* (Paris: UNESCO, 2016).

will be faithfully and fully documented” by its member institutions, including EYE.⁴ But what constitutes documentation? Some researchers have published their own documentation of the technical processes of film restorations, commenting on the decisions made during those processes and debating the results. Examples of this published documentation—or *film restoration report*, a term used by film restorer, professor, and chief curator at EYE Filmmuseum Giovanna Fossati in the upcoming fourth edition of *From Grain to Pixel*⁵—include Tom Gunning’s “Rebirth of a Movie,”⁶ Rob Byrne’s “Restoring *The Spanish Dancer* (1923),”⁷ and Barbara Flueckiger’s “Color Analysis for the Digital Restoration of *Das Cabinet des Dr. Caligari*,”⁸ to name but a few. These reports are often written by film archivists themselves or those with an archival knowledge gained by establishing relationships with archival institutions. The reports are important because contrary to internal documentation maintained by an archival institution, they serve as publicly available documentation that explains what a restoration is and how it influences engagement with the film restored; for instance, a film released in 1938 may come to be considered differently after new scenes are discovered and inserted for a 2018 restoration. Restoration reports contribute to film preservation by providing a record of the work performed. Indeed, every restoration project should receive this kind of consideration, as any work performed may alter how a film is perceived by film scholars and film archivists alike and may ultimately influence future restoration efforts. Yet, the ratio of reports to restoration projects

⁴ International Federation of Film Archives, *FIAF Code of Ethics*, 3rd ed. (2008), 6, accessed July 8, 2018, http://www.fiafnet.org/images/tinyUpload/Community/Vision/FIAF_Code-of-Ethics_2009.pdf.

⁵ Giovanna Fossati, *From Grain to Pixel: The Archival Life of Film in Transition*, 4th ed. (Amsterdam: Amsterdam University Press, forthcoming).

⁶ Tom Gunning, “Rebirth of a Movie,” *International Federation of Film Archives: Information Bulletin* 29 (1985).

⁷ Rob Byrne, “Restoring *The Spanish Dancer* (1923),” *The Moving Image* 12, no. 2 (2012).

⁸ Barbara Flueckiger, “Color Analysis for the Digital Restoration of *Das Cabinet des Dr. Caligari*,” *The Moving Image* 15, no. 1 (2015).

is heavily skewed in favour of films that have most frequently stirred debate in the field of film studies. As Fossati observes, “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, unnoted.”⁹ Indeed, the sheer number of restoration projects conducted by FIAF member institutions each year dwarfs the number of reports published. To use but one institution as an example, EYE Filmmuseum contributed in whole or in part to multiple silent film restoration projects for Bologna’s *Il Cinema Ritrovato* 2018 film festival alone. Few if any of the films submitted to such festivals will prompt published documentation, as institutions and archivists lack the time, money, and/or inclination to publish that documentation.

Based on the clear necessity for publicly available documentation of film restoration projects, my thesis contends that film scholars can be recruited to engage with archives to write restoration reports for films not typically considered in the field of film studies—those “unnoted” films to which Fossati refers. Film restoration reports are a necessary form of restoration documentation, and film scholars must engage with archives to conduct those reports. To facilitate this engagement, my thesis presents a guide to help film scholars approach archives and archivists to attain the relevant information for restoration reports.

Fossati identifies a lack of dialogue between scholars and archivists that must first be remedied:

[A]lthough 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

⁹ Giovanna Fossati, *From Grain to Pixel: The Archival Life of Film in Transition*, 3rd ed. (Amsterdam: Amsterdam University Press, 2011), 106.

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.¹⁰

Film scholars (i.e., those engaged in film as a theoretical and historiographical area of study) typically approach a film as a text that can be analyzed apart from its materiality. Meanwhile, film archivists (i.e., those engaged in film as a physical artefact requiring preservation) are less concerned with this approach, relying instead on practical decisions about film materials that will ensure the realization of a restoration, as it is defined in each case. As Fossati further comments, “[a]rchivists seldom provide accessible documentation about...restorations and academics seldom ask for it.”¹¹

Conversely, archives tend to forego theoretical research on the restoration projects they conduct, focusing instead on practical evaluations of materials. Archivists typically do not engage with academics on their restoration projects, and academics typically do not consider archivists as a research source for analyses. Film scholars’ ignorance of film as archival material and of its restoration processes results in an ethically problematic absence of documentation for most restoration projects, perpetuates a general ignorance of the technical processes that have the potential to strengthen or defeat theoretical arguments, and makes the details of most restoration processes unavailable for public consumption, especially for lesser-known films. Recruiting scholars to write film restoration reports can solve these problems, improve restoration documentation, and help to close the distance between academics and archivists identified by Fossati.

¹⁰ Ibid., 103.

¹¹ Ibid., 106.

The thesis is structured as follows: Chapter 2 considers film restoration ethics and argues that documentation of restoration projects is ethically necessary to ensure any subsequent theoretical analysis and preservation of those projects. Chapter 3 analyzes examples of film restoration reports to establish best practices. Chapter 4 comprises the guide. Chapter 5 applies the guide to *Gräfin Küchenfee*, a silent film currently being restored by EYE Filmmuseum. Finally, Chapter 6 concludes the thesis by making recommendations to both institutions and academics to facilitate film restoration reports using the guide.

Chapter 2

Descriptions and Ethics of Restoration

This chapter considers descriptions of film restoration and its ethics as represented in the literature, which largely comprises articles and guides authored by individuals, groups, and institutions. Many scholars and archivists have used two texts in particular to describe, perform, and evaluate film restorations. The first is *Restoration of Motion Picture Film*, edited by Paul Read, who in addition to publishing several articles on film restoration has worked as a film engineer at Kodak, a technical director at Soho Images, and a consultant for Digital Film Lab in England. Read's co-editor is Mark-Paul Meyer, current Senior Curator at EYE Filmmuseum. The book was written on behalf of the Gamma Group, formed in 1990 to help "create a training programme for young technicians in film archives and specialist film laboratories."¹² The second is *Silent Cinema: An Introduction* by Paolo Cherchi Usai, a renowned archival scholar and Senior Curator of the Moving Image Department at the George Eastman Museum who developed the text out of an earlier work.

Restoration: Descriptions

One of the most prevalent misconceptions about film restoration is its finality. A restorer cures a film suffering some kind of malady: damage, decay, incorrect editing. After it is restored, no further work is required; the film can finally be seen as originally intended. The authoritative texts on restoration shatter this illusion, revealing that restoration can be described in many ways that point to its multiple outcomes. Any guide for restoration documentation must acknowledge this fact, if only to detail the aims such documentation can achieve.

¹² Read and Meyer, *Restoration of Motion Picture Film*, vii.

Read and Meyer describe restoration as “the whole spectrum of film duplication, from the most simple duplication with a minimum of interventions up to the most complex ones with a maximum of manipulations.”¹³ Cherchi Usai describes it as “the set of technical, editorial and intellectual procedures aimed at compensating for the loss or degradation of the moving image artifact, thus bringing it back to a state as close as possible to its original condition.”¹⁴ This description mentions nothing of duplication, which all authors infer is but one of many procedures in the restoration process. By Cherchi Usai’s own admission, “each definition ought to be considered more as a flexible conceptual framework than as a fixed, dogmatically imposed statement on how archival work should be implemented.”¹⁵ Andreas Busche¹⁶ and Lindsay Kistler Mattock base their respective analyses of restoration ethics on Read and Meyer’s and Cherchi Usai’s descriptions, with Mattock observing that the “lack of agreement of definitions, the fragility of the medium, the commercial influences, and the lack of a definitive ‘original’ copy complicate the practice of the audiovisual archiving profession.”¹⁷ Clearly, restorations and their outcomes can be described in many ways, and confusion over the descriptions can nullify the success of a project as perceived by scholars, archivists, and general audiences alike.

Additional texts reveal how archival conceptions of film restoration have continued to evolve in the last two decades. The National Film Preservation Foundation claims that restoration “goes beyond the physical copying of the surviving original materials and attempts to

¹³ Ibid., 1.

¹⁴ Cherchi Usai, *Silent Cinema: An Introduction*, 66.

¹⁵ Ibid., 65.

¹⁶ Andreas Busche, “Just Another Form of Ideology? Ethical and Methodological Principles in Film Restoration,” *The Moving Image* 6, no. 2 (2007).

¹⁷ Lindsay Kistler Mattock, “From Film Restoration to Digital Emulation: The Archival Code of Ethics in the Age of Digital Reproduction,” *Journal of Information Ethics* 19, no. 1 (2010): 79.

reconstruct a specific version of a film” based on source materials, a given order “suggested by production records and exhibition history,” and image and sound enhancement requirements; this definition also holds that restoration “always involves duplicating the original artifact.”¹⁸ Leo Enticknap explains restoration as a process of:

... finding some way of reproducing the experience of viewing a film in the context and empirical conditions of its original production and/or reception, in circumstances when the film no longer exists in its original form, the viewing conditions no longer exist or both. ... The actual work of film restoration consists of either or both of two activities: modifying the technical characteristics of surviving film elements of the content undergoing restoration, usually in the process of copying; or assembling content from multiple source elements in which the sequence of content as originally assembled is known (or at least, can be estimated to a fair degree of accuracy), but does not survive in any surviving element in isolation.¹⁹

Edmondson’s description is perhaps the most practical: a restoration “involves the removal of the accretions of age – such as surface noise, visual artefacts, scratches and damage – from a preservation copy, but does not involve manipulation of its content in any way.”²⁰ Again, restoration is here defined against reconstruction, which Edmondson calls “a new version of a work accomplished by bringing together incomplete or fragmentary elements from multiple sources and rearranging them into a coherent whole, sometimes with considerable manipulation

¹⁸ The National Film Preservation Foundation. *The Film Preservation Guide: The Basics for Archives, Libraries, and Museums* (San Francisco, CA: The National Film Preservation Foundation, 2004): 4.

¹⁹ Leo Enticknap, *Film Restoration: The Technology and Culture of Audiovisual Heritage* (London: Palgrave Macmillan, 2013): 11–2.

²⁰ Edmondson, *Audiovisual Archiving*, 86.

of images and/or sound and the use of bridging devices, for a defined access purpose and usually for public presentation.”²¹

If a FIAF member institution undertakes a restoration, that institution’s definition of restoration is expected to comply with the FIAF Technical Commission’s *Preservation Best Practice* document.²² While admitting that “restoration” is a “complex term” used to describe a largely subjective process, the document identifies that all restorations share commonalities including “a sound and coherent theoretical and historical approach,” oversight by “highly specialized and expert staff,” the “long term conservation of all original elements” to ensure future restorations, reversibility, the creation of “a new set of elements suitable for long term preservation,” and precise documentation “made accessible along with the elements derived from the restoration.”²³

Certain questions arise from these descriptions. What is a film’s “original” condition? What makes a restoration authentic? Which histories are given priority when deciding how a film should be reconstructed? Who are the “public,” and what are they looking for in a restored film?

Restoration: Ethics

In “Just Another Form of Ideology? Ethical and Methodological Principles in Film Restoration,” Busche considers the ongoing debate over how archival ethics inform methodological approaches to film restoration, citing Gary Edison’s *Museum Ethics* in the process:

Film restoration requires a strong theoretical foundation and a keen awareness of goals.

... Ethics “do not instruct the profession about the difference between right or wrong but

²¹ Ibid.

²² FIAF Technical Commission, “Preservation Best Practice,” *Journal of Film Preservation* 83 (2010).

²³ Ibid., 3–4.

... provide a point of accepted reference to be used when dealing with ethical complexities.” They “support the reasoning” rather than “explain what to do.”²⁴

This tension over the right and wrong of film restoration is exemplified by the varied reactions to Giorgio Moroder’s 1984 recreation of *Metropolis*, as mentioned by Read and Meyer, Cherchi Usai, Mattock, and many others.²⁵ However, according to the ethical framework Busche suggests, the function of ethics is to dictate right or wrong not universally, but in the context of the focus of ethical judgment; that is, “right” and “wrong” depend on the object under discussion. It can certainly be argued that Moroder’s *Metropolis*, with its tinting, newly created special effects, replacement of intertitles with subtitles, and pop music score, is ethically “right” or “wrong” only in terms of the parameters it sets for itself.

Scholars arguing over the ethical implications of restoring a film to a purported “original” state have used theoretical frameworks to explain the restoration process. Krista Jamieson, who questions the criteria for an “original” film, emphasizes that originality can be determined in terms of frameworks (or “understandings”) of film restoration based on the “*dispositif*,” film print or artifact, filmic text or version, and creator’s intent.²⁶ Fossati offers that film restorations can be conducted according to frameworks that consider the film as art, original, *dispositif*, and state of the art.²⁷ Read and Meyer note that restoring a film requires defining an original version

²⁴ Busche, *Just Another Form of Ideology*, 4–5.

²⁵ “At the time of its release, the Moroder *Metropolis* elicited both support and condemnation, but the weight of cultural, legal and archival opinion has not come down on its side in the quarter of a century since: a prominent intellectual property academic [Yves Laberge] pronounced it ‘a questionable work from the point of view of aesthetics and ethics’, and the Moroder *Metropolis* joined the 70 mm *Gone With the Wind* in the history books and the Internet as object lessons in how not to do film restoration.” Enticknap, *Film Restoration*, 42–3.

²⁶ Krista Jamieson, “Ethical Film Restoration and Concepts of ‘Original’,” *Journal of Film Preservation* 93 (2015): 12. Jamieson defines the *dispositif* as “how the film is exhibited” and “an ephemeral experience comprised of a combination of material artefact, technology, contextualization, staging of a screening, and audience reception.”

²⁷ Fossati, *From Grain to Pixel*, 3rd ed., 108.

that the restoration is meant to reflect, and offer seven such versions.²⁸ Finally, Cherchi Usai provides four “categories” of exhibited restoration that return a film to an original state.²⁹

Read and Meyer further note that FIAF addresses concerns about ethics:

... although no fixed set of rules or a code of ethics of film restoration has yet been established, a general awareness among film restorers with regard to ethical principles, applicable to both film restoration and film reconstruction, is very strong now. In addition, FIAF recently formulated its own code of ethics with regard to the rights and duties of film archives in more general terms. ... Since restoration can alter the quality of an image considerably, it is important to keep in mind that both activities, restoration and reconstruction, are subject to an ethics of restoration. The main emphasis of this book is on the technical aspects of film restoration, but ... film restoration cannot be done merely from a technical point of view. It is also an activity of interpretation and opinions, of taste and editorial decisions; it can also be influenced by prosaic circumstances like practical or financial restrictions. Along the route of a film restoration decisions are made all the time, decisions that can influence the final result and the quality of the restoration process considerably.³⁰

The *FIAF Code of Ethics* has come to define the ethics of copying more specifically: “When copying materials for preservation purposes, archives will not edit or distort the nature of the

²⁸ These include the following: “1. The film as it is in the restorer’s hands. 2. The film as it was seen by its first audiences. 3. The film as was seen by later audiences. 4. The film as it was intended by the film maker(s). 5. A version that is meant to be seen by a modern audience. 6. A new version, a reworking of the original version through a contemporary artist. 7. A version for commercial exploitation.” Read and Meyer, *Restoration of Motion Picture Film*, 71.

²⁹ “The film as it was found; a version that comes closest to that believed to have been shown for the first time, or at a certain moment in its commercial distribution; a version reflecting the creator’s intent; and a new work representing a manipulation of a film print.” Cherchi Usai, *Silent Cinema: An Introduction*, 159–60.

³⁰ Read and Meyer, *Restoration of Motion Picture Film*, 69–70.

work being copied. Within the technical possibilities available, new preservation copies shall become accurate replicas of the source materials.”³¹ This suggests that source materials are originals, and that copies of those originals must be made ethically, that is, accurately and in a way that does not damage the original.

For the purposes of the guide I propose in this thesis, it can be accepted that the decisions made when performing a film restoration are routinely based on codes, principles, axioms, frameworks, and/or workflows to avoid producing a “wrong” restoration as defined by the literature considered thus far. It is beyond the intent of the guide to deem which ethical approaches are sound; however, it is reasonable to demand that the particular approach be well defined and followed uniformly by the restorer.

Documentation as an Ethical Principle

EYE Filmmuseum is a FIAF member institution. As such, the primary document necessitating my guide is the aforementioned *FIAF Code of Ethics*, which contains specific statements on the rights and conduct of film archives based on three ethical principles:

Film archives and film archivists are the guardians of the world’s moving image heritage. It is their responsibility to protect that heritage and to pass it on to posterity in the best possible condition and as the truest possible representation of the work of its creators.

Film archives owe a duty of respect to the original materials in their care for as long as those materials remain viable. When circumstances require that new materials be substituted for the originals, archives will respect the format of those originals.

³¹ Fédération Internationale des Archives du Film, *FIAF Code of Ethics*, 5–6.

Film archives recognise that their primary commitment is to preserve the materials in their care, and – provided always that such activity will not compromise this commitment – to make them permanently available for research, study, and public screening.³²

As indicated in these principles, film restorations can be substituted for originals, as long as those originals are represented as “truly” as possible and the original materials are preserved. Documentation helps to ensure the upholding of these principles by accounting for how the format of an original is maintained in a copy and how source materials are consulted and treated during the copying process. It is also crucial to the research and study of film materials and to providing context for public screenings, where copies are typically shown as representations of originals.

The *FIAF Code of Ethics* is far from the only text to outline documentation as an ethically necessary practice. Read and Meyer draw attention to the film restorer’s declared intention, stressing that the restorer’s consideration be “registered in the documentation of the restoration. This documentation should not only contain all factual actions and interventions on the material, but also the motivation and argumentation for decisions made during the restoration.”³³ Cherchi Usai observes that “[a]ny decision taken in the preservation process must a) be reversible, b) prevent further deterioration or alteration of the original artifact, and c) be

³² Ibid., 5.

³³ Read and Meyer, *Restoration of Motion Picture Film*, 71. Later in the text, Martin Koerber contributes a sample spreadsheet system for documentation, using his 1997 restoration of *Menschen am Sonntag* as a case study. The film was reconstructed from six versions at the Nederlands Filmmuseum in Amsterdam, the Netherlands, and a new print was made at L’Immagine Ritrovato in Bologna, Italy. See *ibid.*, 231–41.

carefully documented.”³⁴ Furthermore, he notes that film preservationists “share the responsibility of explaining to others what they have done.”³⁵

Given the current absence of published documentation of film restoration projects, the ethical necessity of documentation based on the *FIAF Code of Ethics* and other works, and the lack of time, money, and/or inclination on behalf of archivists to publish documentation of lesser-known restoration projects, I believe that film scholars should be recruited to write restoration reports. To foster such activity, I suggest a guide for film scholars who lack archival knowledge to engage with film archives to write accurate reports. Documentation of restoration projects, whether internal or published, helps to ensure the accuracy of theoretical analysis and aid in the preservation of those projects. As mentioned previously, philosophical concerns surrounding originality, authenticity, and archival practices including restoration, reconstruction, duplication, and preservation are numerous, but at the risk of becoming preoccupied with such concerns this thesis will avoid definitions of restoration or advancing theoretical arguments about originality and authenticity; its purpose is simply to provide the aforementioned guide. In this way, the thesis is methodology agnostic; ethics are followed by the restorer to the extent s/he deems necessary and, if applicable, as dictated by a governing institution. In the case of EYE Filmmuseum, this governing institution is FIAF, whose *Code of Ethics* and its insistence on documentation of restoration practices partly inspired the guide presented herein.

With this in mind, the next chapter establishes best practices for writing film restoration reports. To avoid overextending its reach and to best suit the materials and procedures available at the time of writing, it focuses exclusively on silent cinema restoration reports.

³⁴ Cherchi Usai, *Silent Cinema: An Introduction*, 67.

³⁵ *Ibid.*, 68.

Chapter 3

Literature Survey: Silent Film Restoration Reports

In the upcoming fourth edition of *From Grain to Pixel*, Fossati notes that over the last 10 years “not nearly enough steps have been taken to improve the documentation of film restoration”; nevertheless, she identifies that “professional and academic journals often publish accurate reports of film restoration projects, which serve as valuable documentation even when some of the more technical information cannot be included.”³⁶ Although archives document their film restorations internally, this internal documentation can be esoteric in its technical detail and may not help with the study, research, and context of preserved film materials as mandated by the *FIAPF Code of Ethics* and other foundational film restoration literature. Film scholars can improve this situation by writing and publishing film restoration reports.

This chapter identifies the common aspects of silent film restoration reports and how they are addressed. It considers 30 restoration reports published over more than 3 decades to establish best practices for writing such reports. Although most of the reports are written by archivists or those directly involved in the restoration projects they address, I believe that film scholars who lack archival knowledge can engage with archives to obtain the kinds of information the reports include and thus reduce the number of undocumented projects, my proposed guide instructs film scholars on how to engage with archives to obtain important information about how restorations are conducted, and thereby produce thorough documentation of those restorations. (For a comparison of the common aspects of the silent film restoration reports surveyed, see Table 1.)

Common Aspects of Silent Film Restoration Reports

³⁶ Fossati, *From Grain to Pixel*, 4th ed., forthcoming.

Theoretical Issues. Theoretical issues provide the impetus for nearly half of the reports considered. In his analysis of the MoMA restoration of Griffith's *Way Down East*, Gunning ponders theoretical questions about the authenticity of the film's different versions and makes the case for their identity as "phantom objects."³⁷ Nikolaus Wostry and Jan-Christopher Horak use *Sodom and Gomorrah* as primary proof of their claim that film reconstructions based on incomplete materials are "merely approximations, produced after the fact, with no guarantees that they are perfectly accurate renditions of the original."³⁸ Sowon Choi's report on 1925 Korean-shot German missionary films, which is based on the author's master's thesis, holds that *In the Land of the Morning Calm* was treated poorly due to inappropriate duplication practices and misrepresentation of the film's use as a historical document.³⁹

Although restoration documentation does not require a theoretical framework, film scholars, who are accustomed to considering a film as an object of theoretical engagement, can use these frameworks to create restoration reports. For instance, as mentioned in the preceding chapter, Fossati offers several theoretical frameworks (film as original, art, state of the art, and *dispositif*) and concepts (simulation, remediation, and convergence/divergence) with which to assess film in its transition from analogue to digital, and ultimately applies these frameworks to five restoration case studies. Film scholars may use theoretical frameworks and concepts such as these to assess restoration works. Indeed, studies by Martin Bonnard and Stephen Larson serve

³⁷ Gunning, "Rebirth of a Movie," 18.

³⁸ Nikolaus Wostry and Jan Christopher Horak, "*Sodom and Gomorrah*: Notes on a Reconstruction, or Less is More," *The Moving Image* 3, no. 2 (2003): 20.

³⁹ Sowon Choi, "A New Restoration Proposal Dedicated to New Discoveries: German Missionary Films Shot in Korea in 1925," *Journal of Film Preservation* 94 (2016): 60–1.

as two examples, both applying Fossati's concept of "remediation" to their respective examinations of *A Trip to the Moon*⁴⁰ and *The Passion of Joan of Arc*.⁴¹

History. A film's history includes details about its production/exhibition, director/cast biographies, or any other pertinent historical information. Historical information can provide important details about a film's originally intended viewing experience. E.L. Doyen's belief that his surgical films "should above all demonstrate the surgeon's 'personality', defined by the latter's undistracted 'concentration' and 'self-confidence' – features that a scientific paper or a lecture ... would never adequately demonstrate," reflects production decisions important for assessing the films' framing and editing.⁴² Furthermore, Christopher Bird, who edited the 2004 restoration of Paul Leni's *The Cat and the Canary*, describes the dual-camera silent film shooting process intended for foreign markets, highlighting the difficulties involved in editing release prints and in determining which material to use for a restoration.⁴³ Finally, Anke Wilkening's consideration of not only the history of *Die Nibelungen* and the auteur characteristics of director Fritz Lang, but also the earlier/previous attempts to restore the film, points to differing decisions about which materials to restore and how they should look.⁴⁴

⁴⁰ Martin Bonnard, "Méliès's *Voyage* Restoration: Or, The Risk of Being Stuck in the Digital Reconstruction," *The Moving Image* 16, no. 1 (2016).

⁴¹ Stephen Larson, "Risen from the Ashes: The Complex Print History of Carl Dreyer's *The Passion of Joan of Arc* (1928)," *The Moving Image* 17, no. 1 (2017).

⁴² Tiago Baptista, "'Il faut voir le maître': A Recent Restoration of Surgical Films by E.-L. Doyen (1859-1916)," *Journal of Film Preservation* 70 (2005): 45.

⁴³ Christopher Bird, "'Europe Ain't Gonna See This Scene!': Working with Variant Versions in Photoplay Productions' Restoration of *The Cat and the Canary*," *The Moving Image* 9, no. 2 (2009).

⁴⁴ Anke Wilkening, "Fritz Lang's *Die Nibelungen*: A Restoration and Preservation Project by Friedrich-Wilhelm-Murnau-Stiftung, Wiesbaden," *Journal of Film Preservation* 79/80 (2009).

Content Synopsis. The provision of a content synopsis in a report depends mainly on the intended audience, who may require familiarization with a film's narrative events. For instance, Walter Schobert's report on the early amateur films by Julius Neubronner includes content descriptions of these little-known films to illuminate the work performed to restore them.⁴⁵ If the film is well known, a synopsis may be moot. Of course, content and plot information can be important when a restorer makes changes to a film's editing sequence.

Print Genealogy. Print genealogy refers to the history of the print materials involved in a restoration, including but not limited to the circumstances of their creation, donation, discovery, and/or transfer from one institution/collection/etc. to another. In addition to being a thorough resource on silent film in general, Cherchi Usai presents a useful chart for a hypothetical film that he uses to illustrate the generation of 65 positive prints, starting with 35mm camera negatives and ending with 16mm reduction prints over an approximate 40-year period.⁴⁶ Most of the film restoration reports considered here present print genealogies to identify why certain elements were chosen for a restoration. Richard P. May's consideration of *The Big Parade* restoration accounts for the reasons the film's nitrate materials were believed to be lost for years until their discovery at George Eastman Museum.⁴⁷ Enno Patalas's extensive description of the print materials for *Battleship Potemkin* reveals the drastic editing changes made to versions of the film over the years and how they continue to impact restorations of the film.⁴⁸ Information

⁴⁵ Walter Schobert, "Kaiser, Kintopp & Karossen Early Amateur Films by Julius Neubronner: Restored," *Journal of Film Preservation* 25 (1996).

⁴⁶ Cherchi Usai, *Silent Cinema: An Introduction*, 46.

⁴⁷ Richard P. May, "Restoring *The Big Parade*," *The Moving Image* 5, no. 2 (2005).

⁴⁸ Enno Patalas, "The Odyssey of the Battleship: On the Reconstruction of *Potemkin* at the Filmmuseum Berlin," *Journal of Film Preservation* 70 (2005).

about a film print's source collection may also prove valuable. Vanessa Toulmin, Patrick Russell, and Tim Neal's account of the discovery of the Mitchell and Kenyon collection and its various acquisitions by and transfers among different archives informs the history of the treatment of each of the 800 films targeted for restoration.⁴⁹ The same can be said of Christel Schmidt's analysis of the Mary Pickford collection, whose prints experienced varying levels of decay as institutions subjected them to varying degrees of preservation.⁵⁰ Ultimately, print genealogies are established to reveal where prints came from and to ensure appropriate materials are being used for a proposed restoration by indicating their uniqueness and proximity to the original camera negative. They inform a film restorer's practices while serving to defend the authenticity or originality of a restored work; therefore, their documentation is important.

Goal Statement. Determining whether a restoration has been performed successfully requires a statement of its goal. Films are restored for many reasons, and goals can range widely based on available materials and adopted practices. Sometimes the goal may be simple duplication for access purposes, as in the case of the Neubronner films. In many cases, the goal of a restoration is to produce a new version of the film that is as close to an original as possible. Again, this "original" must be defined to determine whether the goal has been accomplished. Some of the reports considered here either lack mention of a restoration goal or mention goals only tangentially. For example, Nathan Wagoner's report on *Huntingdon's Hero* explores the circumstances surrounding the film's history, discovery, and shipment,⁵¹ while Horak's

⁴⁹ Vanessa Toulmin, Patrick Russell, and Tim Neal, "The Mitchell and Kenyon Collection: Rewriting Film History," *The Moving Image* 3, no. 2 (2003).

⁵⁰ Christel Schmidt, "Preserving Pickford: The Mary Pickford Collection and the Library of Congress," *The Moving Image* 3, no. 1 (2003).

⁵¹ Nathan Wagoner, "The Huntingdon's Hero Story," *The Moving Image* 10, no. 1.

examination of *The Fall of Jerusalem* focuses more on the identification of the film's elements, without stating what restorers were trying to achieve.⁵² However, in most cases, a report states the goal of a restoration, as it fundamentally dictates the decisions made to restore the film.

Print Material Assessment. Another commonly described aspect of film restoration reports, print material assessments help restorers determine how to restore a film. Many of the surveyed reports offer itemized lists of the print materials used by restorers, including details about their composition (nitrate, acetate, polyester), gauge (e.g., 35mm, 16mm, 9.5mm), edge marks, framing, soundtrack, chemical deterioration, damage (e.g., dust, scratches, tears), editing, geographical origin, and leader information. Depending on the researcher's audience and/or approach, the reports sometimes provide contextual information to account for a print's condition. For instance, Horak observes that assessment of the print materials for *The Fall of Jerusalem* revealed that the film was shown on the church circuit before providing an account of the circuit's operation, and Schobert offers a history of the producer of the 17.5mm film gauge in his assessment of the Neubronner film materials. Where appropriate, assessments often include comparisons of the available materials either within a single institution or across multiple institutions.⁵³ In addition, some of the reports document efforts to preserve original and newly created print materials, including details about their storage conditions that may inform future assessments.

Reconstruction Methodology. When a restored film requires reconstruction, a report may provide an account of the methodology involved. May, Patalas, Bird, Eric Le Roy,⁵⁴ and

⁵² Jan Christopher Horak, "The Strange Case of *The Fall of Jerusalem*: Orphans and Film Identification," *The Moving Image* 5, no. 2.

⁵³ For example, see Gunning (1985), Wostry and Horak (2003), Byrne (2012), and Larson (2017).

⁵⁴ Éric Le Roy, "*La Coquille et le Clergyman/The Seashell and the Clergyman*," *Journal of Film Preservation* 82 (2010).

others offer accounts of the steps taken to effectively reconstruct a film from different elements and across different institutions and collections in pursuit of an original. When reconstruction attempts fall short, such as when elements are too fragile for incorporation or editing patterns cannot be accomplished due to missing footage, researchers document the failures. For example, Wostry and Horak note that the attempted reconstruction of “the original two-evening version” of *Sodom and Gomorrah* proved impossible based on the available elements; they note that the reconstruction methodology was changed to restore the film to a shorter albeit historically accurate one-evening version as a result.⁵⁵ A reconstruction methodology accounts for how a film’s “incomplete or fragmentary elements” were restored.⁵⁶ Reports may also include an account of the relationships and communications institutions engaged in to ensure a successful reconstruction.⁵⁷

Documents Consulted. Restorers rely on various forms of documentation to inform their decisions. Common pieces of documentation include censorship records, newspaper articles, reviews, continuity scripts, shot and intertitle lists, film catalogues, donation records, diaries, price lists, and production company histories, all of which may indicate an “original” form of a film. Such documentation can be an important resource in restoration projects, as exemplified by the use of shot and intertitle lists to reconstruct Griffith’s *Way Down East*,⁵⁸ the use of continuity scripts to establish the complete title text, transitions, and colour tinting details for Herbert

⁵⁵ Wostry and Horak, “*Sodom and Gomorrah*,” 35.

⁵⁶ Edmondson, *Audiovisual Archiving*, 86.

⁵⁷ For example, see Patalas (2005), Núñez (2011), and Eckes (2014).

⁵⁸ Gunning, “Rebirth of a Movie.”

Brenon's *The Spanish Dancer*;⁵⁹ and the use of paper print rolls to transcribe the titles of Wilbur H. Durborough's *On the Firing Line with the Germans*.⁶⁰ Contemporaneous news articles may reveal details such as film lengths and reel numbers that are ultimately compared to determine the correct course of a restoration.⁶¹ Some reports note the importance of establishing historical context: Louis Pelletier's report on the restoration of *The Funeral of Sir Wilfrid Laurier*, *Ottawa, Saturday Feb. 22nd* observes that correspondence belonging to collector Jean Bélanger reveals the continued refusal of various historians and archivists to acquire Bélanger's unique materials during his lifetime,⁶² and Choi emphasizes the use of "historical documents and related studies" to "understand the cultural and historical context" of *In the Land of the Morning Calm*, thereby ensuring the status of its restoration as a historical document.⁶³ Above all, documentation helps to establish and confirm a film's "original" state, and its reporting can suggest the success or failure of a restoration.

Intertitle Assessment. Not all silent films include intertitles, but those that do require special consideration. Decisions about the format, font, language, and appearance of intertitles must be made for restorations that require them. Several of the surveyed reports document intertitle assessments made by restorers. Oftentimes, missing intertitles are recreated from primary sources such as intertitle lists and censorship cards, as documented by Thomas

⁵⁹ Byrne, "Restoring *The Spanish Dancer* (1923)."

⁶⁰ James W. Castellan, "Wilbur H. Durborough's Lost and Future 1915 World War I Documentary Film," *Journal of Film Preservation* 92 (2015).

⁶¹ For example, see Castellan (2015).

⁶² Louis Pelletier, "A Rebirth and a Funeral: The Cinémathèque Québécoise Restores a Long-Lost Actuality by Canadian Film Pioneer Léo-Ernest Ouimet," *Journal of Film Preservation* 97 (2017): 108.

⁶³ Choi, "A New Restoration Proposal," 61.

Worschech and Michael Schurig⁶⁴ and Nils Klevjer Aas.⁶⁵ In some cases, a film's intertitles may be the most significant part of its restoration; Casper Tybjerg and Thomas C. Christensen observe as much in their report on Dreyer's *Der var engang*: "The main purpose of the restoration has been to reestablish the film's intertitles, supplemented with explanatory titles that would give the spectator at least some idea of the structure and storyline of Dreyer's film."⁶⁶ The style of intertitles, based on analysis of a production company's output, can influence how a restoration is attempted; for instance, Bryony Dixon and Kieron Webb lend special attention to the style of Gainsborough and British International Pictures intertitles in their restoration of silent Hitchcock works.⁶⁷ Intertitle length also requires consideration and can significantly affect the length of film materials, complicating assessment of the completeness of prints; David Walsh and Toby Haggith document efforts made to restore the intertitles of *The Battle of the Somme* and *The Battle of the Ancre and Advance of the Tanks* to their original length,⁶⁸ and Wostry and Horak reveal how intertitle insertion in a version of *Sodom and Gomorrah* increased the length of the film by 200 metres.⁶⁹ In a restoration report, intertitle decisions are typically explained and justified according to the goal and intended audience of the restoration and the available print materials.

⁶⁴ Thomas Worschech and Michael Schurig, "Restoration by the Deutsches Filmmuseum, Frankfurt," *Journal of Film Preservation* 60/61 (2000).

⁶⁵ Nils Klevjer Aas, "Lucky Breaks and a Virtual Reconstruction: Bringing *Bergenstoget Plyndret Inatt* Back to Life on the Screen," *Journal of Film Preservation* 83 (2010).

⁶⁶ Casper Tybjerg and Thomas C. Christensen, "The Restoration of Dreyer's *Der var engang*," *Journal of Film Preservation* 67 (2004): 33.

⁶⁷ Bryony Dixon and Kieron Webb, "London - Restoring Hitchcock," *Journal of Film Preservation* 87 (2012): 93.

⁶⁸ David Walsh and Toby Haggith, "Restoring *The Battle of the Somme* and *The Battle of the Ancre and Advance of the Tanks*," *Journal of Film Preservation* 90 (2014): 53.

⁶⁹ Wostry and Horak, "*Sodom and Gomorrah*," 27.

Colour Restoration. Silent film colour can be restored using laboratory processing techniques and colour correction and grading software. Analogue colour restorations often take advantage of the Desmet method, where tinting and/or toning values are applied to the creation of new print duplications. Restoration reports document the justifications for colour restoration decisions and any restraint exercised along the way. Wostry and Horak note that despite having “a few scenes from the tinted and toned versions of the early 1920s” for *Sodom and Gomorrah*, the restoration team “resisted the temptation to create what certainly would have been a charming but bogus color scheme and instead generated a black-and-white print of the restoration.”⁷⁰ Furthermore, colour restorations are often based on reference print materials and documentation to ensure originality. Worschech and Schurig state that the colouring of *Die Abenteuer des Prinzen Achmed* was performed in accordance with instructions handwritten on a nitrate copy of the film.⁷¹ In a similar vein, the colour restoration of *Die Nibelungen* raised important questions; Wilkening observes that although many of the print sources used included orange tinting, complete with tinting indications on the leader, Lang was rumoured to dislike the use of tinting, an argument strengthened by the lack of its use in his other films and an absence of the mention of tinting in the trade press.⁷² The author ultimately justifies the decision made to keep the orange tinting based on a sound research methodology. Finally, special considerations and actions have also been documented. For example, May notes that Warner Bros. Motion

⁷⁰ Ibid., 25.

⁷¹ Worschech and Schurig, “Restoration by the Deutsches Filmmuseum,” 48.

⁷² Wilkening, “Fritz Lang’s *Die Nibelungen*,” 96–7.

Picture Imaging digitally recreated the original Handschiegel colour process for a sequence of the 2004 restoration of *The Big Parade*.⁷³

Score Treatment. A score may be an important factor in a successful restoration. Original silent film scores have rarely survived, making cases of their survival notable. Worschech and Schurig report that the original Wolfgang Zeller score for *Die Abenteuer des Prinzen Achmed* was found preserved by the Library of Congress and used “to confirm the order of acts and scenes.”⁷⁴ Score analysis can also help to identify different versions of a film throughout its viewing history; Patalas considers how the Edmund Meisel score for *Battleship Potemkin* has changed and been reinterpreted over nearly a century, sometimes to the effect of altering the film’s editing.⁷⁵ New scores are often composed for silent film restorations and are important aspects of their presentation; a new score can be considered to create a new version of a film. Of course, this may in turn raise a theoretical issue that requires addressing if a restoration purports to return a film to its original state; if a film is given a brand new score, surely the status of its originality becomes a source of debate.

Missing/Added Materials. A film restoration report may detail how (and whether) recently discovered footage is inserted into a restored film, and explain the steps taken to account for available materials that are narratively unclear or altogether absent. Gunning documents the footage found and reinserted into Griffith’s *Way Down East* shot by shot while also describing missing material.⁷⁶ Wostry and Horak reveal how confronting missing materials in *Sodom and*

⁷³ May, “Restoring *The Big Parade*,” 145.

⁷⁴ Worschech and Schurig, “Restoration by the Deutsches Filmmuseum,” 49.

⁷⁵ Patalas, “The Odyssey of the Battleship,” 37–8.

⁷⁶ Gunning, “Rebirth of a Movie.”

Gomorrah influenced Filmarchiv Austria to set aside available footage and restore a feature version of the film, rather than explain the footage with intertitles.⁷⁷ Aas notes that despite the lack of a recently discovered material or a newer version, the Norwegian Film Institute elected to restore *Bergenstoget Plyndret Inatt* “to promote the national film heritage”; this had the unexpected effect of rekindling research interest in the film, which led to a reconstruction and raised the possibility of additional work to perform.⁷⁸ Materials known to be missing after a restoration is completed point to the film’s future restoration life; for example, an archive may discover these materials at a later date and decide to restore the film again to include them. Reports can also make the case that materials consciously left out of a restoration should see the light of day. Larson argues that five pieces of alternative footage included in current prints but ignored by restorations of Dreyer’s *The Passion of Joan of Arc* should be made available to the public, as they are “an important part of [the film’s] production.”⁷⁹ It will be up to future restorers to fulfill or deny this suggestion, at which point the author’s report could be used as a basis for the decision.

Scanning Procedure. A film’s print materials are often scanned when digital restoration and preservation are required, and some reports relate the details of the scanning procedures followed. Depending on the researcher’s familiarity with scanning technology and intended audience, specificity of detail often varies. In an early example, Jong-Keang Bae touches on the digital workflow used to restore *A Prosecutor and the Lady Teacher*, which included scanning

⁷⁷ Wostry and Horak, “*Sodom and Gomorrah*,” 21.

⁷⁸ Aas, “Lucky Breaks and a Virtual Reconstruction,” 12.

⁷⁹ Larson, “Risen from the Ashes,” 73.

the film “with digital technology.”⁸⁰ Tybjerg and Christensen provide more specific details, identifying the use of a Spirit datacine to create a 2K digital intermediate of Dreyer’s *Der var engang* for editing and eventual transfer back to film.⁸¹ Dixon and Webb’s documentation of the various scanning strategies adopted for the silent Hitchcock film restorations reveals the individual needs of print materials; for instance, the authors observe that because the BFI’s then-new wet gate ARRISCAN film scanner “entail[ed] a slight but perceptible loss in definition,” the decision was made to conduct a dry scan of the *Blackmail* negative to determine which scenes absolutely required a wet scan.⁸² Georg Eckes details the scanning procedures adopted to ensure ideal Web viewing of the film materials while preserving 2K digital masters to avoid “compromis[ing] future restoration work or DCP production.”⁸³ Scanning procedures are documented due to their influence on the image quality of a restoration.

Digital Restoration Methodology. Documentation of digital restoration workflows helps to demystify the application of a virtual restoration process to a physical film element. Software can be used to repair dust, scratches, noise, and colour grading issues in a scanned print, and can be used to reconstruct a film without imposing upon its physical materials. Tybjerg and Christensen describe the use of an AVID editing suite to establish an EDL⁸⁴ for Dreyer’s *Der var engang*, which was used to reconstruct the film in high definition using an Inferno effects

⁸⁰ Jong-Keang Bae, “Two Restorations in Seoul.” *Journal of Film Preservation* 25 (1996): 52.

⁸¹ Tybjerg and Christensen, “The Restoration of Dreyer’s *Der var engang*,” 36.

⁸² Dixon and Webb, “London - Restoring Hitchcock,” 93.

⁸³ Georg Eckes, “World War I Goes Online: The EU Project ‘European Film Gateway 1914’ Digitizes Films from and about the First World War,” *Journal of Film Preservation* 90 (2014): 48.

⁸⁴ “Edit Decision List. A list of the decisions which describe a series of edits. Normally refers to a timecode-based file automatically generated by editing software, using widely adopted standards such as CMX 3400 and 3600.” International Federation of Film Archives, “Glossary of Film Technical Terms,” *FIAF*, accessed July 8, 2018, <http://www.fiafnet.org/pages/E-Resources/Technical-Terms-Full-List.html>.

workstation.⁸⁵ Irela Núñez emphasizes the effect of tight time constraints on the digital restoration work performed on F.W. Murnau's *Marizza*: the workflow prioritized more urgent correction work, and aspects such as clothing, furniture design, makeup, and even the look in a character's eye were made foci according to the restorers' impressions of the film's themes.⁸⁶ Byrne outlines the reasons for choosing a digital workflow to restore Brenon's *The Spanish Dancer*, including "the need to reconcile source material of two different gauges, physical film damage, emulsion deterioration that could only be repaired using digital tools, and the necessity to re-create missing titles."⁸⁷ Identifying the software used for digital restoration is an important step; if for some reason a digitally restored film were to become the film's only surviving version, information about the software used to restore it would be vital to determining the work performed. Consequently, reports such as those by Byrne and Núñez wisely identify the software used (i.e., DIAMANT) and provide necessary details about its capabilities.

Print Duplication. Print duplication is often performed to create a preservation master or access copy of a film by means of a dupe negative or projection print. Restoration reports often document print duplication efforts.⁸⁸ More detailed print duplication documentation tends to result from challenges presented by the print materials. Schobert provides one of the earliest examples of documentation on a modified optical wet gate printer setup to accommodate an uncommon film gauge, comprising a "claw mechanism" developed by Deutsches Filmmuseum

⁸⁵ Tybjerg and Christensen, "The Restoration of Dreyer's *Der var engang*," 36.

⁸⁶ Irela Núñez, "F. W. Murnau's Roman Holidays: Restoring the *Marizza* Fragment," *Journal of Film Preservation* 84 (2011): 48–9.

⁸⁷ Byrne, "Restoring *The Spanish Dancer* (1923)," 166.

⁸⁸ For example, see Korber (1994), Patalas (2005), Wagoner (2010), and Byrne (2012).

that the author offers up for use to other FIAF member institutions for similar projects.⁸⁹

Toulmin, Russell, and Neal provide a detailed analysis of how optical printer specifications were modified to duplicate the Mitchell and Kenyon collection, whose varying gauges and levels of shrinkage required feed and take-up sprocket adjustments, the addition of guide rollers to improve image registration, gate alterations to accommodate thick splices, and the addition of a subtractive light filter system to reduce discoloration.⁹⁰ Circumstances in which print duplication proves impossible due to time, money, or material constraints may also be noted, as Núñez exemplifies.⁹¹

Financing. Although financing information is absent from most of the surveyed reports, the reports that do provide it⁹² draw important attention to perhaps the most fundamental factor in all of the restoration work performed. Financing can undoubtedly affect the practical decisions made during a restoration. If an institution has money to perform only a 2K scan of a film element when the film obviously requires additional work—such as a higher-resolution scan, print duplication, or digital cleaning—documentation of the project funding would account for/justify the work conducted and prevent assumptions about the reasons for any approaches perceived of as substandard.

Current Status. Contrary to what the term suggests, a restoration is never final. Many of the reports considered here were written as the restorations they address were still in progress.

⁸⁹ Schobert, “Kaiser, Kintopp & Karossen,” 89.

⁹⁰ Toulmin, Russell, and Neal, “The Mitchell and Kenyon Collection,” 8.

⁹¹ “Although we knew it was safer to make a b&w dupe and then a Desmet print, lack of time prevented this option. It was also proposed to make color separations, but there was neither time nor film stock. One of the key elements of the laboratory – the only person who had had experience with the Desmet Method – had gone on vacation after the first week of work. So we decided to make a color internegative to ease the work, because laboratories generally feel safer with film color processes.” Núñez, “F. W. Murnau’s Roman Holidays,” 47–8.

⁹² See Schobert (1996), Schmidt (2003), Baptista (2005), and Núñez (2011).

Although reports on in-progress restorations may fail to account for decisions not yet made, many restorations take a great deal of time, and reports made in progress can draw attention to the challenges and needs faced by institutions and restorers. For instance, Masaki Daibo's report on *Siege and Surrender of Port Arthur* recommends a continued search for other war films outside Japan, given the apparent impossibility of achieving a complete restoration of the film.⁹³ James W. Castellan's report on Durborough's *On the Firing Line with the Germans* calls for help in finding remaining missing scenes.⁹⁴ Aas's report on *Bergenstoget Plyndret Inatt* is a unique example of a report reflecting the ongoing nature of restoration, as new information and elements associated with the film considered have routinely surfaced with each attempt at its restoration.⁹⁵ Indeed, many films are restored multiple times after new information or elements surface; this often occurs when attention is drawn to the film as a result of a restoration and its documentation. Several of the reports therefore consider a film's restoration histories where applicable.⁹⁶

Release/Reception Details. Many reports written upon completion of a restoration project include details about the film's release and often its reception. Núñez provides a wealth of information on the release of a fragment of Murnau's *Marizza* at the Pordenone Silent Film Festival, including its presentation in the catalogue and program, press release materials, accompanying trailer with music, and press reception.⁹⁷ Occasionally, the choice of release

⁹³ Masaki Daibo, "The Multiple Versions of Joseph Rosenthal's *Siege and Surrender of Port Arthur* (1905)," *Journal of Film Preservation* 92 (2015): 60.

⁹⁴ James W. Castellan, "Wilbur H. Durborough's Lost and Future 1915 World War I Documentary Film," *Journal of Film Preservation* 92 (2015): 51.

⁹⁵ Aas, "Lucky Breaks and a Virtual Reconstruction."

⁹⁶ For example, see Wilkening (2009), Bonnard (2016), and Larson (2017).

⁹⁷ Núñez, "F. W. Murnau's *Roman Holidays*."

location may contribute to the film's history. According to Wagoner, screening the restoration of *Huntingdon's Hero* in Huntingdon, Pennsylvania provided an "opportunity for many people to revisit a period of local history, to remember local figures and vanished landmarks, and also to celebrate the history of a small town."⁹⁸ Eckes's report on World War I films digitized for the European Film Gateway Project includes a comprehensive assessment of how the project partners used their own technical architecture to host and stream the films and link them with related information in libraries, archives, and museums.⁹⁹ Furthermore, Le Roy's report on *The Seashell and the Clergyman* reviews the four versions of the film and other special features provided on its DVD release.¹⁰⁰ Release and reception are important aspects of documentation, as they can inform analysis of a restoration's acceptance and cultural status and motivate additional decisions made for future restoration projects.

Images, Tables, and Figures. Restoration reports often include images, tables, and figures to exemplify their documentation. These elements vary widely in kind and content, ideally reflecting the decisions that went into a film restoration and the final results. Many of the surveyed reports exhibit scans of print materials to show relevant kinds of information or damage.¹⁰¹ Other elements include production and film stills,¹⁰² tables comparing print materials,¹⁰³ newspaper ads and scans of relevant primary sources,¹⁰⁴ and colour evaluation

⁹⁸ Wagoner, "The Huntingdon's Hero Story," 149.

⁹⁹ Eckes, "World War I Goes Online," 46.

¹⁰⁰ Le Roy, "La Coquille et le Clergyman."

¹⁰¹ For example, see Koerber (1994), Núñez (2011), and Byrne (2012).

¹⁰² For example, see Patalas (2005).

¹⁰³ For example, see Horak (2005), Baptista (2005), and Le Roy (2010).

equipment setups.¹⁰⁵ Some reports feature an extensive array of visual aids,¹⁰⁶ while others such offer few to none.¹⁰⁷ Although this aspect of documentation may be at the formatting whims of academic journals, images, tables, and figures are valuable assets for restoration reports, effectively communicating concepts that may be lost on the non-practitioner.

It is clear that many of these aspects interrelate (e.g., a piece of documentation may reveal/describe a film's content, which may in turn influence its reconstruction methodology). The goal of this chapter is not to establish stiff categories, but to address all of the observations typically made in film restoration reports, and in doing so provide a more thorough set of best practices that scholars may follow to document film restorations. The next chapter distils these aspects into a comprehensive guide for film scholars to approach archives and glean the relevant information to write thorough film restoration reports.

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See Wagoner (2010).

¹⁰⁵ See Flueckiger (2015).

¹⁰⁶ For example, see Bird (2009), Aas (2010), and Núñez (2011).

¹⁰⁷ For example, see Gunning (1985), Bae (1996), and Schobert (1996).

Chapter 4

A Film Scholar's Guide to Writing Silent Film Restoration Reports

Film scholars are encouraged to improve the documentation of silent film restoration projects by writing restoration reports. This requires engagement with film archives, an area not typically familiar to the film scholar who approaches film only theoretically. Film archivists require a thorough knowledge of nitrate film as a material artifact and the technological processes involved in restoration to restore a film. Familiarity with these aspects of film requires years of experience working inside and in cooperation with an archive. Fortunately, film archivists are wellsprings of the kind of knowledge upon which accurate documentation is built.

This guide is meant to help film scholars write silent film restoration reports by drawing their attention to specific aspects of restoration projects. Although not all of the aspects addressed may apply to a particular restoration project, scholars should explore their relevancy to ensure they produce thorough and accurate reports. In addition to the steps listed, several questions are provided that scholars may pose to gain the types of information they require. Indeed, scholars may also ask their own questions as befits their own approaches and theoretical arguments.

Step One: Choosing a Silent Film Restoration Project to Report On (and Where to Report It)

This may be an already-completed restoration, or a restoration currently in progress. Film festival lineups provide an excellent resource for silent film restoration projects, as festivals such as *Il Cinema Ritrovato* in Bologna, Italy; *Le Giornate del Cinema Muto* in Pordenone, Italy; and the San Francisco Silent Film Festival in San Francisco, USA often influence the films chosen for restoration. Your research should reveal whether a restoration has already been reported on.

Such restoration reports are typically published in journals, such as *Journal of Film Preservation* and *The Moving Image*; however, they can take on a variety of forms, such as newspaper articles and DVD release essays.

Step Two: Determine Who is Responsible for the Restoration

Archives typically oversee silent film restoration projects. It is important to determine which individuals at the archive are responsible for the decisions made on a project. Restoration project team members include restorers, curators, laboratory technicians, and other archivists. The archive should be able to direct you to the pertinent individuals.

Step Three: Approach the Archive and Restoration Project Team Members for Information

Policies on openness to researchers vary by the archive, but most archives should have means of establishing contact with archivists to obtain information. Research the archive's policies and procedures related to restoration practices ahead of time. Begin your correspondence with an archive by introducing yourself and your intention to write a restoration report. Ask the archive if it can direct you to members of the restoration team responsible for the restoration.

Team members should be contacted and their roles explicitly stated in the report. Where possible, interviews with team members are important and often necessary to gain the information required for a report. These interviews should be scheduled and recorded for reference. The archive also may provide internal documentation that reveals important information such as the condition of the original film print(s), laboratory instructions, and recommendations for treatment of the film at different stages in the restoration. Although archivists are typically the audience for this information, the information may prove useful when asking archivists about the work they performed.

Step Four: Acquire the Relevant Information for the Restoration Report

Instructions are included as follows, along with questions that may be posed to team members. Of course, additional questions may be asked for clarification and/or expansion on a point of interest.

State the Goal of the Restoration. Why was the film chosen for restoration? What was the goal of the restoration? Was there an effort made to return the film to an “original” state? If so, what was that state? Does the goal of the restoration adhere to the archive’s restoration-related policies and procedures?

Outline the Print Genealogy. Where did the print materials come from? How were they created? Who donated them? Where and how were they discovered? Were they transferred to the archive from a different institution/collection?

Describe the Print Material Assessment Process. How were the print materials assessed? What was their condition? Why were these prints chosen for the restoration?

Detail the Reconstruction Methodology. Did the film require reconstruction? If so, what dictated the reconstruction decisions? How was the reconstruction edited together? Did the institution work with outside parties to obtain elements, materials, or other information?

Describe the Documents Consulted. What documentation was consulted to inform the decisions made about the restoration? Were any of the following kinds of documents consulted: censorship records, newspaper articles, reviews, continuity scripts, shot and intertitle lists, film catalogues, donation records, diaries, price lists, and/or production company histories?

Explain How the Intertitles were Assessed. What decisions were made about the film’s intertitles? Were the original intertitles intact? Were new intertitles created? If so, what sources were used to inform their content and design?

Outline the Colour Restoration Process. Did the film's colour require restoration? If so, what process was used to restore the colour? How were the colours chosen?

Describe the Print Duplication Procedure. Were any preservation elements created for the restoration? If so, where and how were the duplications made? Which processes were followed, and which printing machines were used?

Outline the Scanning Procedure. Were any film elements scanned for the restoration? If so, what types of scanner and software were used? What resolution were the elements scanned at? Did the film's physical condition present challenges to the scanning procedure?

Detail the Score Treatment. How was the film's score addressed? Was the original score available? Were efforts made to compose a new score? If so, how was the music presented upon the restored film's release?

Describe the Materials Missing from/Added to the Restored Film. Were any of the film's materials missing? If so, how did the restoration compensate for these missing materials? What materials, if any, were added to the film to accomplish the restoration?

Detail the Digital Restoration Methodology. Was the film subjected to digital restoration work? If not, why not? If so, what kind of work was performed? What kind of software was used?

Detail How the Restoration was Financed. Who were the parties involved in financing the restoration? Did the archive receive government funding, or was financing gathered in a different way?

Describe the Current Status of the Restoration. What is the current status of the restoration? What additional work is required, if any?

Step Five: Conduct Independent Research

In addition to the kinds of information gained from archives and restoration project team members, film scholars can conduct their own independent research and include information they deem relevant in the report. Examples of these kinds of information are provided as follows.

Present a Theoretical Argument. Determine whether the restoration raises a theoretical issue that must be explored. Present an argument.

Describe the Film's History. This may include a description of the film's original presentation and/or exhibition, production history, director/cast biographies, or any other historical aspect relevant to the decision to restore the film.

Provide a Content Synopsis. Describe any relevant content of the film. This may take the form of a plot synopsis or a description of an important characteristic (e.g., lighting, dialogue).

Outline the Release/Reception of the Restoration. How was the restored film released? What was the response to the restoration?

Step Six: Assemble an Appendix

Your appendix should include relevant images, tables, and/or figures. Examples include film and production stills, scans of print materials, and tables comparing print elements. Images, tables, and figures should ideally reflect the foci of the report. The archive may provide you with such materials and ask that they be properly credited. If a restoration is currently in progress, consider requesting the opportunity to take your own photographs of the process.

Chapter 5

The Restoration of *Gräfin Küchenfee*

Siegfried Kracauer's classification of Wilhelmine period (1895-1918) German cinema as "archaic" and its films as belonging to a "junk heap" may be harsh,¹⁰⁸ but the lost films from the period do nothing to dispel his observation that German cinema did not come into being until after the First World War.¹⁰⁹ Even the title of Kracauer's *From Caligari to Hitler* suggests that German cinema began with the films of director Robert Wiene. Yet the title also serves to undercut Wiene's extensive film career, a career that began seven years before *Caligari* and produced 37 films written and/or directed by Wiene until his best-known film became the exemplar of German Expressionism and a flagship entry in any modern analysis of film style and mise-en-scène.¹¹⁰ During the First World War, Wiene wrote and directed for Messter Films amidst a slew of other production companies churning out comedies featuring stage actors that compelled the middle class of an isolated Germany to attend increasingly lavish cinemas.¹¹¹

Henny Porten plays the two parts that make up the oxymoronic title of *Gräfin Küchenfee*: kitchen maid Karoline Blume, who aspires to leave behind her lower-class life for the glamour of acting, and Countess Gyllenhand, her insouciant and uncultured superior. When the count (Heinrich Schroth) and countess leave the manor, she in the company of three doting suitors (Ernst Hofmann, Reinhold Schünzel, and Martin Lübbert), the staff also vacate, leaving Karoline

¹⁰⁸ Siegfried Kracauer, *From Caligari to Hitler: A Psychological History of the German Film* (Princeton, NJ: Princeton University Press, 2004): 28.

¹⁰⁹ Ibid., 15.

¹¹⁰ Uli Jung and Walter Schatzberg, "Robert Wiene's Film Career Before *Caligari*," in *Prima di Caligari: Cinema tedesco, 1895-1920*, eds. Paolo Cherchi Usai and Lorenzo Codelli (Pordenone, Italy: Le Giornate del Cinema Muto, 1990), 292.

¹¹¹ Kracauer, *From Caligari to Hitler*, 22.

alone to train for her craft by impersonating the countess. When a court-appointed dignitary comes calling to judge the countess' fitness for her nobility, Karoline recruits the staff to stage an upper-class dinner party in disguise, leading to great comic effect as butlers disappear only to reappear as princes. Meanwhile, the countess is arrested for public drunkenness and summoned to court, where she pretends to be Karoline to avoid the inevitable scandal. All is resolved when Karoline conspires with Countess Gyllenhand and disguises herself one more time to sort things out at the courthouse. Uli Jung and Walter Schatzberg note the "recurrence of classical comic situations involving mistaken identities, masquerades, disguises and impersonations" in Wiene's Wilhelmine period comedies, with two thirds of the filmmaker's comedies featuring these themes.¹¹² Although the authors avoid making the connection, *Gräfin Küchenfee* also adheres to Wiene's tropes of the social climb/fall and the legal matter.¹¹³ Furthermore, Thomas Brandlmeier calls the mistaken-identity plot convention a product of the "underlying sense of violence" that pervaded the German Empire during the First World War, expressed in the dialectic of economic progress and regression: "Secretly, the farmer wants to be a city gent, the craftsman an entrepreneur, and the grocer a businessman. Comedies drawn from the problems of these status-seekers manifested the comic in inappropriate forms of craftiness and underhandedness."¹¹⁴

Scenes in which Porten appears as both characters were accomplished via split screen (see Figure 1).

By the time Porten filmed *Gräfin Küchenfee* (1918), she had already become a star of the screen. In contrast to many of her contemporaries, Porten had no previous training on the stage.

¹¹² Ibid., 298.

¹¹³ Ibid., 302.

¹¹⁴ Thomas Brandlmeier, "Early German Film Comedy, 1895-1917," in *A Second Life: German Cinema's First Decades*, ed. Thomas Elsaesser (Amsterdam: Amsterdam University Press, 1996): 107.

While her sister Rosa would achieve recognition as a comedic actor, writer, and director in films such as *Die Landpomeranze* (1917) and *Der neueste Stern vom Variété* (1917), Henny would come to be known as her sister's dramatic counterpart, playing the object of a murderous postman's affection in *Hintertreppe* (1921) and Mary in the biblical film *I.N.R.I.* (1923). Yet Kracauer hints at Porten's comedic past in his description of her as the "ideal type of German woman ... playing with equal ease comic and tragic parts"¹¹⁵ Indeed, Porten appeared in 10 of Wiene's Wilhelmine period comedies and grew so comfortable with Wiene, actor/director Rudolf Biebrach, and other Messter crewmembers in the process of making films such as *Der Liebesbrief der Königin* (1916), *Die Prinzessin von Neutalien* (1917), and *Ihr Sport* (1919) that she found the switch to Ernst Lubitsch's direction beginning with UFA's *Anna Boleyn* (1920) an intimidating prospect.¹¹⁶ Of course, the legacy of Porten as purely a dramatic actress is only emphasized by the lack of surviving material from her Messter films. When a new print from the period appears, its restoration should do its part to argue against this legacy.

Due in no small part to Porten's fame, *Gräfin Küchenfee* was chosen for restoration and presentation at the 32nd edition of *Il Cinema Ritrovato*, an annual festival held in Bologna, Italy and devoted largely to the presentation of films restored from archival collections. EYE Filmmuseum silent film curator Elif Rongen-Kaynakçi selected the film as a restoration and presentation candidate after identifying it and registering it into EYE's film collection.¹¹⁷ Ultimately, festival curator Mariann Lewinsky, who viewed *Gräfin Küchenfee* upon its recommendation by EYE, decided to show the film as part of the 2018 lineup at *Il Cinema*

¹¹⁵ Ibid., 25.

¹¹⁶ Jung and Schatzberg, "Robert Wiene's Film Career Before *Caligari*," 306.

¹¹⁷ Elif Rongen-Kaynakçi (silent film curator, EYE Filmmuseum), in discussion with the author, May 2018.

Ritrovato, thereby providing an official impetus for the restoration.¹¹⁸ The goal was to present a version of the film as close to the nitrate source material as possible. The restoration adhered to EYE's policies on film restoration, as it was based on the restoration team's film historical knowledge and assessment of the original historical, technological, and aesthetic characteristics of the film to be restored. A complete examination of the film materials was performed to assess the film's aesthetic and technological qualities and determine the eligibility of its materials.¹¹⁹ An analogue film restoration was chosen to remain faithful to the source materials. In addition, a duplicate negative was created, along with a new analogue projection copy.¹²⁰

Gräfin Küchenfee was discovered among 800 cans of film materials, including 150 cans of nitrate materials, donated to EYE in intervals from 2013 to 2015. The collector, Dutch projectionist Hans van der Molen, had died, leaving an acquaintance, Gerard Manshanden, to sort through and donate the films. Van der Molen was considered to have arranged private screenings of his collection, which was originally thought to comprise mostly pornographic materials. However, Rongen-Kaynaçki and interns at the EYE Collections Centre discovered several silent films among the nitrate, including *Gräfin Küchenfee*.¹²¹ Intern Ilse Van der Spoel composed a viewing report identifying the film on June 2, 2017. Her inspection indicated good image quality and designated the film as "complete enough,"¹²² noting a shortage of 370 m of

¹¹⁸ Although originally considered a candidate for the festival's "100 Years Ago" program, *Gräfin Küchenfee* would ultimately be presented as part of the "Recovered and Restored" program.

¹¹⁹ EYE Filmmuseum, *Collectiebeidsplan 2018-2021* (Amsterdam: EYE Filmmuseum, 2018): 19.

¹²⁰ *Ibid.*, 20.

¹²¹ Ilse van der Spoel, "Finishing the Van der Molen/Manshanden Collection: Findings and Conclusions," *Collectieblog, EYE*, October 3, 2017, <https://www.eyefilm.nl/finishing-the-van-der-molenmanshanden-collection-findings-and-conclusions>.

¹²²

materials based on lengths indicated by *Paimann's Filmlist*,¹²³ apparently accounting for the absence of intertitles 82 to 96 and scenes in between. The nitrate materials were chosen for the restoration due to their uniqueness; no other archives or online databases indicated another collection housing the film.

The *Gräfin Küchenfee* nitrate was tinted and toned, and the decision was made to replicate the colours using the Desmet colour application method. Film restorer Annike Kross examined the nitrate on a light table at the EYE Collections Centre (see Figure 2). Although the print bore some damages such as occasional scratches (see Figure 3), these were considered minimal and the print was recommended as suitable for duplication. Laboratory technicians at Haghefilm in Amsterdam ran the tinted and toned nitrate through an Andre Debris S.A. Paris optical step printer to create a black and white duplicate negative, which they passed through a wet-gate-equipped Bell & Howell contact printer twice to create a positive print with simulated tinting and toning (see Figures 4 and 5). Kross compared the colours in the nitrate on a light table with tinting and toning swatches taken from a book maintained by Haghefilm, each bearing the corresponding values of red, green, and blue light to shine on the negative to create the desired colour on the positive print (see Figures 6 and 7). The nitrate colours were defined based on the strongest point of the tint or tone, typically found at the edge of the filmstrip, where wear and fading were less prominent. The goal was to obtain a simulated tinting and toning scheme that would look as much as possible like that of the original nitrate. Digital restoration work on the

EYE Filmmuseum defines its film materials according to four degrees of completeness: “fragment,” “incomplete,” “complete enough,” and “complete.” These assessments are made based on the expertise of EYE archivists and do not rely on a specific set of evaluation metrics.

¹²³ Franz Paimann [1918], “Film-Liste Nr. 103,” Film Archiv Austria, accessed July 8, 2018, http://old.filmarchiv.at/efg/filmarchiv/paimann/1917_1918/Paimann_103_3.jpg.

film was deemed unnecessary because damage to the nitrate print was not considered visually disturbing enough.

Given the print's uniqueness, its missing scenes could not be found elsewhere; therefore, no reconstruction was attempted. Furthermore, no efforts were made to conduct additional research from primary sources such as censorship cards, continuity scripts, or intertitle lists, as the team felt that such efforts would not justify the time and money required. A small amount of editing was deemed necessary, as it was discovered that intertitles 53 and 54 had been transposed in error; upon viewing the film, Rongen-Kaynakçi and Kross agreed that the title card reading “Ik geef me 8 dagen vrij af” (“I give myself 8 days off”), which had been edited into a scene to indicate its vocalization by Porten, made more sense when attributed to the head chef in an earlier scene (see Table 2). The intertitle transposition was performed on the duplicate negative to avoid interfering with the nitrate (see Figures 8 and 9). Intertitles were left in Dutch, with no title reconstruction or translation attempted.

Gräfin Küchenfee's missing scenes include Countess Gyllenhand's citation, her return to the manor, and her discovery of Karoline's ruse; the film jumps from the end of the dinner party to a scene of Karoline apologizing to Countess Gyllenhand, followed by the two women scheming. Although the idea was floated to insert an explanatory title card accounting for the missing scenes and intertitles, the team felt this unnecessary for several reasons. First, the degree of confusion caused by the absence was insufficient to demand explanation. Second, audiences who watch films at *Il Cinema Ritrovato* typically comprise those familiar with the conventions of silent cinema and would not necessarily require an explanation for the missing material. Finally, Lewinsky, who favoured as little intervention in restored materials as possible, consented to the presentation of the film as is. As such, no explanation titles were included, although this decision

might change if and when the film is presented in another context, such as at a festival with a different sort of audience or in a readily accessible digital format.

Advertisements in contemporaneous newspapers identified *Gräfin Küchenfee* as having three acts (e.g., *Nieuwsblad van het Noord*, December 12, 1918). The nitrate print arrived at EYE in two reels without beginning or end titles; however, the collector or another projectionist had appended the “*Derde Acte*” (“Third Act”) title card to the beginning of the film, apparently to create a makeshift title card for the film’s compressed two reels (see Figure 10).

Kross and Rongen-Kaynakçi assessed the completed positive print on a Steenbeck editing table at the EYE Collections Centre (see Figure 11). Upon its approval, the duplicate negative was scanned at a 2K resolution on a Scanity at the Collections Centre to create a low-resolution black and white screener, which was sent to Bologna to prepare the musicians and allow for the composition of English and Italian subtitles. Kross hopes that this restoration and similar restorations moving forward will have the Desmet method applied digitally to dupe neg scans for access to the restorations, rather than scanning positive prints, as dupe negs would offer more visual information.¹²⁴

Like most of the silent films screened at *Il Cinema Ritrovato*, *Gräfin Küchenfee* received improvised (i.e., unwritten) musical accompaniment, in this case from Stephen Horne on piano, flute, and accordion and Frank Bockius on drums. Despite available credits identifying Giuseppe Becce as the film’s music composer,¹²⁵ *Gräfin Küchenfee* had no score to speak of, and no effort has been made to write and record one, chiefly due to its status as a lightweight comedy. Its *Ritrovato* catalogue notes include a plot synopsis written by Rongen-Kaynakçi in English and translated into Italian. In addition, a cast list credits Biebrach as director; Wiene as writer; Karl

¹²⁴ Annike Kross (film restorer, EYE Filmmuseum), in discussion with the author, May 2018.

¹²⁵ “*Gräfin Küchenfee*,” *Filmportal.de*, accessed July 8, 2018, <https://www.filmportal.de/en/node/11243/gallery>.

Freund as cinematographer; Ludwig Keiner as art director; Porten, Schroth, Biensfeldt, Hoffman, Schünzel, and Lübbert as actors; and Oskar Messter for Messter-Film GmbH as producer. Its physical specifications identify a 35 mm print with a length of 950 metres, a duration of 46 minutes at a running speed of 18 frames per second, and Dutch intertitles. One note explains that the film was “[p]reserved in 2018 by EYE at Haghefilm laboratory from a vintage tinted nitrate with Dutch intertitles preserved at EYE.”¹²⁶ Finally, the notes accompany a black and white still of Karoline and the head chef conversing in the manor kitchen. The film was screened as the second film in a trio of Wilhelmine period comedies, following Bundesarchiv’s 2017 restoration of Lubitsch’s *Der Fall Rosentopf* (1918) and preceding Hubert Moest’s *Puppchen* (1918), another EYE restoration performed in 1992 and included as part of the “100 Years Ago” program.

EYE Filmmuseum receives funding from the Ministry of Education, Culture, and Science; the Municipality of Amsterdam; and Provincie Noord-Holland.¹²⁷ This funding is allocated yearly to EYE’s different departments, and curators are tasked with dividing it to address the financial needs of its silent, experimental, Dutch, and other film collections, which often overlap. *Gräfin Küchenfee* proved a comparatively simple case in terms of financing, as EYE did not have to enter into contracts with other institutions and the laboratory work and timeframe for restoration and presentation could be determined early in the financial cycle. As such, the departmental money could be accounted for and used with few extraneous factors affecting it.

¹²⁶ “*Gräfin Küchenfee*,” In *Il Cinema Ritrovato XXXII edizione*, edited by Alice Autelitano and Alessandro Cavazza (Bologna, Italy: Fondazione Cineteca di Bologna, 2018): 15.

¹²⁷ EYE Filmmuseum, “Government and Funds,” *EYE*, accessed July 8, 2018, <https://www.eyefilm.nl/en/support-eye/partners>.

Although “complete enough” by EYE’s account, *Gräfin Küchenfee* continues to lack approximately 370 metres of its climax. Until this footage appears, we are left to imagine the moment at which Henny Porten discovers her own talent to deceive. For now, the restoration team at EYE and Haghefilm has brought this formerly lost Wilhelmine period comedy back into being.

Chapter 6

Conclusion

Published documentation of film restorations is sorely needed. Internal archival documentation, which is not viewable to film scholars, is often inadequate because it is written for archivists and laboratory technicians and primarily serves to make the film restoration workflow more efficient. Furthermore, most scholarly work focuses on well-known restoration titles while ignoring the many other titles restored by institutions around the world year after year. Film scholars can help to improve film restoration documentation by writing and publishing restoration reports on lesser-known works. However, the relationship between film scholars and film archivists must first be improved, as these groups tend not to interact during the film restoration process.

The guide presented in this thesis is meant to help film scholars engage with film archivists to write detailed and accurate reports on silent film restoration projects. Based on a survey of 30 silent film restoration reports written over more than 3 decades, typically by archivists or those directly involved in the restoration projects they discuss, the guide distills the information those reports contain to establish best practices for composition. This thesis contends that film scholars should help to write silent film restoration reports by obtaining the necessary information from archivists. Moreover, it contends that film restoration documentation is an ethically necessary archival practice, particularly for FIAF member institutions, whose *Code of Ethics* states as much. This thesis also observes that film restoration studies have held terms such as “restoration” and “reconstruction” in contention; in doing so, it emphasizes that any guide followed to document a film restoration must be definition agnostic. Film scholars, and indeed any individual writing film restoration documentation, must define their own terms based on

solid justifications. In addition, those who restore films should have sound grounds for justifying their decisions, at the very least because these decisions will be documented for future scholars and archivists to consider.

Limitations

The guide presented in this thesis is intended to help film scholars write restoration reports for silent films. As such, it does not reflect best practices for reporting on restorations of sound films. Soundtracks require digitization and restoration apart from image materials and have their own related processes. Considering reports on sound film restoration projects would have required a more extensive literature survey than demanded for this thesis, and as this thesis was born out of a research residency at which I became familiar with silent film materials in particular, I thought it best to exclude sound film restoration projects from my analysis. I intend to add best practices for writing sound film restoration reports to future editions of the guide presented herein.

In addition, all of the silent film restoration reports considered in the literature survey for this thesis are written in and/or translated into English, whether in whole or in part. Film restoration reports have been written in as many languages as restorers speak. To name an example, film periodical *Cinegrafie* contains Italian-language reports on restoration projects completed out of L'Immagine Ritrovata and elsewhere. These reports require translation into English, which may prove a fruitful focus for the initiated and serve to broaden the scope and surveys of theses such as this one. Film restoration is practised around the world, and its documentation reflects the many languages restorers use to converse with one another and with academics.

Finally, due to time and project constraints, this thesis presents only a single showcase of the usage of the film scholar's guide to writing film restoration reports. Additional examples might have done more to improve the guide's flexibility, as each restoration project presents different challenges. As the guide is based on the experience of a research residency at a single FIAF member institution, its universal applicability to all other FIAF member institutions and any other archive or laboratory cannot be ensured. Future studies should extend the guide to additional institutions and projects to improve its usage.

Recommendations

This thesis is written by a film scholar and is primarily intended for an audience of film scholars. Therefore, any recommendations made should be made to film scholars primarily. First, film scholars are encouraged to view film as an archival material, rather than merely as a "text" to which theory can be applied without attention paid to its physicality. Scholars are in danger of making grievous theoretical errors when commenting on an attribute of a film restoration and its significance without recognizing details about the changes made or indeed without recognizing that a restoration even took place. Second, film scholars are encouraged to use the guide to establish relationships with archives and acquire the kinds of information required to write thorough and accurate restoration reports and thereby increase the amount of film restoration documentation overall. In addition, film scholars should improve upon the guide presented in this thesis by determining the challenges faced by additional restoration projects in other institutions. Real-world application of the guide is the only way to fully ensure its thoroughness and quality, and should help it to meet the requirements of any silent film restoration report.

Recommendations should also be made to archivists and, more specifically, film restorers to ensure the improvement of film restoration documentation. Archivists often find themselves

with neither the time nor the inclination to write reports that are comprehensive to either film scholars or even interested laypersons, preferring instead to provide documentation that only curators, restorers, and laboratory technicians can decipher to complete projects. Archivists should make their documentation and expertise available to curious academics and provide a closer and informed look at the processes associated with film restoration. Certainly, an archivist's expertise should be exercised to prevent novices from interfering directly with archival materials. However, documentation of a film restoration does not require interaction with those materials. As many of the reports surveyed in this thesis exhibit, film restoration reports require facts above all. Recording the brand of an optical printer should not prove to be a laborious task, nor should photographing that optical printer to explain its role in a restoration. Archivists should be assured that their expertise is invaluable to not only restoration, but also documentation, and to the perpetuation of a general understanding of how a film is returned to an original state. As such, archivists are recommended to share that expertise with film scholars when asked to do so.

FIAF Technical Commission Efforts to Improve Archival Documentation

As of 2018, a team overseen by FIAF Technical Commission Head Céline Ruivo and Laurent Bismuth, Head of Cataloguing and Documentation Department at *Centre national du cinéma et de l'image animée*, is working to create a “user-friendly” form of archival documentation that FIAF member institutions can use to document film restoration projects.¹²⁸ Bismuth recently presented the findings and progress of his team's research as part of a panel at the 32nd edition of *Il Cinema Ritrovato*. It is hoped that these new archival reports will improve documentation by standardizing the types of information documented, maximizing the

¹²⁸ International Federation of Film Archives, “FIAF Bulletin Online,” *FIAF*, June 2018, 32, accessed July 8, 2018, https://www.fiafnet.org/images/tinyUpload/Publications/FIAF-Bulletin-Online_/2018-FBO15-web-3.pdf.

completeness of that information for every film restoration project, and clarifying language and presentation to make archival documentation more comprehensive and accessible to members of the archival profession. Clearly, work is being done to improve documentation of restoration projects within FIAF member institutions, and efforts such as those of the FIAF Technical Commission may ensure that documentation for all projects, not just every *Metropolis* or *Napoléon*, will receive the same attention from archivists.

However, the Technical Commission's work must be met by an equal effort from those outside the archive to document restoration projects for academics and indeed the public at large. This effort requires an understanding of the workflows and processes used to restore specific films, an understanding that only archival professionals can provide. Film scholars should engage with film archivists to obtain information about film restoration projects to write detailed and accurate reports, and film archivists should use their technical knowledge to inform theoretical approaches to film restorations and consider those approaches in their work on restoration projects. Cooperation from both sides should improve not only restoration documentation as a whole, but also how films are seen, and seen again.

Appendix

Table 1. Common Aspects of Restoration Studies

	Theoretical Issue	Film History	Content Synopsis	Print Genealogy	Goal Statement	Print Material Assessment	Reconstruction Methodology	Release/ Reception Details	Doc Cc
Gunning (1985)	X				X	X	X		
Koerber (1994)		X	X	X	X	X	X		
Bae (1996)	X	X		X	X	X			
Schobert (1996)		X	X	X	X	X		X	
Worschech and Schurig (2000)		X			X	X		X	
Toulmin, Russell, and Neal (2003)	X	X	X	X	X	X			
Schmidt (2003)	X			X	X	X	X		
Wostry and Horak (2003)	X	X		X	X	X	X		
Tybjerg and Christensen (2004)					X	X			
May (2005)		X	X	X	X	X	X	X	
Baptista (2005)		X		X	X	X			
Patalas (2005)				X	X	X	X	X	
Horak (2005)	X	X	X	X		X		X	
Bird (2009)		X			X	X	X	X	
Wilkening (2009)		X		X	X	X			
Le Roy (2010)		X			X	X	X	X	
Aas (2010)		X		X	X			X	
Wagoner (2010)		X		X				X	
Núñez (2011)				X	X	X		X	
Byrne (2012)		X		X	X	X	X		
Dixon and Webb (2012)				X	X	X		X	
Eckes (2014)				X	X	X		X	
Walsh and Haggith (2014)		X		X	X	X		X	
Diabo (2015)	X	X				X			
Flueckiger (2015)	X			X	X	X			
Castellan (2015)		X		X	X	X	X		
Choi (2016)	X	X		X	X	X		X	
Bonnard (2016)	X	X		X					
Pelletier (2017)	X	X		X		X		X	
Larson (2017)	X	X		X	X	X	X	X	

Continued on next page.

	Intertitle Assessment	Colour Restoration	Score Treatment	Missing/Added Materials	Scanning Procedure	Digital Restoration Methodology	Print Duplication	Financing Details	
Gunning (1985)	X			X					
Koerber (1994)	X	X					X		
Bae (1996)					X	X			
Schobert (1996)							X	X	
Worschech and Schurig (2000)			X				X		
Toulmin, Russell, and Neal (2003)							X		
Schmidt (2003)	X							X	
Wostry and Horak (2003)	X	X		X			X		
Tybjerg and Christensen (2004)	X			X	X	X	X		
May (2005)		X				X	X		
Baptista (2005)	X	X						X	
Patalas (2005)	X		X				X		
Horak (2005)				X					
Bird (2009)						X			
Wilkening (2009)		X							
Le Roy (2010)									
Aas (2010)				X					
Wagoner (2010)							X		
Núñez (2011)	X	X			X	X	X	X	
Byrne (2012)	X	X		X	X	X	X		
Dixon and Webb (2012)	X	X	X		X				
Eckes (2014)					X	X			
Walsh and Haggith (2014)	X		X						
Daibo (2015)									
Flueckiger (2015)		X			X	X			
Castellan (2015)									
Choi (2016)				X	X				
Bonnard (2016)									
Pelletier (2017)									
Larson (2017)	X		X	X					

Note. Film history includes history of film production/exhibition, director/cast biographies, or anything other historical information pertinent to the restoration. Print genealogy refers to the history of the print materials, including the circumstances of their creation, donation, discovery, and/or transfer from one institution/collector/etc. to another.

Table 2. *Gräfin Küchenfee* Intertitle Sequencing

Incorrect Sequence



Corrected Sequence





Figure 1. Henny Porten's dual role: An example of the split screen effect used in *Gräfin Küchenfee*.



Figure 2. Film restorer Annike Kross examines the nitrate print of *Gräfin Küchenfee* and completes a condition report at EYE Collections Centre before sending the print to Haghefilm for duplication.



Figure 3. Sample of damage (thick scratches) across frames on the nitrate print of *Gräfin Küchenfee*.

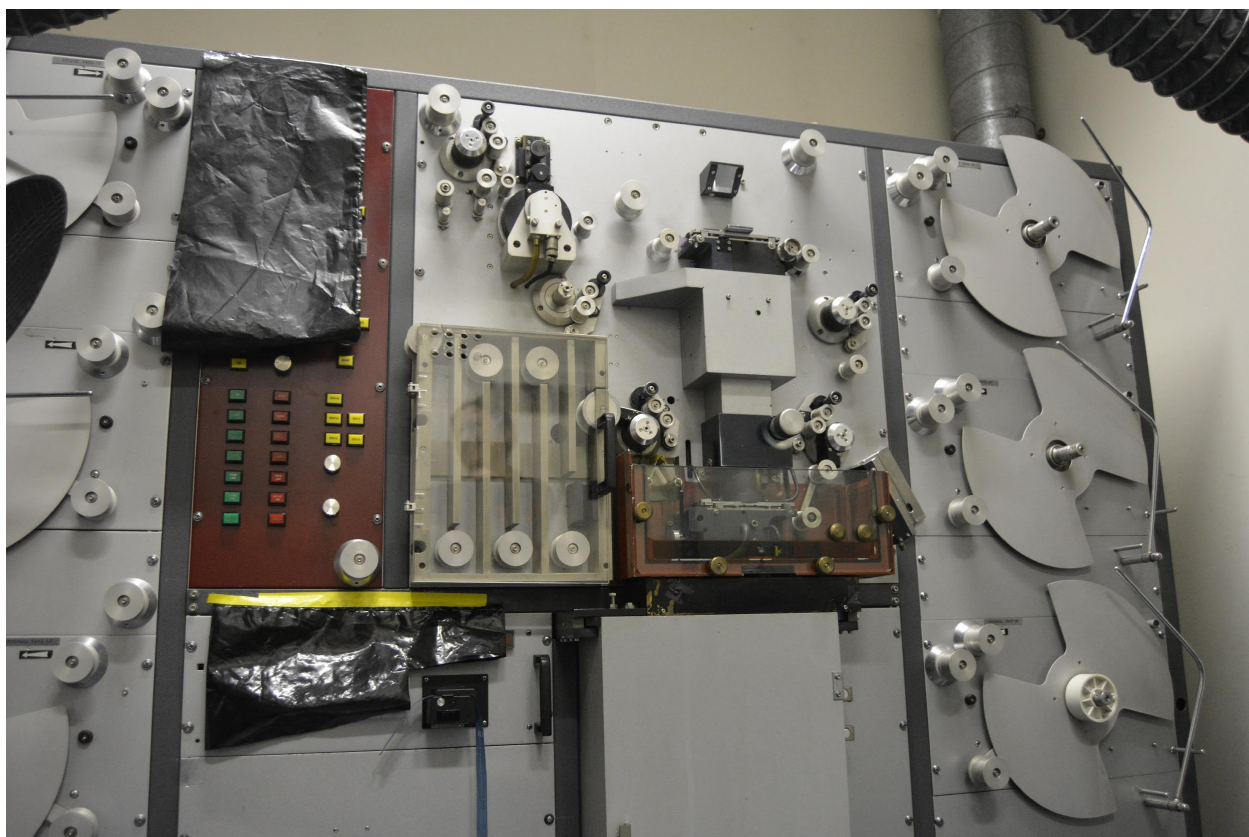


Figure 4. Andre Debris S.A. Paris optical step printer used to create the duplicate negative from the original nitrate at Haghefilm.



Figure 5. Bell & Howell contact printer used to create the Desmet colour print at Haghefilm.

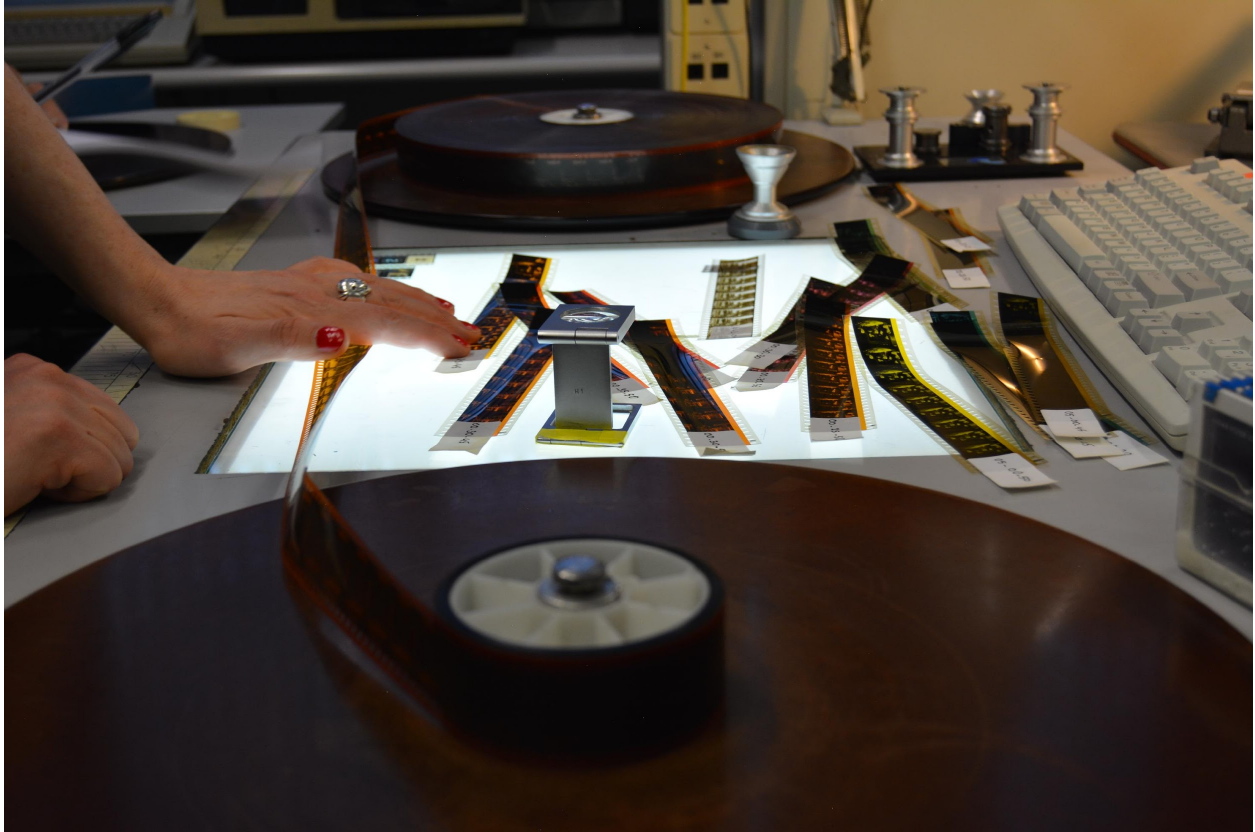


Figure 6. Selecting swatches for the Desmet colour application process at Haghefilm.



Figure 7. The tinting and toning values are recorded for application. The three numbers represent values of red, green, and blue light, respectively, shone through the negative to create the desired colour on the positive print.



Figure 8. Conservationist Juan Vrijs examines the dupe neg for editing on a light table at Haghefilm.

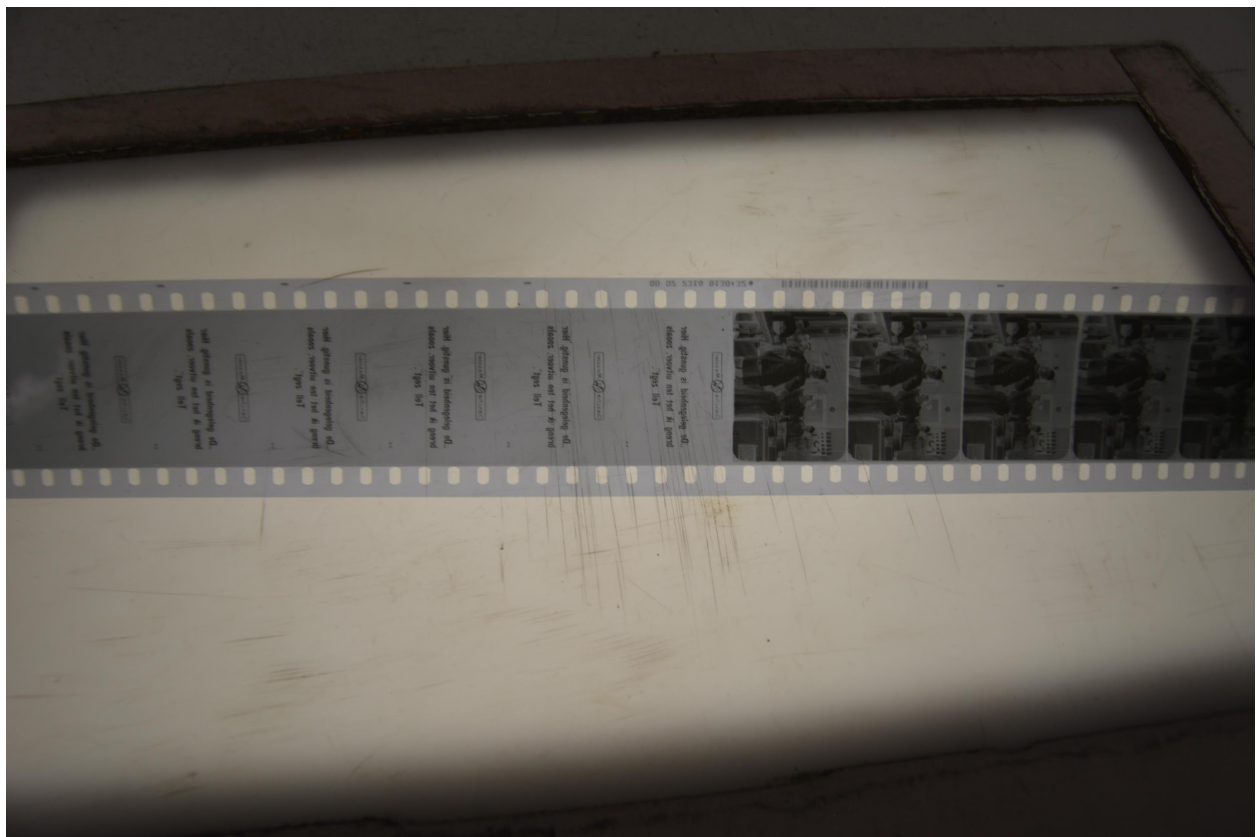


Figure 9. Duplicate negative exhibiting the corrected intertitle sequencing.



Figure 10. Dutch title card for *Gräfin Küchenfee*. The third act title card was edited onto the head of the film to serve as a main title card. Note the effort to black out the “Derde Acte” text to prevent confusion.



Figure 11. Viewing the completed colour print on a Steenbeck editing table at EYE Collections Centre. The title card has been maintained as included in the nitrate.

Bibliography

- Aas, Nils Klevjer. "Lucky Breaks and a Virtual Reconstruction: Bringing *Bergenstoget Plyndret Inatt* Back to Life on the Screen." *Journal of Film Preservation* 83 (2010): 12–5.
- Bae, Jong-Keang. "Two Restorations in Seoul." *Journal of Film Preservation* 25 (1996): 51–3.
- Baptista, Tiago. "‘Il faut voir le maître’: A Recent Restoration of Surgical Films by E.-L. Doyen (1859-1916)." *Journal of Film Preservation* 70 (2005): 42–50.
- Bird, Christopher. "‘Europe Ain’t Gonna See This Scene!’: Working with Variant Versions in Photoplay Productions’ Restoration of *The Cat and the Canary*." *The Moving Image* 9, no. 2 (2009): 149–63.
- Bonnard, Martin. "Méliès’s *Voyage* Restoration: Or, The Risk of Being Stuck in the Digital Reconstruction." *The Moving Image* 16, no. 1 (2016): 139–47.
- Brandlmeier, Thomas. "Early German Film Comedy, 1895-1917." In *A Second Life: German Cinema’s First Decades*, edited by Thomas Elsaesser, 103–13. Amsterdam: Amsterdam University Press, 1996.
- Busche, Andreas. "Just Another Form of Ideology? Ethical and Methodological Principles in Film Restoration." *The Moving Image* 6, no. 2 (2007): 1–29.
- Byrne, Rob. "Restoring *The Spanish Dancer* (1923)." *The Moving Image* 12, no. 2 (2012): 161–9.
- Castellan, James W. "Wilbur H. Durborough’s Lost and Future 1915 World War I Documentary Film." *Journal of Film Preservation* 92 (2015): 45–52.
- Choi, Sowon. "A New Restoration Proposal Dedicated to New Discoveries: German Missionary Films Shot in Korea in 1925." *Journal of Film Preservation* 94 (2016): 59–64.
- Daibo, Masaki. "The Multiple Versions of Joseph Rosenthal’s Siege and Surrender of Port Arthur (1905)." *Journal of Film Preservation* 92 (2015): 53–62.
- Dixon, Bryony, and Kieron Webb. "London - Restoring Hitchcock." *Journal of Film Preservation* 87 (2012): 89–94.
- Eckes, Georg. "World War I Goes Online: The EU Project ‘European Film Gateway 1914’ Digitizes Films from and about the First World War." *Journal of Film Preservation* 90 (2014): 45–9.
- Edmondson, Ray. *Audiovisual Archiving: Philosophy and Principles*, 3rd ed. Paris: UNESCO, 2016.

- Enticknap, Leo. *Film Restoration: The Technology and Culture of Audiovisual Heritage*. London: Palgrave Macmillan, 2013.
- EYE Filmmuseum. "Government and Funds." *EYE*. Accessed July 8, 2018. <https://www.eyefilm.nl/en/support-eye/partners>
- . *Collectiebeleidsplan 2018-2021*. Amsterdam: EYE Filmmuseum, 2018.
- FIAF Technical Commission. "Preservation Best Practice." *Journal of Film Preservation* 83 (2010): 34–6.
- Flueckiger, Barbara. "Color Analysis for the Digital Restoration of *Das Cabinet des Dr. Caligari*." *The Moving Image* 15, no. 1 (2015): 22–43.
- Fossati, Giovanna. *From Grain to Pixel: The Archival Life of Film in Transition*, 3rd ed. Amsterdam: Amsterdam University Press, 2011.
- . *From Grain to Pixel: The Archival Life of Film in Transition*, 4th ed. Amsterdam: Amsterdam University Press, forthcoming.
- "Gräfin Küchenfee." *Filmportal.de*. Accessed July 8, 2018. <https://www.filmportal.de/en/node/11243/gallery>.
- "Gräfin Küchenfee." In *Il Cinema Ritrovato XXXII edizione*, edited by Alice Autelitano and Alessandro Cavazza. Bologna, Italy: Fondazione Cineteca di Bologna, 2018.
- Gunning, Tom. "Rebirth of a Movie." *International Federation of Film Archives: Information Bulletin* 29 (1985): 27–8.
- Horak, Jan Christopher. "The Strange Case of *The Fall of Jerusalem*: Orphans and Film Identification." *The Moving Image* 5, no. 2 (2005): 26–49.
- International Federation of Film Archives. "FIAF Bulletin Online." *FIAF*, June 2018. Accessed July 8, 2018. https://www.fiafnet.org/images/tinyUpload/Publications/FIAF-Bulletin-Online_/2018-FBO15-web-3.pdf.
- . *FIAF Code of Ethics*, 3rd ed. 2008. Accessed July 8, 2018. http://www.fiafnet.org/images/tinyUpload/Community/Vision/FIAF_Code-of-Ethics_2009.pdf.
- . "Glossary of Film Technical Terms." *FIAF*. Accessed July 8, 2018. <http://www.fiafnet.org/pages/E-Resources/Technical-Terms-Full-List.html>.
- Jamieson, Krista. "Ethical Film Restoration and Concepts of 'Original'." *Journal of Film Preservation* 93 (2015): 11–6.

- Jung, Uli and Walter Schatzberg. "Robert Wiene's Film Career Before *Caligari*." In *Prima di Caligari: Cinema tedesco, 1895-1920*, edited by Paolo Cherchi Usai and Lorenzo Codelli, 292–310. Pordenone, Italy: Le Giornate del Cinema Muto, 1990.
- Kilcoyne, Sean Patrick. "You Shouldn't Have Been That Sentimental: Film Restoration Ethics in Hitchcock's *Vertigo*." *Journal of Information Ethics* 19, no. 1 (2010): 57–73.
- Koerber, Martin. "Reconstructing *Die Jagd nach dem Tode*." *Journal of Film Preservation* 23 (1994): 34–9.
- Kracauer, Siegfried. *From Caligari to Hitler: A Psychological History of the German Film*. Princeton, NJ: Princeton University Press, 2004.
- Larson, Stephen. "Risen from the Ashes: The Complex Print History of Carl Dreyer's *The Passion of Joan of Arc* (1928)." *The Moving Image* 17, no. 1 (2017): 52–84.
- Le Roy, Éric. "*La Coquille et le Clergyman/The Seashell and the Clergyman*." *Journal of Film Preservation* 82 (2010): 103–5.
- Mattock, Lindsay Kistler. "From Film Restoration to Digital Emulation: The Archival Code of Ethics in the Age of Digital Reproduction." *Journal of Information Ethics* 19, no. 1 (2010): 74–85.
- May, Richard P. "Restoring *The Big Parade*." *The Moving Image* 5, no. 2 (2005): 140–6.
- The National Film Preservation Foundation. *The Film Preservation Guide: The Basics for Archives, Libraries, and Museums*. San Francisco, CA: The National Film Preservation Foundation, 2004.
- Núñez, Irela. "F. W. Murnau's Roman Holidays: Restoring the *Marizza* Fragment." *Journal of Film Preservation* 84 (2011): 45–52.
- Paimann, Franz. (1918). "Film-Liste Nr. 103." Film Archiv Austria. Accessed July 8, 2018. http://old.filmarchiv.at/efg/filmarchiv/paimann/1917_1918/Paimann_103_3.jpg.
- Patalas, Enno. "The Odyssey of the Battleship: On the Reconstruction of *Potemkin* at the Filmmuseum Berlin." *Journal of Film Preservation* 70 (2005): 30–41.
- Pelletier, Louis. "A Rebirth and a Funeral: The Cinémathèque Québécoise Restores a Long-Lost Actuality by Canadian Film Pioneer Léo-Ernest Ouimet." *Journal of Film Preservation* 97 (2017): 106–12.
- Read, Paul, and Mark-Paul Meyer. *Restoration of Motion Picture Film*. Oxford: Butterworth–Heinemann, 2000.

- Schmidt, Christel. "Preserving Pickford: The Mary Pickford Collection and the Library of Congress." *The Moving Image* 3, no. 1 (2003): 59–81.
- Schobert, Walter. "Kaiser, Kintopp & Karossen Early Amateur Films by Julius Neubronner: Restored." *Journal of Film Preservation* 25 (1996): 47–9.
- Toulmin, Vanessa, Patrick Russell, and Tim Neal. "The Mitchell and Kenyon Collection: Rewriting Film History." *The Moving Image* 3, no. 2 (2003): 1–18.
- Tybjerg, Casper, and Thomas C. Christensen. "The Restoration of Dreyer's *Der var engang*." *Journal of Film Preservation* 67 (2004): 31–6.
- Usai, Paolo Cherchi. *Silent Cinema: An Introduction*. London: British Film Institute, 2000.
- Van der Spoel, Ilse. "Finishing the Van der Molen/Manshanden Collection: Findings and Conclusions." *Collectieblog. EYE*, October 3, 2017. <https://www.eyefilm.nl/finishing-the-van-der-molenmanshanden-collection-findings-and-conclusions>.
- Wagoner, Nathan. "The Huntingdon's Hero Story." *The Moving Image* 10, no. 1 (2010): 144–9.
- Walsh, David and Toby Haggith. "Restoring *The Battle of the Somme* and *The Battle of the Ancre and Advance of the Tanks*." *Journal of Film Preservation* 90 (2014): 51–6.
- Wilkening, Anke. "Fritz Lang's *Die Nibelungen*: A Restoration and Preservation Project by Friedrich-Wilhelm-Murnau-Stiftung, Wiesbaden." *Journal of Film Preservation* 79/80 (2009): 86–98.
- Worschech, Thomas and Michael Schurig. "Restoration by the Deutsches Filmmuseum, Frankfurt." *Journal of Film Preservation* 60/61 (2000): 47–9.
- Wostry, Nikolaus, and Jan Christopher Horak. "Sodom and Gomorrah: Notes on a Reconstruction, or Less is More." *The Moving Image* 3, no. 2 (2003): 19–39.