Photography in Swedish Memory Institutions
Convergence, Digitization, and the Difficulties of Defining Images

RACHEL PIERCE

UNIVERSITY OF BORÅS

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Author(s): Rachel Pierce

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Abstract: This study examines how photographic material has been classified and contextualized on the digitization platforms of the major Swedish memory institutions – the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum. Combined with a series of interviews with digitization practitioners at these institutions, the paper examines the cultural-historical approach to defining the concept “photography” and classifying digitized photographs, as well as how photographic material is treated similarly to or differently from other kinds of material housed at these institutions. These results of this question are used to examine the likelihood that, driven by similarities in digitization practices, significant differences between Swedish libraries, archives, and museums are disappearing.

Keywords: photography, digitization, memory institutions, convergence, Sweden
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1 Introduction

Susan Sontag’s *On Photography* is arguably the most famous book ever written on photography and the power of images. Sontag was famously suspicious of the simple, compelling nature of photographs, arguing that “[t]hrough being photographed, something becomes part of a system of information, fitted into schemes of classification and storage.... Reality as such is redefined—as an item for exhibition, as a record for scrutiny, as a target for surveillance” (Sontag 1977, p. 156). This argument is compelling, not simply because it highlights the power dynamics embedded in depicting reality via a or several seemingly objective documents, but because Sontag’s description of the job of the photographer closely resembles a description of the job of the library and information science (LIS) professional. As Joan Schwartz, a photographic archival theorist, has asserted, “the archival world cannot ignore the lessons of postmodern thinking about photographs – about the relationship between facts and meaning, between reality and representation” (Schwartz 2000, p. 38).

These questions about photographic representation extend from the creation and enforcement of information systems to questions of categorization based on the artistic versus historical quality and authenticity of individual (item-level) documents. Many of the questions surrounding the validity and documentary status of digitized material are recycled from the late 19th and early 20th century debates over the ability of photography to represent reality (for background on this earlier debate, see Snyder 2002). The questions center on pinpointing the true nature of photography. One major query motivates discussion and is pertinent to this research project: is photography (and the camera itself) historical material – of scientific process, government operations, categorization techniques – or is it an art form? Translated into discussions amongst digitization practitioners, this question becomes: is the photograph an historical document (requiring an emphasis on image content and context) or an artistic object (requiring greater attention to the materiality of the photograph)?

Materials from photographers and photographic collections continue to exist in a kind of categorization limbo that can only be partially mitigated by new technologies. Some collections have been spread across a variety of memory institutions in some places – bits and pieces of Walker Evans’ photographic legacy

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1 While this question is certainly applicable to other forms of material, from zines and graphic novels to ancient manuscripts with embossed and embellished text, photography is arguably the most prolific example, due in no small art to the democratic nature of the medium. Additionally, photographs have a long history that stretches into the present, and this time span, both historical and contemporary, makes the professional categorization of photographs even more difficult. Older photographic material is more often incorporated into the holdings of archives and libraries, while the more contemporary phenomenon of the art photographer presents new challenges. Last, photographs were, from the start, integrated into the market economy, promoted by camera and photographic firms and used extensively in advertising and news, amongst other monetized platforms.
exist in major and minor galleries, art museums, libraries, and archives across the United States. This dispersion is reflected in books like Szarkowski’s The Photographer’s Eye (2007), which make a case for the artistic nature of photographs based on exhibits of works housed primarily in the Library of Congress’ archives. The effects of such spread have been mitigated by digitization projects, but as research on difficult-to-categorize architectural collections has demonstrated, there are problems that digitization cannot solve (Beasley 2007).

Namely, there are casualties in the selection process – some might argue necessarily so – as some collections find home institutions and others struggle to be placed. Well-known photographers like Lars Tunbjörk cannot find a home for their collections and are instead forced to donate them to smaller archives, in Tunbjörk’s case the local Borås Tidning (Borås Newspaper) archive. These institutions often have little to no experience with preserving and cataloguing archival photographic material, much less digitization of fragile materials like negatives.2 An inability to categorize the work of photographers as artistic or historical puts some collections characterized by their photography at risk, despite the widespread popularity of photographs amongst users of digital libraries (Conway 2010, Sassoon 2004).

There is, thus, a clear need for both an understanding of the photograph as a unique kind of document – visual, easily reproduceable, and numerous, with shifting and overlapping commercial, artistic, and historical meanings. And there is a clear need for a set of guidelines for the treatment of photographic collections within memory institutions. This understanding needs to cross the institutional boundaries constructed by these institutions, given the fracturing of photographic collections. Yet even more so than many other kinds of document, photographs suffer from unfixed definitions of general institutional goals like “preservation”, “access”, and “quality”. As digitization specialist Lars Björk has noted, these terms lack agreed-upon standards and are thus susceptible to broad interpretation and the varying institutional frameworks of libraries, archives, and museums (henceforth referred to as LAMs) (Björk 2015, p. 24-27). The fluidity of these terms becomes even more critical with the growth of international and transnational cultural heritage institutions (Dahlström et al. 2012).

Swedish memory institutions are fully aware of this state of affairs and have for more than two decades been doing research and writing reports assessing and working towards the establishment of standards for classifying and digitizing. In 1999, the National Library of Sweden began a project to investigate routines and platforms for digitized material (Gram & Kjellman 2000). Specific work on the classification and digitization of photographic material has come more recently. This work reveals the scope of the job ahead of photography digitization staff. Even the ground language is still not fixed: to photograph is also to digitize, and the Swedish words for “photograph”, “image”, and “picture” are often used interchangeably, pointing towards a need for comprehensive guidelines for

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2 This is not just a problem for the Tunbjörk archive. See Almqvist et al. 2017.
photograph description and the definition of the concept “photography”, which spans historical, artistic, political, and technological categories.

An analysis of photograph digitization can shed light on the current state of digitization standards development more generally, as well as the specific standards developed for photography data and metadata – the area of standardization most important for interoperability (Besser 2002). Photographs cannot be text-mined for supplementary descriptive metadata and, as a result, require far more resources to archive and digitize, especially if this is to be done in a systematic way. As Klijn and de Lusenet note, “item-level description [of photographs] is in most cases impossible simply because of the amount of work it involves” (Klijn & de Lusenet 2004, p. 9). This labor intensiveness is a conundrum, especially for typically resource-poor institutions whose practices have long been built around textual material. How various institutions solve this problem has bearing on photograph digitization practices specifically and the role of digitization in facilitating memory institution convergence more broadly.

A comparative understanding of how LAM digitization practitioners understand and treat photography can contribute to a broader understanding of the practical distinctions between these memory institutions. Technically, archives, museums, and libraries are supposed to perform different societal functions (Campbell 2002). However, it is somewhat unclear how these differences in mission operate historically, in the daily practices of LAMs. As one participant in a conference on the relationship between memory institutions notes, “[e]veryone collects everything”, going on to argue that it is the “unique method of classifying and working with each thing” that distinguishes institutions from one another, these differences propped up by educational silos that train future professionals” (Dupont 2007, p. 16). This “everything” has, in Sweden, included millions of analog photographs of different types, spread across a variety of institutions. It is the privileging of certain functions over others – for libraries, access; for archives, preservation; for museums, public display – that structure institutional boundaries.

Digitization would, thus, potentially erase the distinctions between memory institutions by merging these functions through a single process: the creation (preservation) and open publication of digital collections (both access and public display) on digital platforms. Numerous LIS researchers have found this possibility captivating (Cannon 2013; Dupont 2007; Marty 2010; Trant 2009; VanderBerg 2012). But digitization is a complicated process; as Lars Björk notes, digitization should be understood as “a complex structure that involves technology (in a state of constant development), procedures (with various degrees of standardisation), terminology (that in some instances is ‘born digital’ but often originates in the analogue domain to be reapplied in the digital)” (Björk 2015, p. 135). A focus on

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3 The example provided by Klijn & de Lusenet (2004) is specific and daunting: “cataloguing a collection of 536,000 photographs on item level would require about 30,000 working days, which means approximately 136 years of continuous cataloguing”.
differences rather than an assumed future convergence will highlight the variety and contingency built into LAM digitization projects.

A specific look at photography digitization helps to narrow an analysis of institutional differences down to one specific area for empirical analysis, as well as illuminating the unique challenges of digitizing photographic material. Researchers like Joanna Sassoon warn that “By its nature as a visualising medium, digitization encourages a shift from thinking about the complexity of the material object to viewing the visual surface of an image” (Sassoon 2004, p. 200). As a result, differences in the ways in which institutions understand their collections is potentially most visible in the case of digitized photographs, where “transcription” of the image must be done manually. How Swedish memory institutions define the term “photograph” in their digital collections has meaning: for the interoperability of this material, the development of digitization best practices, and the potential for institutional convergence.

1.1 Research questions

The focus will be on Swedish institutions, which have yet to decide where to archive collections organized around 20th century photographers, making the need for understanding photographic digitization standards and the gaps between institutions acute. I will, thus, focus on the national institutions of Kungliga biblioteket (The National Library of Sweden), Riksarkivet (The National Archive of Sweden), and Nordiska museet (The Nordic Museum).

These institutions have been chosen because of the extensiveness of their photographic collections, as well as their central place in the preservation and provision of access to the nation’s photographic archives. While Moderna museet (the Modern Museum) is the most art-oriented national institution in the country, its collection of photography, numbering approximately 100,000 items (mostly positive prints), is dwarfed by the collections of these other LAMs. All of the chosen institutions have photographic material numbering in the hundreds of thousands, with the Nordic Museum housing the greatest number – more than six million items. The memory institutions under study here are, thus, the guardians of the majority of the collective Swedish photographic archive.

The research questions are designed to highlight the comparative nature of this project, as well as the specificity of the photograph as a unique and uniquely heterogeneous kind of document – a status that affects the digitization process. The main question is bolded, followed by a series of subsidiary questions used to flesh out the main question.

Q1: How is the concept “photograph” defined at the level of the individual (item-level) document? What qualities do digitization practitioners emphasize when classifying photographs and applying metadata to them? Does item-level description favor historical, artistic, or technological concepts?
Q2: **Does platform architecture contribute to the item-level description of digitized photographic material?** If so, in what way? How do search routes, platform structure, and the number/variety of platform options affect how the concept “photograph” is defined?

Q3: **Have these three memory institutions laid the groundwork for convergence?** What can an examination of the similarities and differences between LAM approaches to digitized photographs tell us about the possibilities for Swedish LAM convergence? Are these institutions engaged in conversations that might lead them towards a standardization of photography digitization practice?

These questions require the empirical study of digitized photographs available in the digital collections of these institutions, a thorough analysis of the website architecture housing these materials, and interviews with digitization experts at each of these institutions. Findings will be summarized in Section four. Research questions are answered directly in Section five.

### 1.2 Study overview

This thesis is organized into five different chapters.

The first chapter includes an introduction, which presents the thesis topic and its academic and practical relevance, thereafter laying out the main research questions. A literature review follows, covering the four major themes of the thesis: relevant literature related to photographic theory, digitization theory, and comparative work on memory institutions. The text then discusses material relevant to the specific context of Swedish LAMs.

Chapter two lays out the theories and methods applied in the thesis. Methods include empirical data collection of digitized photographic materials included on platforms associated with the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum, as well as information on the digital library architectures in which this evidence exists. The study also notes that semi-structured interviews with LAM professionals from these organizations will supplement the empirical material collected online. The theory section notes a reliance on discourse analysis and an understanding of the ontologies defining the concept “photography” within the context of these LAMs.

The third chapter summarizing the collected data is divided into three sections, one for each institution under question. These three sections contain, in turn, three sections describing (1) the digital architecture(s) employed by the institution; (2) the characteristics of the individual photographs; and (3) the general institutional context in which photograph digitization occurs.

The fourth chapter identifies and analyzes trends identified in the empirical material, bridging the institutional divides. This section is important for
establishing the groundwork upon which to build explanatory answers to the research questions. The chapter is divided into three in order to perform this task, dealing with (1) similarities and differences between the treatment of individual digitized photographic material; (2) the numerous digital platforms in use at these three LAMs; (3) and the current trends supporting and preventing memory institution convergence.

The fifth chapter directly answers the research questions posed in the introduction, in order, to as to maintain the movement of analysis from the granularity of individual material description to the broader questions of institutional practice. A focus on how to establish best practices for the digitization of photographic material is maintained through the section. The thesis then ends with a series of proposals for additional research foci, based on the findings in this thesis.

There are four appendices of material supporting the analysis and conclusions in this thesis. The first appendix includes materials on the institutions themselves, as well as the questions sent to interviewees. The next three appendices are for materials collected from each institution analyzed here. In order, these organizations are (1) the National Library of Sweden; (2) the National Archives of Sweden; and (3) the Nordic Museum. These materials will be referred to throughout the thesis.

1.3 Literature review

Relevant literature encompasses work dealing with photographic theory, digitization theory, and comparative work on libraries, museums, and archives. While less voluminous, the literature dealing with the specific context of Swedish photography digitization efforts will also be addressed.

1.3.1 Theories of photography in memory institutions

Theories of photography have proliferated since the invention of this highly democratic medium. The photograph has been used extensively across disciplines, produced by artists, scientists, land surveyors, government bureaucrats, and documentarians, amongst others. Scholars have documented art museums’ reticence about accepting photography as a legitimate art form (and thus accepting large collections), given the presence of a machine mediating between artist and art form as well as this heterogeneity of origin (Baxter 2003). This reticence faded in the 20th century, as artists like Andy Warhol explicitly referenced the commercial, reproducible nature of art in their work. Simultaneously, historians began to reassess the validity of images as primary documents; photographs provided the potential for balancing out traditional archival collections, which both overrepresented and were organized around elite white men (Note 2011, 89). This history cemented the photograph’s place in between art and historical document, with a short history of acceptance in both fields.
As Getty photographic archivist Tracey Schuster notes, mutability characterizes photography; though it is common to believe that a photograph represents a simple reflection of an object or person or occurrence, the truth is that photographs are manipulated. There is a range to photographic malleability; the production and interpretation of photographs are influenced by the artistic vision of the photographer, his or her cultural context, the technology used to take the photograph, any technological or manual manipulation of the resulting image, and the natural physical deterioration to which photographs are susceptible. Joan Schwartz observes that photographs can be understood as a series or bundle of choices, relationships, and connotations (Schwartz 2000). They can also, as art historian Anna Dahlgren notes, be understood as objects with layers of meaning, from the physical photograph (size, shape, etc.) to the photograph’s subject matter to the greater socio- and techno-historical context of the image (Dahlgren 2009, p. 63).

These layers of unfixed, fluid meaning present an array of ethical complexities. Using Holocaust photography and the work of famed photographer Diane Arbus, Susan Sontag’s *On Photography* warned against the photograph’s ability to hijack emotions while retaining an objective, purely documentary identity. In Sontag’s opinion, this troubling moral and contextual flexibility compounds as a photograph ages: “the ethical content of photographs is fragile … A photograph of 1900 that was affecting then because of the subject would, today, be more likely to move us because it is a photograph taken in 1900” (Sontag 1977, p. 21). Though it has come in for criticism, this argument against photography without a compassionate politics has persisted, a contention about the morality of an aesthetic approach to humanity sitting at the center of much contemporary photography criticism. New life was recently breathed into these questions amidst discussions about Annie Leibovitz’ memorialization of both her career and her relationship with Sontag in the aftermath of Sontag’s 2004 death from myelodysplastic syndrome (DeShazer 2009).

In the context of memory institutions, Sontag’s critique of photography has one major point: the photograph’s potential for decontextualization. The complicated, multiple, and fluid nature of a photograph’s identity – what it is, where it came from, its meaning – makes the medium very difficult for archivists, librarians, and digitization staff. Archival photography theorist Jill Delaney has observed that archivists long categorized survey photography as historical and cultural material, ignoring its scientific value (Delaney 2008, p. 75). Though this “image” concept is difficult to define. Cataloging theorist Susan Leigh Star’s notion of “boundary objects” is helpful here. Star outlines three characteristics of this category: (1) “interpretive flexibility” of the document or group of documents, (2) the organizational or contextual flexibility in which the document resides, and (3) the relationships between more or less detailed descriptions of the documents in question, as individual materials and as a group (Star 2010, p. 602). Employing this framework, archival theorist Geoffrey Yeo notes that the application of this approach to photographs is appropriate because of their variety and stats as
“nonprototypical” (Yeo 2008, p. 131). Digitization theorist Paul Conway reiterates this sentiment, observing that photographs exist “at the margins of core archival concepts” (Conway 2010, p. 431) and are tricky to classify and describe.

Breaking down a photograph’s categorization becomes even more complicated with each layer of meaning. W. T. J. Mitchell differentiates between picture, defined as “a material object, a thing you can break or burn” and an image, or “what appears in a picture and what survives its destruction – in memory, in narrative, and in copies and traces in other media” (Mitchell 1995, p. 16). Photographic theorist Roger Scruton has argued photographic material has meaning on three planes: (1) intentional object (artist’s intention); (2) represented object (viewer’s experience); and (3) material object (thing) (Scruton 1981, p. 580); Joanna Sassoon adopts and adapts this analysis, highlighting the importance of a photograph’s (1) materiality, (2) the original photo concept, and (3) the “origin of photographic meaning” (Sassoon 2004, p. 199). The totality of these layers of meaning have not always been recognized by LAM professionals, who tend to prioritize “function and context” within systems built primarily for textual matter (Schwartz 1995).

Even as this “function and context” (seemingly a way of narrowing decision-making) can be framed in a variety of ways, options are still often understood as a choice between photography as an artistic or socio-historical document within photographic archival theory. Photographic historian David Nye’s argument that “all photography must be understood not as a form of realism or as a hierarchy or better or worse artistic expressions, but as the concretization of social values” is representative of this historical either-or trap (Nye 1985, p. 54). Joan Schwartz notes that this binary can be constrictive and lead to a simplifying of photographic material; she advocates instead “archival thinking” that privileges flexible “functional context” encompassing the ways in which the photograph has been contextualized over time (Schwartz 1995, p. 63). But there are still widespread concerns about the tendency towards deemphasizing the materiality of photography, a worry voiced by photography archive theorist Joanna Sassoon (Sassoon 2004, p. 210).

Sassoon asks whether photographic collections are just databanks of images or something more, each grouping providing meaning determined by context and interdependence both within the collection and with other collections within and outside of the housing institution (Sassoon 2004, p. 204). This is a good question, and one that LAMs still seem to be in the process of answering. And some academic literature points to the photograph as a particularly tricky kind of material to describe and contextualize because of the ease with which images are reproduced. Joan Schwartz argues, in this vein, that if a photograph’s meaning is, as many have argued, grounded in context, “each use must be understood as distinct, though sometimes interrelated” and that duplication of a photograph across various LAM institutions should not be considered “duplication” or “waste”, but instead “as the logical outcome of the appropriation and re-appropriation of a
photograph with fixed content and physical configuration into different functional
districts with the attendant transformation of a single image into multiple
documents” (Schwartz 1995, p. 52; for a similar argument, see Edwards & Lien
2014, p. 5).

This expansive approach to photographs, the observation that photography is adept
at performing a multitude of functions across a number of areas – science,
geography, art, personal memory – and that this functionality changes over time,
has ramifications for LAM practice. The creation of extensive description for each
individual photograph as well as larger collections containing or structured around
photography consumes substantial resources. Cataloguing theorist Geoffrey Yeo
argues that it is important to build cataloguing systems around “nonprototypical”
documents like photographs because of their role as “boundary objects” which lose
their meaning without sufficient context and thus require extra thoughtfulness and
flexibility when it comes to descriptive metadata creation (Yeo 2008). It is not yet
clear the extent to which these recommendations have been implemented, within
software employed in digital image cataloguing or within the everyday practices of
memory institutions.

1.3.2 Digitization theory and practice

Joan Schwartz’ argument that “archival value in photographs resides in the
interrelationships between photographs and the creating structures, animating
functions, programmes, and information technology that created them” has
ramifications for digitization theory and practice (Schwartz 1995, p. 50).

Digitization theorists also struggle with the question of whether a photograph is a
distinct kind of document, its meaning dependent on context to an exceptional
degree (Conway 2010). It is hardly incidental that these same questions are
replicated in discussions about the nature of authenticity and reproduction within
the digitization process itself.

Lars Björk queries “[h]ow reproductive is a reproduction?” (Björk 2015) – a
question echoing turn-of-the-century photography sceptics who asked, as one art
historian has summarized, whether photographs were and whether they should be
“functionally equivalent to the objects they represented” (Snyder 2014; see also
Snyder 2002). Art museum digitization specialists especially emphasize the
potential problems with the process of digitization itself, a practice that, as one
Getty digitizer notes, moves “the image even farther away from the original object”
(Schuster in Peabody 2016), reducing the dimensionality and stripping away the
organizationally contextual nature of the physical photograph.

This fear refracts in the context of actual photographic collections, which can
contain multiple copies of the same photograph, positives and negatives, variously
manipulated images, contact sheets altered by the photographer, and so on. There
are practitioners and theorists who advocate for the thorough digitization and
cataloguing of all versions of a photograph, arguing that the same photograph can
have varying historical and artistic meanings depending on its placement in specific
collections (Dahlgren 2009, 64-68; Schwartz 1995, p. 50; Stewart 1984, p. 154).
And yet the ever-present problem of resource scarcity serves to further mutate these
decisions about which materials to digitize. Though they are often not the “true”
original versions of an image according to photographers, paper positives are by far
the easiest to reproduce to the letter, without having to make decisions about color
or otherwise interpret the photograph in order to make a digital copy (Dahlgren
2009, 79).

Given this ambiguity, LIS scholars have noted that photographs have been
particularly difficult to digitize in a standardized way (Arms 1999; Conway 2008;
Conway 2010). While a number of digitization guides exist, Paul Conway noted in
2008 that best practices are still often determined through practical experience and
defined as “a time-sensitive community consensus on technical comparability” for
photographic classification and digitization, had not yet been established within let
alone across libraries, museums, and archives (Conway 2008, p. 94). When it
comes to digitization, a combination of older practices and utilitarian problem-
solving still structure the work of many institutions. According to the limited
literature on the subject, this situation is certainly true in Sweden (Klijn & de

The importance of this line of inquiry is heightened due to the heterogeneous and
fragile material nature of analog photographs, which can come in the form of
daguerreotypes and other more object-like photographs, individual or grouped
negatives, and prints of various sizes and materials. As Library of Congress
digitizer Caroline Arms notes, while photographic prints can have contextual data
written on them, negatives often do not have this information and, in addition,
“pose a special problem for identification, housing, and service” (Arms 1999). This
situation increases the need for digitization in the name of both preservation and
access. Given the sensitive nature of negatives, glass plates, and other photographic
mediums and their collective tendency towards rapid deterioration if not properly
preserved, finding a system for the archiving and digitization of these collections is
particularly important.

Yet best practices have developed slowly for a number of reasons. The federated
searching enabled by the internet allows for LAMs to “continue with their
approaches to methods of description and cataloguing, while the search tool
accommodates different methods of documentation, compiles search results and
presents them to the user in a unified format”, as LIS scholar Robert VanderBerg
notes (VanderBerg 2012, p. 137). This approach is, however, not particularly well-
suited to photographic material, which requires the creation of more extensive
description to be findable through federated searching. Photographs are, thus, a
good place to look if one wants to understand more general problems with
digitization, within and across LAMs, as well as the more specific problem of
creating classification and description practices that facilitate interoperability.
Scholars are currently examining what kinds of groundwork will be necessary for the establishment of best practices as these practices evolve in online forums like World Wide Web Consortium (W3C) and through the more traditional channels of older LAMs like the Library of Congress and the Getty. Discussions generally intersect with a broader conversation about the form and nature of LAMs themselves, as they change in response to new technological demands. For example, Robert VanderBerg observes that adoption of the OCLC guidelines requires a continuum from contact to cooperation to coordination to collaboration to (supposedly) convergence (VanderBerg 2012, p. 143). Adoption of standards is now intertwined with the development of digital collections.

Unfortunately, empirical examinations of actual collections of digitized photographs remain scarce. Katheryn Earle outlines some of the practical problems inherent in digitizing this kind of material in her analysis of a digital fashion photography, “From Runway to Platform” (Earle 2017). The task was to create a digital collection that reflected the scope of the archival material, which “documents not only fashion, but the practice and methodology of a working fashion photographer” (Earle 2017, p. 50). The main challenge identified by Earle was the combination of disorganization, a lack of labelling, and the need to regroup photographs by theme, requiring reorganization before materials could be “curated” and surrounded with contextual material, ranging from biographical texts to relevant art-historical articles (Earle 2017, p. 51).

The need to add machine-readable text to photographic material is a constant emphasis. Photography digitization illustrates a number of more general, concrete problems with how to create digital materials that are sufficiently representative and descriptive of their physical versions. Paul Conway has observed that digital items and platforms often lack the flexibility and manipulability required to make materials truly usable in a variety of ways; users should be able to enlarge, rotate, and otherwise manipulate digital documents in order to make them useable to everyone – historians, document specialists, high school students, and the interested individual (Conway 2010, p. 447). Digitization is not the exact replication of documents – it is the creation of new documents that represent the physical versions but offer something different to users. L. P. Nordland has examined how a document assumes new identities and new meanings as it is “interpreted, reinterpreted, and represented at different points in time” (Nordland 2004, p. 154).

There are also broader questions of selection that are heightened in the case of digitization. As with the acceptance of only certain collections fitting institutional guidelines and mission statements, digitization requires a culling from broad materials. If, as another archival theorist Terry Cook has argued, professionals at memory institutions work “actively” in “shaping societal memory”, this is a decidedly politically and ethically freighted set of decisions (Cook 2001, p. 29). Photographs are often depicted as a democratic medium and historically better suited to and capable of documenting groups that are underrepresented in the
archives (Cronin 2002). And yet, as with any other kind of material, the right photographic documents must be chosen to fulfil this potential for greater representation.

1.3.3 Literature on memory institution convergence

The nature and guidelines of this choosing can vary widely across institutional types, reflecting broader gaps between LAMs. Dupont has argued that the main difference between libraries, archives, and museums is one of emphasis: “While quality cataloguing is perhaps the best way archivists or librarians can serve their clientele, museums prioritize creativity in creating engaging exhibits; cataloguing in museums is often a lower priority” (Dupont 2007, p. 17). Other scholarly literature confirms this trend, though empirical analyses largely remain siloed – a reason for this study’s comparative approach. But with the rise of digitization, several scholars have theorized that these distinctions between museums, archives, and libraries are disappearing because there are no meaningful differences in how or why these institutions digitize their collections (Conway 2015, p. 54).

The discussion of convergence is relatively new (there is an especially noticeable uptick in articles on the subject in 2007/2008), but the possibilities have already sparked a variety of lines of debate. The differences between “memory institutions” (a term invented in the 1970s with the development of the Internet and, thus, the sudden possibility of LAMs merging) are dated in a variety of ways. In their examination of Canadian LAMs, the LIS scholars Lisa Given and Lianne McTavish have asserted that divergence in the practices and identities of LAMs is actually relatively new, cemented in the 1970s as a result of shifts in technical, educational, and professional systems (Given & McTavish 2010). In this narrative, re-convergence is a natural state to which LAMs are returning, only partially pushed by digitization and an increasing reliance on technology.

However, most scholars see some historical cleavages persisting over time, from the establishment of libraries, museums and archives onwards; the debate is primarily over which differences are the most important and how digitization is affecting these gaps. Brooklyn Museum archivist Deborah Wythe has noted that though LAMs have maintained close relationships, more technical affinities exist between libraries and archives. While museums tend to actively separate themselves out by emphasizing their social function, speaking through curated, tightly-controlled exhibitions, libraries and archives are interdependent institutions (Wythe 2007). Archival curation scholar Gerald Beasley also singles out museums for being slow to adopt new technologies while noting that “in marketing terms, archives in storage suffer from an image problem” (Beasley 2007, p. 23).

There are questions about whether variance in “missions” or “identities” results in differences between libraries, museums and archives at the level of document acceptance, description, and contextualization. Beasley also identifies more substantive issues relating to materials falling through the cracks between institutions, citing the problems of housing and classifying architectural archival
collections, which are a blend of the personal and the professional, as well as a combination of objects, photographs, and texts. Refused by other institutions, a collection of architectural drawing instruments was accepted by Beasley’s home institution, the Avery Architectural and Fine Arts Library at Columbia University (Beasley 2007, p. 23-24). Here, Beasley identifies an important problem in the digital LAM age: that of finding a home for older technological objects – a category to which cameras, glass photography plates, and the like belong.

A major emphasis within archivists’ academic treatments of the photograph is the preservation imperative, which extends from preservation of the material and historical qualities of an individual object to the preservation of relationships and hierarchies between documents (Conway 2015; Schwartz 2002). Meanwhile, art museum digitization practitioners are more likely to situate digitization within the history of photography more generally (see the Getty Conference “Photo Archives V: The Paradigm of Objectivity” 2016). However, generally speaking, it is researchers focused on archival practice who have researched and written most about photography description and digitization.

Researchers are aware that there are differences between how memory institutions understand, categorize, digitize, and present photographs. And a growing number are also aware that these differences potentially result in problems of interoperability, impeding the development of research that transcends what archivists refer to as the internal “ecosystems” of institutions (Schuster in Peabody 2016). This situation results in a spectrum of accessibility that can affect research and knowledge patterns. Digital libraries are the space that LIS academics have identified as having the greatest potential for memory institution convergence (Cannon 2013; Dupont 2007; Marty 2010; Trant 2009; VanderBerg 2012).4 Yet early research suggests that distinctions between art museum and archival document description persist even in their digital form, due to divergent approaches to objects (Cannon 2013; Trant 2009, 373). As Lars Björk (2015) has argued, varying “institutional contexts and frameworks of knowledge organization” still result in varying approaches to digital documents (p. 9). Photographs are certainly subject to this problem.

Foregoing research on convergence is largely theoretical; empirical evidence is often limited to noting that nearly every institution is trying to construct a digital library these days. There are very few empirical studies examining differences in digitization across types of memory institutions. The theory of convergence posits that all digital platforms are designed to perform basically the same function: advertising physical collections to a broader, international audience (Marty 2010).

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4 As Marty (2010) notes, the theory of convergence emanated out of the April 2008 Memory Information Professionals workshop and was subsequently disseminated through a set of coordinated special issues of Library Quarterly, Archival Science, and Museum Management and Curatorship. Convergence is typically defined as the inevitable breakdown in the meaningful distinctions between and practices of memory institutions, as the result of similar online platforms and increasing interoperability between online collections.
Yet as many scholars have noted, how different institutions define their audience and its needs varies greatly, and this identification is structured by historical differences in institutional imperatives (Bandelli 1999; Sinn and Soares 2014). Further examination of the similarities and differences in organizational perspectives amongst LAMs might shed light on whether the convergence of memory institutions would be a positive or even possible development.

Ultimately, the literature on LAM adoption of digital methods and platforms is hindered by the fact that the field is growing so rapidly and on so many fronts that it is nearly impossible to say anything concrete about general practices, which are in flux, or best practices, which are under development. Literature here is inconclusive, since while digitization is perceived as a force for streamlining, examinations of memory institutions still note that LAMs have retained their discrete administrative apparatuses, philosophies, and priorities (for example, Duranti, 2010; Gilliland-Swetland, 2000; Rosa et al., 2011). Though a broader comparison of how digitization has affected the more general organizations and philosophies of LAMs is beyond the scope of this particular study, this is certainly an area for further examination.

How the introduction of digitization has affected the organization and practices of LAMs is a particularly important topic because, as Hedstrom et al. observes, these bodies are in a period of institutional, financial, and material flux (Hedstrom et al. 2003). Digital work is caught up in these shifts; resource scarcity affects how institutions understand digitization and, thus, how digitization departments and practices are developed. Access to resources may even affect the kinds of platforms an institution chooses for the display of its digitized materials. It is still unclear to what extent the particular problem of resource scarcity has on the development of standards that would facilitate real LAM convergence.

The problem of resource scarcity also potentially compounds the heterogeneity of these institutions, as they struggle to find a way to be viable. There is still very little empirical analysis of the views of LAM professionals within the context of this resource scarcity, both with regards to their more traditional work and with regards to newer digitization efforts (Huvila 2014, p. 47). In the specific instance of digitization, researchers have tended to focus on the new opportunities inherent in the creation of digital collections, rather than the strain that this new set of tasks puts on institutions concerned with insufficient resources (Hirtle 2002). Resource scarcity is a topic that this particular study will touch upon, but the subject deserves more analysis in the future.

1.3.4 The current state of photography digitization in Sweden

There is little research on Swedish LAMs generally, and no comparative work on digitization efforts in the country. Swedish memory institutions have, as previously noted, taken some steps towards developing standards for the digitization of photographic material, dated from the 1990s forwards. This is also a period in which the institutional structures supporting photography collections shifted.
Fotosekretariatet (The Photography Secretariat) was created in 1993 and was relocated to the Nordic Museum in 1998 (Dahlman 2001, p. 117). This institution was intended to coordinate activities and distribute information on photographic cultural material in Sweden, including conference and course construction and the production and distribution of the photographic history journal Kontaktartket, which was published from 1994-2002. A list of important Swedish photographers, Fotoregistret (The Database of Photographers) was developed in 2008 out of the Nordic Museum’s work and in 2015 moved from the museum’s own site to KulturNav, a photographer database run by a Norwegian company (Hoffman 2016).

The growth of literature on the photographic archive in Sweden has slowly increased as the general conversation about and concrete work on digitization grows. The most recent effort is the 2009 collected volume I bildarkivet (In the photography archive), which documents the state of the photography digitization field in Swedish museums (Dahlgren & Snickers, ed. 2009). Here, the array of authors, all art photography theorists and researchers, analyze a series of photography digitization projects with the goal of providing an overview of research on Swedish photography digitization theory and practice. Covering three areas – (1) digitization concepts, (2) photographic use, and (3) photograph infrastructure – the chapters delve into a variety of specific projects and topics, but all conclude that there needs to be a more thorough development of digitization standards for photographic material, and that memory institutions need more systematic processes for dealing with this material, both in its physical and digital forms.

Other attempts to document the state of the field are collective and transcend national borders. In 1998, the Finnish Museum of Photography began a project to document the state of photographic archives in the Nordic and Baltic countries, as well as in sections of Russia. Initially funded by the Nordic Museum Council, this project was intended to create a knowledge base upon which institutions could collectively build standardized guidelines for photographic cataloguing and digitization. As project manager Asko Mäkelä notes in the resulting volume, digitization was understood as a tool of both preservation and access improvement. The project identified the construction of standards for data and metadata as the area requiring most immediate, thorough attention (Mäkelä 2001, p. 12).

There is little empirical analysis of the specific Swedish case of memory institution convergence. LIS scholar Isto Huvila has examined how LAM professionals at a variety of Swedish memory institutions understand the role of their home organizations. What he finds is a plurality of understandings of the role of memory institutions generally and a diversity of opinion within the various fields of librarianship, archival work, and museum work. New technological opportunities have added to this plethora of new options for LAMs, instead of pushing institutions towards a streamlined, digitally-oriented approach to their work.

5 Especial thanks to Lars Björk for a copy of this book.
Former Nordic Museum digitization professional Kajsa Hartig argues that opportunities offered by digitization have not been fully absorbed or integrated by Swedish museums, which would need to reassess their “ecosystem” of practices and materials with an eye towards “the changes in society, technology and audience demands” (Hartig 2014, p. 240).

Concurring with Hartig’s analysis, Huvila recommends that Swedish “ALMs need to choose whether they are institutions of enlightenment, postmodern spaces of empowerment, result-orientated financial units, or perhaps, seats of something that is yet to be invented” (Huvila 2014, p. 59). The heterogeneity of thoughts about the roles and practices of memory institutions does, however, indicate that convergence is not yet a reality. Less well-known is whether convergence is a goal or whether current digitization practices are pushing these organizations unconsciously towards a singular, digitally-oriented model. What is known is that convergence would, in the long term, require a reassessment of methods and practices, with an acknowledgement voiced by Hartig – that “the importance of photographic collections to museums is constantly growing” due to the ever-expanding demands of digitization.

Convergence can be achieved through a variety of means. The development of European Union digitization initiatives has greatly affected the goals and practices of Swedish LAMs, as noted by Hartig (Hartig 2014, p. 238). Though digitization projects have accelerated in reaction to European Union requirements for greater cultural heritage accessibility, Swedish digitization practitioners have been involved in EU projects from the beginning.6 Photographs quickly assumed a central role in this drive to digitize, in no small part because they are very popular amongst digital library users (Sassoon 2004, p. 199). Additionally, the complexities of EU copyright directives have pushed Swedish memory institutions to look more closely at the photograph (Hartig 2014, p. 238-239).

This is perhaps the most promising source of convergence tendencies. Efforts have been particularly focused on the creation of expansive metadata, interoperability, and the need for quality control in the area of photographic description. The European Community-funded SEPIA II project was inaugurated around the Nordic and Baltics project, leading to the creation of the Working Group on Descriptive Models for Photographic Collections, which included personnel from Swedish museums and archives. In 2004, this group produced SEPIADES, a thorough set of guidelines for photograph classification and the creation of descriptive and administrative metadata. Produced in tandem with the development of open access software for the cataloguing and description of born digital and digitized analog photography, these guidelines garnered positive reviews when first published (Hamburger 2004). It is as of yet unclear whether and to what extent Swedish institutions have adopted these standards, though Swedish digitization experts were involved in the development of SEPIADES.

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6 European institutions tend to have formal or informal national guidelines to preserve their cultural heritage, alongside a set of European guidelines supported by DELOS.
Simultaneously, projects like Europeana have facilitated coordination between various European memory institutions within the field of digitization. As a result, there is emerging scholarship on the development of standards for photography metadata (Van Steen 2014). Noting that the scale of Europeana potentially makes it difficult to lose digitized photographs on the platform itself, Van Steen observed that “[g]ood metadata is key when you want your information found, discussed and shared” (Van Steen 2014, p. 127). While a thorough examination of these collective efforts is beyond the scope of this particular analysis, interviews with staffers did touch on the extent to which these new platforms have influenced the day-to-day work of Swedish LAMs and/or pushed these institutions towards practices promoting convergence (see Appendix A). As a result, this topic will be addressed in sections 4.3 and 5.3.
2 Method and theory

This section outlines the theories and methods used to collect and analyze the chosen empirical data for this thesis. Methods for digitized photograph selection and analysis are detailed, as well as the approach to interviews. The theories outline the thesis’ framework for defining the concept “photograph” (1) at the level of the individual item using Szotak’s approach to ontology and concept description and (2) at the architectural level, extending this analytic approach to the structural level. The theory section also includes information on the approach to the interviews, which are meant to establish an organizational context within which the concept “photograph” is understood and defined, as well as contributing to an assessment of whether LAM convergence is possible on a practical, institutional level.

2.1 Method

Methods employed in this thesis are empirical, combining an analysis of individual digitized photographs, the digital architectures housing these materials, and semi-structured interviews with digitization and photography specialists at the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum. This analysis will cover a swath of material used to classify and contextualize digitized photographs in Swedish memory institutions. How institutions understand photographic material influences not only the data and metadata attached to individual photographs, but how individual digitized photographs are placed and connected to other materials within digital collections. An understanding of photography as primarily artistic or historical might influence how photographs are linked together. A photograph’s definition is thus investigated on three planes: (1) the text describing the digitized item; (2) the architecture contextualizing the digitized item(s); and (3) the institutional understanding of the photograph as a particular kind of document.

2.1.1 The selection and collection of empirical material

Digitized photographs are created and housed within two interdependent contexts: a digital environment and an institutional environment. As a result, this study is composed of a series of case studies combining interviews with digitization practitioners at the major Swedish LAM institutions (Kungliga biblioteket, Riksarkivet, and Nordiska museet) with an empirical analysis of a selection of digitized photographs available in the digital collections of each institution. Analysis of the digitized photographs extends to the architecture in which individual images are situated.

The three institutions that have been chosen – the National Library (Kungliga biblioteket, or KB), the National Archives (Riksarkivet, or RA), and the Nordic Museum (Nordiska museet, or NM) – represent the largest library, archive, and
museum in the country, with the largest collections of photography in Sweden. These are thus the organizations with the most to gain from thorough-going digitization guidelines for metadata and data for collections like photography, which are considered “boundary” documents between objects and texts by theorists. All of these institutions have digitization units and groups of personnel devoted to still and moving images. For all of these reasons, these LAMs are likely to be at the forefront of photographic digitization in Sweden.

The core empirical evidence for this study consists of four photographs from the digital collections of each of these institutions. These photographs were chosen across historical periods, with at least one picture from the 1800s and one from the 1900s. At least one photograph must feature a person, and at least one must be unpeopled, as an initial parameter for ensuring that the chosen digitized images are as representative of the wide spectrum of photographic subject matter as possible. One daguerreotype was chosen from each collection, as well as one photograph created using modern analog technology to ensure that collected material reflects a range of photographic methods, materials, and technologies. Besides these parameters, the photographs were chosen by searching for the word “fotografi” (photography) and choosing early search results. Because of their findability, these documents are functionally the best representations of the concept “photography” for their home institutions (though this findability is, of course, the product not just of data and metadata, but the catalog structure, as well as the algorithm used to explore that catalog for the search terms).

The imposed parameters are necessary to account for historical variances in the place of photography in society, the technologies used to produce photographs, and, consequently, the nature of photographic output. Photography was primarily understood as a form of scientific, objective documentation in its earlier years, even when used in the context of portraits or tourism art, and this understanding meant conscious decisions about choosing to photograph people, things, or landscapes. More contemporarily, the era of photography as a democratic artform has overlapped with government and business studies of people and practices. Theoretically, digitizing institutions may treat and describe photographs differently depending on both their varying physical form and their shifting societal meaning.

Links to the four photographs from the National Library are in Appendix B. They are (1) a photograph of Carl Gustaf Mannerheim, no date; (2) a photographic postcard of the People’s Park in Malmö, Sweden, no date; (3) a photograph from a Sex Pistols concert in Halmstad, Sweden, 1977; and (4) a daguerreotype portrait of the Törnblom siblings, 1848. Links to the photographs from the National Archives are in Appendix C. The photographs are (1) two copies of Carl Johan Adlercreutz, no date; (2) the War School, 1890; (3) the camp for the “freely willing” who volunteered to fight in the Winter War, Finland, no date; and (4) a daguerreotype portrait of Hampus Reinhold Huldt, 1856. Links to the photographs from the Nordic Museum are in Appendix D. They are (1) a photograph by Erik Tryggelin, no date; (2) contact sheets for series featuring a Luciatåg, no date; (3) a Kobra
telephones photograph, 1965; and (4) a daguerreotype portrait of an unknown man and woman, 1850s.7

The limited number of only four photographs have been chosen for three reasons. First, the depth of analysis required for the study of item-level metadata is substantial enough to require careful delimiting. Second, LAMs are assumed to use relatively similar approaches to data and metadata across photographic items, given the software systems used for metadata entry and the prescriptive lists traditionally used to assign keywords. Third, and most importantly, while only four photographs will be closely examined, large groups of photographs will be also studied through an analysis of the digital architecture covering photographic materials, providing context for the individual item analysis.

As noted, empirical material collection will extend to context in which these digitized photographs are housed – context that will be analyzed organizationally (critical organization analysis). The digital platform design and the various paths to the photographs will be included in the empirical material, as well as the data and the metadata surrounding the digitized photographs. In order to maintain consistency, searching started at the homepage of each institution. The number of digitized photographs available through each institution will be collected and compared to the institutions’ total estimated number of photographs, as a demonstration of how extensive the digitization process has been and thus what the level of commitment to photograph digitization is in practice.

Material from digital collections that has been culled from online sources is supplemented with informal interviews with digitization practitioners at the three institutions in question. Interviews are useful because they illuminate the linguistic and organizational world in which the material collected from digital platforms was created. Additionally, these interviews shed more direct light on whether and how digitization professionals understand the gaps between their workplace practices and those of other memory institutions. Paul Conway identifies the importance of professional networks and “empirical experimentation” in building best practices, indicating that a series of interviews to establish the nature and extent of these networks will be integral to any comparative study of photography digitization practices (Conway 2008, p. 97-98, 100). The existence of differences or similarities between digitized material currently available via the digital libraries of these institutions cannot be taken as a priori evidence that the grounds for memory institution convergence does or does not exist. Methodological triangulation is thus required (Denzin 1978, referenced in Wildemuth 2017, p. 55).

7 Some of these materials from the National Library of Sweden are provided as links because of rights issues. While the National Library could approve non-profit publication use of their own materials, the photographs themselves are subject to more complicated rights policies. All other materials have been approved for publication in this text by the relevant institutions. The author thanks the National Library, the National Archives, and the Nordic Museum for this privilege. Contact the author for the original screenshots used in this thesis.
Interviews were semi-structured (Bryman 2016, p. 465-499), combining in-person and telephone interviews with follow-up information gathering done via email. Interview participants – three digitization staffers and the head of the photography department at the National Library of Sweden, two from the National Archives of Sweden’s department for photography and the moving picture, and two from the Nordic Museum’s photograph digitization department – were informed of the purpose of the project and provided with an early draft of the introduction and literature review for this text. A set of broad questions were also provided in advance (see Appendix A). These materials were kept consistent even as the study itself evolved, so that all parties received exactly the same information ahead of discussions. Current information on the project was, however, folded into the actual interviews if it was deemed relevant.

Interviews lasted from one to two hours and were conducted with individual staffers and with groups of two; informal written notes documented the content of conversation but did not take note of names, instead choosing to document the scope of conversations about photography digitization at each institution. Interviews most often combined talking about digitization practices with walking around the workplace, which gave this author a sense of the size and geographical structure of each workplace. Interview subjects were provided with a full draft of the text to allow for fact-checking and the addition of information deemed important by interview participants. Interviews were conducted in Swedish, and translated keywords and main topics from the interviews can be found in Appendix A, with repeated topics bolded.

**Table 1.1 – Interview Schedule, 2018**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 February</td>
<td>Interviews at the National Library of Sweden (KB)</td>
</tr>
<tr>
<td>14 March</td>
<td>National Archives (RA) conference on new EU requirements for personal data protection</td>
</tr>
<tr>
<td>27 March</td>
<td>Interview at The Nordic Museum (NM)</td>
</tr>
<tr>
<td>28 March</td>
<td>Interviews at the National Archives of Sweden (RA)</td>
</tr>
<tr>
<td>6 April</td>
<td>Telephone interview with Nordic Museum (NM)</td>
</tr>
</tbody>
</table>

These informal interviews are designed to provide a window into the human and institutional factors undergirding differences and similarities identified in the analysis of digitized photographs collected from the digital platforms of each of these institutions. Decision-making and the perception of differences and similarities on the part of digitization specialists can help to contextualize the material. Convergence is not simply a technical process – it is also a merging of understanding and practice. As a result, variant opinions of the photograph and photographic digitization practice are relevant. Further, as Conway (2008) has noted, spaces between LAMS are sometimes filled in with professional networks,
built via conferences, informal conversation, and professional movement from organization to organization.

2.1.2 The comparative aspect

The larger structuring principle of this study is the comparison of three main Swedish LAMS: the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum. This comparative analysis will encompass the language, platforms, and institutional contexts of these three institutions. A comparative approach directly addresses the research questions posed in Section 2.1. There are two main comparative threads here: a comparison of the photograph digitization practices at these three LAMs to (1) determine the current status of photographic digitization standards development; and (2) the use of this comparison to examine whether there is movement towards memory institution convergence in Sweden.

The use of comparative empirical analysis to address these questions is relatively uncommon. Much of the debate over standards development deals with the number and language of standards themselves or the theory behind standards development (see Schwartz 2009 for an example). While useful for a discussion of how best to classify photographic material, this kind of analysis misses the potential for a diverse set of approaches to standards implementation within memory institutions, especially since technical expertise amongst LAM professionals has developed more slowly than technical development itself, dependent as it is on hiring practices and staff turnover (Iyer 2009). A comparative approach will flesh out the ways in which these standards are understood and enacted in institutions that are still figuring out how to integrate digitization work into older, sometimes rather inflexible organizations with timeworn practices and procedures.

Meanwhile, the discussion about convergence is often grounded in the experiences of LAM scholars who work at a specific library, archive, or museum. The specificity of these perspectives is built into the analysis. Articles such as Gerald Beasley’s, which carefully deconstruct the classification, management, and digitization of very complicated architectural collections, are so specific that some of the conclusions are not generalizable (Beasley 2007). Comparison gets at the range of ways in which standards can operate, a particularly important spectrum to map in the case of photographic material, which, as previously stated, is quite flexible and requires more classification and description work than other types of digitizable material.

Comparative empirical analysis is thus not only the most appropriate approach to answering the research questions but serves as a complement to existing scholarship on photographic standards development and the possibilities for and processes of memory institution convergence. As digital cultural policy scholars Jonathan Roberge and Philippe Chantepie assert, “[t]o compare is to contextualize, which reveals the probabilities and limits, the prospects and pitfalls” of digitization policies (Roberge & Chantepie 2017, p. 295). The need for contextualization is
particularly acute in the Swedish context, where there is little comparative work on photographic classification standards development or the implementation of digitization beyond a short volume on museums in the Nordic and Baltic context (Mäkelä 2001, especially the material on Sweden, p. 114-141).

2.2 Theory and methodological framework

Theoretical frameworks used here vary, depending on the evidence being examined. Discourse analysis will be used throughout the thesis, as a way of understanding how the concept “photography” is defined at the individual level, within digital collection architectures, and by digitization and photography professionals. This will involve identifying the rhetorical and structural boundaries around the category “photograph”. Similarities and differences in these definitions will be used to examine the possibilities for convergence, defined here as a merging of digital standards and structures. The thesis understands the digitization workplace as an ecosystem (Altheide & Schneider 2013), examining how decisions are affected by specific, changeable organizational needs and the more fixed structure of these historical institutions.

2.2.1 Analysis of photography description

This project is interested in the description of photographic material in all its forms – data, metadata, and how the photography is situated within its digital platform homes. Given the qualitative nature of both descriptive and organizational data, this study will employ discourse analysis to examine the organizational and linguistic systems within which individual photographs exist. The words that LAMs employ to describe and contextualize individual digitized photographs help to illuminate how (and how flexibly) the institutions under analysis understand photography. And, following, as a result, what is left out of item-level descriptions is just as important as what is included; these omissions are key to identifying the boundaries of the term “photograph”.

There are multiple ways to understand the concept “photograph”, and that understanding can influence the scope of photographic characteristics chosen to surround the images when they are digitized and made available online. As linguistic experts have noted, concepts gain their meaning through hierarchical systems of words (ontologies) that serve to fix their meaning in relation to specific objects (Stock 2010, p. 1951-1952). Classification theorist Rick Szostak has pointed to how the complexity of concepts like “photography” can be reduced if they are understood as a collection of smaller, simpler concepts (Szostak 2011). Given the flexible meaning of the concept “photograph” as related to its existence as an artistic, historical, and technological object, it is important to understand how this concept is defined via the various linguistic hierarchies in which it exists.

This thesis employs discourse analysis based on theories of social constructionism to examine how concepts like “photography” are created through their description (Jørgensen & Phillips 2002, p. 5-6). As a result, particular attention will be paid to whether data and metadata language emphasizes the historicity and/or artistic
qualities of these documents. This analysis will also study whether information on photographic technologies are included in item-level description. As Szostak notes, “basic concepts” are consistent “across disciplines or cultures” (Szostak 2011, p. 2247), so historical information like the specific dating of a document, photographic technology terminology like “daguerreotype”, and artistic information like labeling a photograph as “abstract” are understood here as helping to construct the boundaries of definition for the concept “photograph”.

This analysis requires particular attention not just to the descriptive language used at the individual document level, but to the linguistic patterns used across materials, both within and between memory institutions. Concept definition requires the application of these “basic concept” across photographic items. Further, identifying patterns (and gaps in linguistics) is important for understanding the interoperability of the individual documents under analysis here. This means that using the search term “photography” and seeing what materials are returned demonstrates what kinds of documents are considered related to the concept of photography.

2.2.2 Analysis of digital collection architecture

Discourse analysis also allows for the examination of how digitized material is described and exists within an informational architecture constructed by institutions to support their goals (Parandjuk 2010). Morville and Rosenfeld (2007) offer a useful definition of information architecture that includes the organization, labeling, and search functions of digital collections – the digital context for individual digital items. In order to understand how the National Library of Sweden, the National Archive of Sweden, and the Nordic Museum define individual digitized photographs, both the kinds of words used to describe documents and the situation of those documents within a wider search and platform context need investigation. As a result, this thesis employs theories gleaned from the study of concept classification to examine the construction of the concept “photography” through the relationships between the digitized photographic documents within a set of digital frameworks (Friedman & Smiraglia 2012; Szostak 2011).

The analysis regards digital architecture as another form of contextualization for digital documents, contributing to the interoperability of this material (Amorim et al. 2017). How a digital collection is put together – how individual images with metadata are grouped together and linked with text provides these images with additional meaning – meaning that structured whether and how users find this material. As noted previously, Geoffrey Yeo notes that documents like photographs are “boundary objects”, existing at the margins of the concept “document” (Yeo 2008, p. 131). Asserting that photographs occupy this space, Paul Conway notes that this positioning means that photographic material does not fit into many classification and description systems in use at LAMs (Conway 2010). If photography functions as a boundary category, defined as not-text and not-object, that status may be reflected in the positioning of photographic material within digital architectures.
Special attention will be paid to Susan Leigh Star’s approach to boundary objects. Star’s approach is, as noted in the literature review, highly influential within archival theory. She has noted that the boundary object has most often been treated via its “interpretive flexibility”, or the ways in which a user might understand and use a document (Star 2010, p. 602). Less attention has been paid to the way in which such interpretation is structured by an organic context of “information and work requirements” that is constantly in a state of becoming (Star 2010, p. 602). This context-based and thus bounded fluidity of concepts will be examined in the thesis, using an examination of the variety of platforms and document interlinkages as a way of illuminating the construction of photography as a concept.

### 2.2.3 Analysis of institutional context and the possibility of convergence

The ontological and architectural worlds defining the concept “photography” do not emerge from thin air. This paper uses discourse analysis because the analysis is specifically attuned not just to the descriptive language used in both interviews and text surrounding the digitized images but the impact of organizational context on that discourse (Casey 2002). This approach requires an examination of the boundaries of discourse on photography not generally, but within the specific, concrete spaces of the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum. In the case of Swedish LAMs, this approach facilitates an analysis not just of the language and practices in use but of what is not included in photographic description, as well as the institutional bases for these inclusions and omissions.

The study deals with institutions with long histories and established, durable practices (Björk 2015). As a result, this paper uses interviews with digitization practitioners at each of the three institutions to understand how approaches to photographs are defined by concrete organizational needs and inflexible structures. How personnel at these organizations understand their employer’s mission and the scope of their individual jobs has meaning here. Additionally, the words and concepts digitization professionals use to describe photography can potentially have a meaningful effect on the scope and content of the data and metadata created for digitized photographs. Discourse analysis helps to situate the language and architecture surrounding individual photographs in their broader discursive frameworks – frameworks that are determined by institutions and interpreted and applied by their employees.

Following Altheide and Schneider, this empirical analysis employs an understanding of both documents and personnel as “part of the ecology of communication” within an LAM (Altheide & Schneider 2013, p. 6). The “ecosystem” metaphor is particularly useful (and used often – see Edwards & Lien

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8 The National Library of Sweden was founded in the 1500s as a library of the royal house of Vasa and became an arm of the government after democratization. The National Archives share this history, after the institution was founded in 1618. The Nordic Museum has a slightly shorter history and has been run by a board after its founding in 1873.
2014; Hartig 2014) in the case of digitized photographic material and its place in LAM digital platforms; paraphrasing a textbook on museum curatorship, photographic historians Elizabeth Edwards and Sigrid Lien summarize the functional flexibility of the photograph as a tool, a kind of material “put to work” in a variety of ways by LAM professionals (Edwards & Lien 2014, p. 5). How these professionals understand their use of photographic material is, thus, of value to this thesis.

An analysis of institutional context provides the grounds for an analysis of the possibilities for “convergence” between Swedish memory institutions. There is, as previously stated, a multifaceted ongoing conversation about convergence due to the construction of at least superficially similar digital collections at museums, archives, and libraries. Here, the term convergence will refer to a confluence of practices that lead to a collective, uniform approach to digital collections and individual digital materials, rather than a broader merging of institutions. This approach involves assessing Cornell digitization specialist Peter Hirtle’s prediction that digitization will result in (1) a streamlining of LAM goals and practices and (2) a reassessment of what material is valuable to these institutions (Hirtle 2002).
3 Results

The results section is divided into three sub-sections on each institution under analysis here, beginning with the National Library of Sweden, preceding to the National Archives of Sweden, and finishing with the Nordic Museum. Each of these institutionally-defined sub-sections houses three sets of data, (1) starting with the digital architecture(s) that provide contexts for and routes to individual digitized documents, (2) proceeding to a breakdown of the data and metadata for the chosen digitized photographs, and (3) finishing with a summary of the institutional conversations about and context for decisions about digitization of photographic material.

3.1 The National Library of Sweden (Kungliga biblioteket)

The National Library is the largest library in Sweden, established in the 1600s and built on the collections of Gustav Vasa I. The institution is home to one of the earlier digitization departments in the country, a department whose first major project was the early 2000s mass digitalization of music, radio, and television material but has since shifted to a set of practices closer to critical digitization (Dahlström et al. 2012). The digitization department is organizationally separate from the department for physical photographs. There are over 400,000 photographs housed at the institution, but a very small percentage are digitized. For instance, of the approximately 50,000 visiting card photographs housed at the National Library, under 5,000 have been digitized, and only a few are easily available via the page devoted to this kind of source (Kungliga biblioteket n.d. 2). Photographs tend to reside in collections built around photographic material. Materials range from portraits and calling cards to journalistic photography to the photography of artists (Kungliga biblioteket n.d. 1).

3.1.1 The National Library’s digital collection, architecture and scope

The digitized photographic material available on the National Library’s (KB) site is limited but easily found. The first page a regular user will encounter is the homepage, which is oriented towards a casual library visitor. A click on the link to find material immediately presents the user with general search guidelines as well as shortcuts to particular kinds of material, including photography. Clicking on this link brings the user to a drop-down menu with four options: (1) getting help finding photographs, (2) Libris (the national catalog for Swedish libraries), (3) Regina (the catalog internal to KB), and (4) Suecian (a database offering photography from 1600s Sweden). Helpfully, photographs have been singled out as one of 19 categories of material found at the library (Appendix B.1.1, see the right sidebar), so even if a user takes a wrong turn searching for information on KB photographic holdings, it is easy to find relevant material.
There is also a relatively thorough-going page devoted to helping users find photographs (Appendix B.1.1). The help link offers the option of browsing the digitized photographic holdings of KB. The page also offers three PDF overviews of (1) an inventory of the photographic collection at KB; (2) an overview of Henry B. Goodwin’s photographic collection; and (3) an overview of KB’s portrait collection. Unfortunately, the digitized photographic holdings page often fails to work, and the collections available as excerpts on this page come without metadata, though they are easy to browse and download as JPG files. The working path to this page is the direct link to “Digitala kollektioner” (Digitized collections), two of which are photographic collections (for an example, see Appendix B.4.1).

The main photography page provides context for the excerpted photographs featured on the site. Raw numbers are provided, making it clear that these smaller collections are a fraction of the material housed at the National Library (these numbers appear below the material provided in Appendix B.1.1); the oldest photograph in the collections is from 1848, the KB houses 50,000 visiting card photographs, and there are approximately 1,020 portrait albums at the library. Text on the page describes the scope of photography, noting that portrait photography comprises a large percentage of the collections. Importantly, the page also observes that the majority of photographs at the library were taken by Swedish photographers and range from professional portrait photographers to press photographers to pioneering art photographers (Appendix B.1.1).

To find fully digitized materials with surrounding data and metadata, the user must go through the internal KB catalog Regina, find the “Deldatabaser” (partial databases), and use the “Digitaliserade verk” (digitized works) search to find digitized photography (Appendix B.1.3). On the whole, this option is relatively easy to find given the amount of direction provided by the KB site, but users unused to doing online research might find this route a bit more counterintuitive than this author. As the main page notes, one can search using standard terms, but should also be able to find photographs by photographic technique and rights owner.

3.1.2 The digitized material
A search for “fotografi” via the Digitized Works portal of Regina yields 77 results. Examples of these materials are available in Appendices B.2 and B.3. Materials are thus not extensive, but they are varied. The pages on which they appear offer little information (the extent of the surrounding text can be seen in Appendix B.2.1). It is, however, easy to download, zoom in and out on, or enhance the images for closer examination, which are digitized as high-quality PDF files (see, for example, Appendix B.2.1). There is little data or metadata available directly on the webpage itself (see again Appendix B.2.1); in order to access this information, the user must download the PDF file, which contains embedded metadata (Appendices B.2.2; B.2.3; B.3.3; B.3.4).
As a result, downloading files is essential. As a comparison of Appendices B.3.1 and B.3.2 demonstrates, the photo displayed on the Web is not necessarily the entire photographic object. With the photograph of Malmö’s Folkets park (the People’s Park), the PDF document also contains a backside not displayed on the web, revealing the photograph to be a postcard with information on the atelier responsible for the image, as well as handwritten cataloging information and the National Library three crowns stamp. This information is imperative if one is to understand the photograph as a three-dimensional object with a variety of historical, concrete purposes.

As with Appendix B.4.1, not all images available through KB have this information. Materials reached through the shortcuts to photographic collections – from both the digitized collections page and the main page for photography – are surrounded by very little if any data or metadata. Appendices B.4.1-B.4.3 demonstrate that the small individual collections offer a small selection of JPG images. On the main page for photography, there are 22 photographs that the user can access in a slideshow. The title of the photograph, the photographer, and the photograph’s library code are displayed underneath each photograph (see Appendix B.1.1 for the positioning of this slideshow and general layout). This organization is repeated for the photographic collections accessed via the digitized collections page. An example is the Sex Pistols in Halmstad collection, which is composed of 20 photographs, all of which are contextualized with title and photographer data situated underneath photographs (Appendix B.4.1).

In short, there is not extensive contextual text for individual digitized photographic documents if they are grouped by the library. Instead, context is provided through the grouping of materials. These sub-collections also have introductory background information. The Sex Pistols page includes information on both the band and the Swedish photographer Lars Åström (Appendix B.4.2) and the option of sharing the photograph through social media or copying the link to the photograph (Appendix B.4.1). This surrounding data disappears if photographs in either of these slideshows is clicked on (see Appendix B.4.3). Downloaded JPG files contain the information already provided on the collection pages (title and photographer, and occasionally the year and/or library code) but no additional contextual data.

Metadata is not extensive but consistently includes (1) the filename; (2) a title; (3) the subject matter of the photograph; and (4) keywords (of the 25 photographs I have examined, the keyword is limited to “bild” (photograph) with no other keywords present). The photograph “Finlands Fältmarskalk Carl Gustaf Mannerheim” also includes the author of the photograph. Clicking on the “övriga metadata” (additional metadata) button yields (1) the LIBRIS cataloging ID for the object; (2) a few characteristics of the PDF file; and (3) information in line with Dublin Core standards (Appendix B.3.4). This information is not well-developed, but it does increase the interoperability of the photographs.
The three-dimensional nature of photographs is represented in three ways in KB’s online collection. The daguerreotype example (Appendix B.5.1) is the only type of photography that includes information on the photographic process and technology used to create the photograph. This material is also the only example of frame inclusion – the green, black, and beige frame takes up a sizable portion of the digitized document. With other photographic material, physical characteristics are demonstrated through the inclusion of the grey surface upon which the photograph was digitized (see Appendix B.2.1 and B.3.1, for examples). The Sex Pistols collection (Appendix B.4.1, B.4.3) does not include this grey space, making it harder for the user to understand whether the image is born-digital or not. Some of the documents here display wear and tear on the physical document, but most of the time, the user must be looking for this information in order to see it.

3.1.3 Institutional structure and conversations with digitization professionals

Personnel working in digitization department at the National Library of Sweden believe that substantive differences exist between LAMs when it comes to photographic digitization. They also mention a lack of dialogue existed linking memory institutions in the country. Several employees trace these differences to historically divergent practices stemming from both institutional preservation and varying missions. At the National Library, the user is defined as the average citizen, resulting in a deemphasis on academic discussion of digitization practices generally (Appendix A.2.1).

This deemphasis should not be read as disinterest. There are numerous employees at KB who are very interested in and knowledgeable about photography and photographic digitization at the academic as well as practical level. The library staff includes a staffer who has written a dissertation on digitization and a photographic conservationist who participated in the construction of recommendations for cataloguing photographic collections for the European Union as a member of the SEPIA Working Group on Descriptive Models for Photographic Collections (Klijn, ed. 2003; Klijn & de Lusenet 2004). These recommendations lay out a variety of best practices guidelines based on the Dublin Core standards for adding structured metadata to digitized photographs and photographic collections to increase interoperability across institutional boundaries (Klijn, ed. 2003, p. 237-243).

But there are specific practical problems that stand in the way of KB implementing these best practices, even if there is significant interest in and knowledge of photography digitization. There are several practical issues raised by employees (Appendix A.2.1). The tricky position of and lack of defined rules governing photograph digitization means that prioritizing photography would require resources that the National Library simply does not have. One digitization specialist notes that the SEPIADES rules were written too late; institutional determinism set in earlier, making the adoption and implementation of new guidelines specific to photography seem more arduous. Given the fact that
digitization occurs across several different branches of the KB workplace, each and every one of these administrative units would need to change their practices with regards to digitization.

A concerted photography digitization drive would also, according to several National Library digitizers, require dealing with complex juridical and metadata questions. In particular, the importance of provenance metadata and the complicated nature of copyright in the case of photographs was a consistent theme in interviews (Appendix A.2.1). Several individuals noted that rights and provenance issues are especially complex with photographs, whose use in a variety of areas (advertising, art, news, government, domestic, etc.) is facilitated by their easy reproducibility and the fuzzy rights system governing image reproductions that have been altered in some way. As a result, rights are potentially spread amongst dozens of individuals and institutions. And as one KB digitization specialist noted, unlike with newspapers, photographs cannot be covered with a collective rights agreement. This is a general problem for many institutions, a trend noted in academic literature on photography (Vestberg 2009). The problem of rights and their ability to restrict what is digitized and made available on the site is also specifically noted on the library’s digitized photography pages (see Appendix B.5.1).

The mutability of photographs also means that the digitization practices employed at KB make the process of photography digitization especially laborious. The National Library’s approach to digitization is thorough and involves digitization of all facets of an object (i.e., the backside of a photograph, even if there is no writing or imagery) for maximum flexibility in meeting a user’s needs. However, if an image exists in multiple forms and has been used in multiple arenas (a relatively common pattern for photographs, which are characterized by their reproducibility in a variety of forms and formats), standard KB practice dictates that each and every instance of the photograph must be treated with the same level of care and detail. While these practices follow recommended guidelines for photographic digitization, even these guidelines note the resource-consuming nature of metadata reproduction across related items (Klijn, ed. 2003, p. 238). And as one KB employee noted, metadata is perceived as the specialty of the library, something that KB is better at than museums and archives.

Certain forms of photography may also prevent more concerted attention to photographic collections generally. Besides requiring more resources to digitize and describe in surrounding data and metadata, the digitization of negatives represents an especially arduous project within the context of KB and SEPIADES rules and practices, despite the fact that negatives are the most likely to degrade, susceptible as they are to fading and chemical corruption (Appendix A.2.1; Mollenhauer & Droleskey 1984; for levels of deterioration considered by SEPIADES, see Klijn ed. 2003, p. 201). As one KB digitization expert noted, negatives pose unique problems related to color interpretation, since they can be
developed in a variety of ways and almost always lack corresponding information from the photographer on development intentions.

All of these circumstances have resulted in the maintenance of digitization practices and systems built for textual rather than image documents. KB assumes that the average library user is most interested in documents with searchable text and has, therefore, prioritized this type of material. This focus is reinforced by the sheer number of photographs in the library’s collections, which require both culling photographs for digitization and then devoting more resources to every document. And given the resource-poor circumstances of the National Library, expanding and complicating its digitization practices is not considered to be a good use of money and manpower. Cooperation with other memory institutions like museums and archives, which might spread these costs, is not considered feasible either. Though some contacts with other institutions like the National Archives and the Nordic Museum are considered potentially useful, conversations around photography digitization practices are largely dormant (Appendix A.2.1).

3.2 The National Archives of Sweden (Riksarkivet)

The National Archives also has hundreds of thousands of photographs, accumulated through its 400-year history. The institution has a legislated task of preserving and making available archives from the public sector, though the Archives holds a number of private archives as well. It is difficult to assess the scope of the photographic holdings at the Archives, since very few are thoroughly catalogued and far fewer are digitized. The organization of the archives further complicates this assessment; the department for photography and the moving picture is separated geographically and organizationally from archives organized around Swedish regions or historical sectors like war or agriculture. Indeed, it was only in 2010 that these various branches were formally united as one public institution (Riksarkivet n.d.). Photography is a relatively new focus for the National Archives; digitization standards specific to the form have not yet been chosen.

3.2.1 The National Archives digital collection, architecture and scope

Unlike similar national archival platforms (the National Archives and Records Administration of the US and the National Archives of Great Britain, for example), Sweden’s National Archive site is designed for professional and lay researchers and mostly functions as a search catalog, with a few digitized materials, digitized as individual documents or as archival collections, depending on the material and the responsible branch of the institution (the National Archives has thirteen different locations with archival material that, as noted, have only recently been joined under one organizational umbrella). The homepage clearly reflects the assumption that a visit to the archive will often be necessary. The links immediately presented on the start are for planning a visit to the archive and ordering copies of material, alongside a shortcut to Digitalforskarssalen (the Digital Research Room). Though promising, the Digital Research Room is, in fact, designed for very directed research rather than browsing.
There is no easy path to finding digitized photographs using the multitude of search routes through Riksarkivet’s digital material. Shortcuts to specific areas of research are defined by broad subjects generally organized around government activities (taxes, business and work life, the military, emigration), as demonstrated in Appendix C.1.1. Maps and drawings are the closest thing to the area of photography singled out for a shortcut. The site also makes it impossible to perform word searches within many document collections (handwritten materials have not been made word-searchable) and working between different archival collections is relatively difficult.

For this reason, it is hard to assess the extent of photograph digitization. A search for “fotografi” in the free text search option of the online research portal with the box for only returning digitized material checked yields 1,643 results, 1,630 of which are photography documents (see the sidebar in Appendix C.1.2). These results include matter like the first returned object in Appendix C.1.2, “Signe Mählers Fotografi-Atelier” (Signe Mähler’s photography atelier), which turns out to be digitized handwritten records of the atelier, containing not one photograph. Books on photography also dominate the list of returned materials. This fuzziness of the filter “fotografi” may be because digitization is a form of photography. This organization of search results does, however, help in contextualizing photography as a business.

Finding disparate photographs is thus a trial-and-error process requiring dozens of hours sifting through entire archival collections. It is even a bit difficult to find individual documents that exist within the collection with the archival label “Fotografisamlingarna” (the photographic collections) from the main search page (see Appendix C.2.1). The user must sift manually through archival collections following the hierarchy imposed by archivists. The “Fotosamlingarna” is actually a collection label created within the context of the “Krigsarkivet” or War Archive, and only a few select pieces of material have been digitized. To find this digitized material, one must search for digitized photographs within this archive. Searching across the various archives of Riksarkivet is very difficult.

Unlike the other institutions examined here, the National Archives does not use other platforms to display its digitized photography, though its Instagram and Facebook pages contain some digitized photographs. The separate databases (for the “externa länkar” or external links on the search page, see Appendix C.1.1) largely connect to similarly organized sites with hierarchically-organized information privileging the researcher over the casual browser. Options tilt more towards catalogues than interactive platforms for interoperable documents.

### 3.2.2 The digitized material

The material available on the site provides a consistent set of data and metadata, but this material reinforces the hierarchical archival structure of the database system, preventing easy access to digitized photographic material and thus
hindering usage or analysis of photo material across archival collections. Digitized materials are sometimes organized as a single document with several pages, thus preserving the archival order of materials. Individual photographic documents are downloadable as PNG files.

The object details for each document can but do not always include all of the following: (1) the archival collection to which the photograph belongs; (2) the series to which the photograph belongs; (3) the picture’s reference code; (4) the general subject area; (5) the digital ID code; (6) a URI for the resource; and (7) a reference to the digital object. All of this information is available in the informational sidebar located to the right of each digitized photograph (see, for example, Appendix C.2.2).

Traditional data and metadata information like the subject of the photograph, the year, or more specific information related to daguerreotypes can be found in the general subject area section. This contextual information is arranged around and privileges the individual item’s placement in the archive, rather than the content of the individual item itself. In terms of display, the photograph is not easily manipulated outside of a zoom function, the option of rotating the document, and the option of adjusting the contrast and luminosity. Zooming yields some additional information on the material.

Surrounding text is limited, and there are no groups of photographs that the National Archives has separated out on specific pages in order to highlight the photographic holdings of the institution. Digitized photographs tend to include the material on which they have been mounted by archivists, often brown or grey archival paper with handwritten archival notes (Appendix C.2.2, C.4.1). This information has not been made word-searchable but is often partially reproduced in some form in the data provided in the aforementioned sidebar.

The dearth of interoperable data and metadata and the hierarchical structure of the Riksarkivet search process means that even with this extensive information, it is difficult to find the material again by googling or by searching for text lifted directly from the digitized photograph’s using Riksarkivet’s own search engine. Without the specific web address, the user must go through the entire search process again to relocate material, as search results prioritize giving the user information on the location of material within a larger archival collection, rather than routing them to the digital object. Notes on this process must be taken to ensure finding the material again, even if materials are downloaded. Photographic material downloaded from the National Archives does not carry metadata of any kind; even the name of the downloaded file is titled “download”.

Like with the National Library’s collections, the only materials with data and metadata related to the technology used to create the physical photograph are daguerreotypes (Appendix C.5.1). Here, the data is more extensive, including a thorough description of the physical materials of the daguerreotype, information on
how the item is mounted, and details about conservation of the item. However, because photographs are digitized as archival objects, attached to sheets that describe them, this physical element is preserved to some extent, at least for positives (Appendix C.2.2, C.4.1). This approach to the preservation of the document’s materiality also reminds the user of the centrality of the archive in organizing and cataloguing material, since these are documents not just organized but created by archivists.

The representation of a photograph’s materiality varies throughout the selected material. The digitized photograph of the War School from 1890 (Appendix C.3.1) also cuts off at the edges of the photograph itself, reducing the dimensionality of this material. Similarly, the digitized portrait daguerreotype of Hampus Reinhold Huldt from 1856 ends at the edges of the physical document, though the metadata includes information on the item including a frame with glass (Appendix C.5.1). The most obvious indication of the physical nature of the material is its shine, which is captured by the cloudiness at the edges of the digital document, presumably reflections captured in the digitization process.

3.2.3 Institutional structure and conversations with digitization professionals

Personnel at the National Archives of Sweden are generally involved in digitization in the form of scanning documents for use within the institution and for patrons who have ordered certain materials. This digitization is, however, not always considered digitization, *per se*, but rather is sometimes treated like the easiest form of copying material. The National Archives has a trained photographic conservator in charge of photography, while photography is considered the purview of a larger department for sound, moving pictures, and digital material. This and other digitization efforts are organizationally separated from much of the rest of the work of the National Archives. The National Archives has not yet begun to digitize analog photography comprehensively; metadata guidelines and the establishment of a workflow is in development (Appendix A.2.2).

As at the National Library, the National Archives has personnel with significant experience in photographic preservation – knowledge useful for the implementation of full metadata creation practices. Some staff have contributed to the development of photographic preservation standards for Swedish institutions (Palm & Johansson 1995). This work necessarily involved the development of systems that privileged the preservation of some kinds of photography over others and some pieces of information captured by photographs over others. Further, the foreword to this work demonstrates that personnel at all of the institutions under question in this thesis have moved across boundaries between memory institutions, shifting from work at museums to work at libraries, or moving from libraries to archives.

In the past, the geographic, organizational, and thematic diversity of the National Archives has hindered the development of thorough-going guidelines governing the
treatment of photographs, which were viewed as low-priority items (Appendix A.2.2). Until recently, many branches of the archives operated independently, following their own local rules. Photographs were sometimes culled from other archives and grouped together, sometimes enduring physical hardship as a result. The possibilities inherent in digitization have prompted a reevaluation of and improvement in the treatment of photography generally. The Archives’ reassessment of the treatment of photographic material reflects a general pattern where digital library development has spurred a standardization of the treatment of certain kinds of materials (Dahlgren & Snickars 2009, p. 27).

The National Archives turns 400 years old this year, and photography is one of the many subjects included in anniversary conferences. These conferences facilitate networking amongst LAM professionals in Sweden, including increased dialogue around photography digitization. In March of 2018, a National Archives conference on archives and photography included a presentation on the Landskrona Museum project “Rädda bildarvet” (Save the photographic heritage). This national project based in Skåne is designed to facilitate the development of research-based methods of photographic preservation and digitization expertise and practice that can be applied in Swedish LAMs (Landskrona museet n.d.).

In terms of collection acceptance, the National Archives privileges uniqueness and/or a collection that has a full scope, in that it thoroughly documents a context. While a new initiative, the Rädda bildarvet project fits well with this older goal of preservation and can thus be understood as simply a continuation of the National Archive’s historical mission to take care of public sector materials. Photographs are, unfortunately, subject to rapid deterioration, especially if they have not been stored in a systematic and careful way. Given their previous treatment, photograph digitization is likely to push the systemization of photographic description.

Currently, SEPIADES is being considered as the basis for a photography metadata system for the archive’s photography, which would align the institution’s approach photograph description with the system used by the National Library (Appendix A.2.2).

3.3 The Nordic Museum (Nordiska museet)

The Nordic Museum houses approximately six million photographs, the largest number held by a single Swedish institution. A small fraction of these have been digitized. This pattern holds across institutions and across types of photography. Of the 300,000 negatives at the Nordic Museum, around 20,000 negatives have been digitized. The museum has a long history documenting the photographic history of Sweden. As noted in the literature review, the Nordic Museum was home to the Fotosekretariet from 1998 until 2012. The museum also spearheaded development of the official list of important Swedish photographers, Fotoregistret (The Database of Photographers) in 2008 and is still the coordinating institution for this list. Digitization of photography began around 2000 with preservation as the main goal. Since then, the museum has established a small photographic
3.3.1 The Nordic Museum digital collection, architecture and scope

Nordic Museum has the most extensive digitized collection of photographs and the most thorough, interoperative collection of the materials analyzed in this paper. Access to digitized photography is provided directly on the museum’s homepage, through a link to photography collections. The museum’s search guide divides material into several categories: (1) objects, (2) photographs, (3) literature, magazines, and advertisements, and (4) archival texts and collections. Each of these areas links to a page with a set of selected collections, as well as a short description of the general collection available both at the museum and within the digital library. Included on this page are links to all of the platforms housing Nordic Museum photographic materials.

This thoroughness combined with the absence of a central space for Swedish digitized photography means that photography data and metadata is not only voluminous but is also spread across a variety of platforms and appears in a variety of forms. As Appendix D.1.3 illustrates, material appears in (1) Nordiska museet’s own digital collections, (2) Digitalt Museum (the Digital Museum), (3) KulturNav (a Norwegian database), (4) Wikipedia Commons, and (5) Flickr. These platforms are interconnected, to some extent. Information on digitized material from single collections and even single objects can be found across platforms. This flexibility is represented in the chosen photographs, which include screenshots from all sites.

The museum’s own website offers easy access to individual digitized photographs via three routes. The first route is on the main photography page, which offers a selection of highlighted “Större fotoarkiv” (Larger photographic archives, Appendix D.1.3) organized around photographers, each of whom is given their own webpage containing a short biography and one to several photographs (Appendix D.2.1). The second route is via teaching materials, which are organized by period and theme and available (for example, Folkhemmet (the People’s Home), seen in Appendix D.1.4). Each theme page contains a series of smaller linked collections focused on narrower themes (for one set of options, see Appendix D.1.5), often including a collection specifically devoted to photography or, in the case of the Folkhemmet page, only containing groups of photographs representing each sub-theme. The last and final route to material within the context of the Nordiska museet website is the set of photography exhibition pages, which are organized like the pages devoted to larger photographic archives (Appendix D.1.3).

The simplest platform for the non-researcher is arguably the Digital Museum (see Appendix D.1.4; D.3). This platform is a transnational project, encompassing collections (including but not limited to photography) from across 210 places (mostly countries) and housing 1,459,988 photographs – by far the largest category of material in the DM collection. 43,988 of these photographs are from Nordiska
museet. This material is very easy to find and encompasses photography from the 19th century to the present day.

The logical format of the digital library itself hides the unfortunate fact that some material is miscategorized. Digital photographs of some acrylic paintings are returned even when specifying the form “photography” in the search query, potentially because “bild” (picture) and “fotograf” (photograph) are flexible words; “picture” encompasses all non-movable artistic depictions, and the material in digital libraries is, in fact, digital photography, though the physical material base for the digital material may be in other formats. The accuracy of the label “photograph” does appear to become more accurate as the material becomes more contemporary. Photographs are sometimes singular and sometimes are grouped together and can be flipped through, but never appear in digital collections with digitized objects or texts.

KulturNav offers open access software for digital libraries, and the Database of Photographers (Sweden) constructed by the Nordic Museum is organized around individual photographers rather than photographic subject matter or other characteristics. Individual digitized documents can be found by clicking on the “Linked Data” tab, which provides a list of all digital documents connected to the photographer, regardless of the institution where these items are housed. The documents are arranged by item code and can be tabbed through but not rearranged (Appendix D.2.5). The platform is very text-heavy, providing extensive information on both the photographer (Appendix D.2.4) and the digital history of the entire file (Appendix D.2.6, D.2.7) via other tabs.

Material housed on Flickr is primarily photographs of non-photographic content like paintings and exhibitions. It is impossible to search for “fotografi” (photography) given that all Flickr material is categorized as images. There are, however, some labeled collections of photography, the largest of which is “The Daguerreotypes of Nordiska museet” and comprises 212 photographs. There is also a collection of “Various Archival Photographs” (Appendix D.4.1) containing 38 photographs. Digitized photographs did not appear to be included in other groupings housed on this platform. Appendix D.4.2 is a screenshot of one of the digitized photographs from the latter collection, demonstrating that the user can flip through images as they are organized by the museum or go to the main group page to select images.

Searching across these various platforms can be a bit tricky logistically. KulturNav is obviously the best option if a user wants all the digitized items of, say, Erik Tryggelin. The interoperable keywords displayed under items on the Digital Museum site (see the red words at the bottom of Appendix D.3.1) allow for searching according to broad cultural-historical topics like “religion” and “man” or “woman”. This structure is repeated on Flickr with “tags” (Appendix D.4.3). But at times, the federated search engine Google the best way to access similar photographic materials that are not united by a single photographer or broad
keyword, possibly because many of the items with longer descriptions (see again Appendix D.3.1) contain more detail in their non-linked texts.

Hopping manually between sites is facilitated by the Nordic Museum’s own page, however. As seen with photographer Erik Tryggelin’s page (Appendix D.2.1), the museum provides direct links to the photographer’s page on KulturNav and more information and digitized material on Wikipedia. If the user starts with the NM homepage for photographic collections (Appendix D.1.3), this interconnectedness is easy to see, understand, and navigate. Though again, this is a photographer-driven organization and may work less well if the user is interested in searching across another kind of category.

3.3.2 The digitized material

The Nordic Museum has by far the largest collection of digitized photographic material of the three institutions under analysis here. As it states on the main page for photography, the museum’s entire collection numbers around six million items. Of the millions of photographic documents housed at the institution, several thousand are digitized, though it is difficult to say precisely how many, since the items are spread across so many platforms. Downloadable items are JPG files. There is also a broad range to the data and metadata made available by the Nordic Museum, often structured by the platforms themselves.

Digitized photographs accessed through the main page can be clicked on, but the result is a larger version of the photograph with no data or metadata provided (see Appendix D.2.2). Contextual information is instead concentrated in the text on the page itself, and this text is most often confined to the biographical information of the photographer. The exception is the topical photography collections. NM prefers, on its own pages, to contextualize via texts and photographic grouping that bind individual items together to highlight specific historical and cultural themes.

Outside of the Flickr and Digital Museum pages, it is not easy for users to comment on individual digitized items. These are also the platforms that make sharing across a range of social media very easy (Appendix D.2.1 and Appendix D.3.1 demonstrate slightly different arrangements of the social media links). Additionally, DM allows for ordering digitized material as prints (Appendix D.3.1 is an example of easily ordered prints as well as comment and tagging options). Wikipedia is, of course, a site built on crowd-sourcing, but editing requires more work on the part of the user. The two sites that allow for tagging – Flickr and DM – also allow users to group materials in their own curated folders (see Appendix D.3.1).

The pages for “Folkhemmet: Sverige under 1930-1960-talet” (The People’s Home: Sweden during the 1930s-1960s) (Appendix D.1.5) illustrate how this task is accomplished. These pages group documents by theme – here, the People’s Home – and provide extensive textual material. This themed page contains links to a number of sub-themed pages – for instance, “Kläder” (clothing).
“Kommunikationer” (communications), and “Gammal i folkhemmet” (the elderly in the People’s Home). Each of these sub-theme pages mimics the organization of the larger page, grouping digitized documents with little accessible metadata together and surrounding these materials with text added by museum (rather than interoperable/word-searchable texts from the archive).

This reliance on added text is a theme. As Appendices D.2.3-D.2.7 demonstrate, information for materials connected to KulturNav is far-reaching and highly interoperable. This contextual material includes both descriptive and administrative data and metadata that is interlinked and allows for browsing across categories, including (1) facts (biographical data) about the photographer (Appendix D.2.4); (2) linked data providing easy access to digitized versions of material produced by the artist (Appendix D.2.5); (3) administrative identification data employed by the responsible institution (Appendix C.2.6); (4) statistics on material use and changes to the material, essentially creating a timeline for the digital material (Appendix C.2.7); and (5) history, which provides an even more detailed storage timeline identifying who and when the information was stored. Nearly all of this data is interoperable.

Material available on Flickr is contextualized with data that includes the photograph’s title/description, photographer, and date in both Swedish and English, as well as (in this case) an unstable link to the material at Nordiska museet. Information on the content and context of the photograph is available in both the applied title/description and via the tags (Appendix C.4.3) which range from quite broad (Nordiska museet, Communication, Advertisement, Commercial) to more specific (Telephone, Kobra, 1960s). Information attached to the digital object is extensive and available via the EXIF dropdown list (pictured on the righthand side in Appendix C.4.3), which covers the digital image’s technical, administrative, and descriptive metadata (Appendix C.4.4).

Daguerreotypes are a mainstay of the Nordic Museum’s digital collections. As illustrated in Appendix C.5.1, the majority of the photographs are portraits of unknown (“okända”) individuals, making description in other areas more important, in order to differentiate between the individual items. The chosen daguerreotype (Appendix C.5.2) is in many respects representative of how the Nordic Museum has chosen to deal with this informational dearth. The photograph has been digitized as a three-dimensional object (“föremål”) rather than a photograph (Appendix C.5.3); this categorization seems related to the digitization approach, which prioritizes the physical nature of the book-like item (the back of the object is pictured in Appendix C.5.3); the photograph has not been removed from its casing. The surrounding data and metadata is not equivalent to that of Flickr and Digital Museum and focuses on the object’s history of digitization rather than historical or technological context (Appendix C.5.3; C.5.4). No further descriptive data is embedded in the downloaded version of the item.
More than any other institution here, the Nordic Museum cuts the edges of digitized photographic material off, producing clean-looking photographs that do not show wear and tear or, for the average user, look substantially different from born digital items. It is thus easier to forget the materiality of these documents. The exception, beyond the daguerreotype example, is the contact sheet selection (Appendix C.3.1), which was mounted on a beige sheet, presumably for organizational and preservation reasons. The data and metadata do not mention this materiality, however. It is only with the daguerreotype that a frame is not only included in the digital document but described thoroughly in the data and metadata.

3.3.3 Institutional structure and conversations with digitization professionals

Conversations with digitization staff at the Nordic Museum demonstrate that the overall goals of the museum – making Nordic cultural history available to the public – structures how individual items are understood, discussed, and digitized. Digitization staff want to process those materials most likely to be used widely, rather than focusing on small groups of academic researchers. Newness, provenance, and the potential for visibility are the major criteria for digitization. And because of a sibling relationship to Moderna Museet (the Modern Art Museum), the Nordic Museum classifies its materials as primarily social documents, reflective of Swedish life and culture. A description of the photograph’s content and relatively exact dating (within 5-10 years) is considered the most important classification information (Appendix A.2.3).

When it comes to photography, this means that photographs at the Nordic Museum are automatically categorized as documentary photography, while art photography is the province of the Modern Art Museum (Appendix A.2.3). This understanding structures metadata and data decisions as well as choices about what to digitize in the first place. In particular, the Nordic Museum found that the use of an art classification list was not appropriate for its collection; a classification list focused on historical context was deemed more suitable. On the other hand, this definition of photography specifically also means that there is little interaction between photography and textual digitization departments at NM. Instead, cooperation is more likely to occur across museums; Nordic Museum staff are currently working with Landskrona Museum on an exhibit of Swedish photographers who worked outside Sweden.

This identity as cultural ward is often combined with the problem of too few resources, forcing digitization experts at the museum to make “hard choices” about where to focus, as one digitizer put it (Appendix A.2.3). The requirement that each document be surrounded with data and metadata on its cultural historical context means that the digitization process consumes more resources. Mass digitization of materials is not considered possible. The department prioritizes series- and collection-level data and metadata, while description at the level of the individual document is often skipped. This approach is considered a good middle ground for digitizing sufficient material and creating the ground for exhibition and online
display, though personnel at NM voice the desire to go back through digitized photographic material and add extra metadata to make these documents more findable in the future.

Here, as elsewhere, the digitization of negatives is considered cost-ineffective, though negatives are understood as uniquely susceptible to physical deterioration. Around 20,000 of the approximately 300,000 negatives in NM’s possession have been digitized. And an even smaller fraction of the six million prints have been digitized. Limited resources and space discourage the acceptance of new collections. The museum is concerned first and foremost with the preservation and improved cataloguing of material already in its possession.

Personnel at the museum are currently reviewing their technical and administrative photograph digitization practices to better fulfil the general ambitions of the photography department as well as the museum as a whole (Appendix A.2.3). Practices at the Nordic Museum reflect the state of flux digitization staff have found themselves in for the last two decades. Systems and platforms are still being adopted, tested, implemented, and phased out. Developed in Norway, the Primus software used for attaching descriptive and administrative metadata to individual digital materials was adopted in 2005, allowing for the addition of a greater amount of and more structured metadata.

The system is also directly connected to Digitalt Museum (the Digital Museum), making uploading to an attractive and well-organized site easy. The Digital Museum houses digitized material from a number of Norwegian and Swedish museums, in order to make this material more widely available to the public, both for educational and research purposes. While the synergy between software and platform makes the work of digitization easier, this structure has downsides, most grounded in a lack of flexibility and a more general lack of attention to photographs as unique documents requiring descriptive metadata that addresses their role as both art objects and conveyors of historical information. Yet the Primus system has more well-developed entry fields for objects and textual documents (in comparison with photographs). And while interoperability is improved because of the software’s wider use, the company is less likely to tailor its product to fit the individual needs and holdings of institutions like the Nordic Museum.

These software decisions combine with the broader institutional goal of increasing access to the Nordic Museum’s collections, structuring which platforms NM has chosen to use. Primus is directly connected to the Digital Museum as well as NM’s own digital library, integrating the use of both of these platforms into the digitization timeline. Though Flickr has been deemed an unsuccessful experiment, failing to attract an adequate number of visitors, Wikipedia is seen as the most widely used and educationally-based (free) platform available to the museum (Appendix A.2.3). NM staff are planning to review their rights rules to make more of their photography items available on this platform. Interestingly, the themed pages on the home NM site were not mentioned as the best options for full
historical context, potentially because of their thematic specificity and the domination of photographic content.
4 Analysis and discussion

The following three sections place empirical evidence from the three institutions in conversation. The intricacies of metadata scope and content are different across the three institutions under examination here, but there are also important similarities, chief among them the understanding of photography as a cultural-historical document. The definition of the category “photography” seems broad and fuzzily-defined, but also relatively uniform across the institutions examined here. Digital architecture has more inbuilt variety, though photographic materials are consistently separated out as a specific kind of document, hindering connections to other kinds of material. These differences and similarities affect the potential for LAM convergence as well as the creation of interoperable collections of digitized photographic material.

4.1 Discussion of the digitized images

The empirical matter demonstrates the need for an analysis of lower-level concepts as the building blocks for a definition of the more complex and flexible concept “photograph” as recommended by Szostak (Szostak 2011). Given the social constructivist approach taken here, we cannot take the category “photograph” for granted as singular and fixed. The institutions under analysis have placed a broad array of materials under the category “photography”, and these materials are not described uniformly. It is thus important to understand the meaning of “photography” as it is constructed through linguistic use, application to specific materials, and the words used to describe both the category and the specific materials currently housed under this categorical umbrella.

The category is quite fuzzy, based on the materials collected for this thesis. To begin with, differences between languages and matters of translation matter when it comes to descriptive terminology. The Swedish spelling of daguerreotype seems undecided, as “daguerreotype”, “dagerrotyp”, and “daguerreotyp” are used across these three memory institutions (see Appendix C.5.3). But further, searching for “photography” or its Swedish equivalent “fotografi” often returned other kinds of digitized material unrelated to photography (like images of textiles or drawings), presumably since digitization is a form of photography. Sometimes, a search for photography did not include daguerreotypes in the first several pages of results, indicating that these materials do not necessarily exist at the center of the category “photography” for Swedish LAMs.

There are several concepts that appear regularly in photographic data and metadata across institutions and can contribute to the definition of “photography” as a complex cultural-historical concept. The tendency at all institutions is to include the same kind of simple but flexible contextual information employed in textual
description composed of (1) title; (2) years; (3) author. Also frequent though not consistently applied are (1) broadly descriptive keywords relating to broadly defined things, events, and people that appear in the photograph; (2) physical material location; and (3) housing within an archival collection. Infrequent but still appearing are (1) administrative metadata; (2) information about the photographic technologies employed; and (3) the physical qualities (size, texture, material) of the object.

These qualities (and the hierarchy of them) can be used to analyze the discourse patterns that circumscribe the flexible meaning of the definition of photography as a document category within Swedish LAMs. An analysis of the sub-concepts demonstrates that there is a sizable amount of metadata that can be categorized as historical (from dating to the inclusion of information that connects a digital item to its archival context), a varying amount of cultural information (from descriptive titles to physical qualities), and an even smaller amount of data on the artist. This analysis illustrates that these LAMs use a flexible definition of the concept “photograph” as a piece of cultural history, a concept resting on a hierarchy of more fixed pieces of descriptive information. Archival theorist Geoffrey Yeo has argued that boundaries are drawn around concepts for the purpose of classification systematization (Yeo 2001).

It is important to keep in mind that metadata choices are always circumscribed by software and platform infrastructures over which these institutions have little control. At the Nordic Museum, the entry fields for photographs within the software employed for metadata entry are less well-developed than those for objects and textual material. This institution also demonstrates the central nature of software, which structures data and metadata entry, facilitating or restricting the use of certain kinds of data while restricting or preventing the attachment of other kinds of information. Memory institutions have choices here, but it is impossible to make perfect choices both as a group of discrete institutions and within a marketplace of relative disempowerment. Further, the lists of keywords facilitating interoperability are sometimes not well-suited to photographic material.

Given these technological frameworks, a good example of standard practice across Swedish LAMs is the National Library’s digitized Sex Pistols photographs (Appendix B.4.1). Historical context is primarily provided via dating. For the artistic side of an image, institutions rely on naming the photographer at the individual item level; this information also covers issues of copyright. Information on the main subject matter of each photograph – almost always the title – covers both the historical and the artistic facets of an image. An analysis of these linguistic trends demonstrates that the Swedish LAMs considered here consistently privilege a photograph’s historical context over the artistic while attempting to balance these two areas of identification. However, one should keep in mind that the definition of “photograph” at these LAMs is generally thin.
Titles and keywords are interesting as the metadata areas most shaped by how digitization staffs have interpreted a photographic document. The patterns that appear here are often specific to the individual item or so broad as to be historically unspecific. This linguistic habit, consistent across LAMs, The Nordic Museum – the only LAM under analysis here that consistently applies keywords to its documents – chose to use a set of cultural history keywords, because traditional museum lists were too oriented towards objects.9 These materials often have keywords that are broad and historically unspecific (like man or woman, communication, or advertisement, as in Appendix D.3.1; D.4.1), Meanwhile, the National Library and the National Archives are likely to include a very limited amount of this broadly descriptive information in the title or descriptions fields (Appendix B.3.4; B.4.1; C.3.1; C.4.1).

The largest and most meaningful difference in how Swedish LAMs contextualize photographic material is the extent of the data and metadata. The National Archives has the least machine-readable text surrounding its digitized photographs, because handwritten descriptions have not been made word-searchable and thus interoperable; title, year, the archival identification code, document URI, and collection (archive and series) context are consistently provided. The National Library sits in the middle, consistently providing a title, photographer, archival identification code, and year, while occasionally adding additional data that highlights the material nature of the physical photograph. Meanwhile, the Nordic Museum has added more descriptive data and metadata to individual images (beyond the standard title, photographer/creator, and year) through more extensive (though uneven across items) descriptive and administrative text in both data and metadata form, the more regular application of keywords, and the regularity of text applied to groups of photographs organized either around photographers or subjects.

These rhetorical trends within the data and the metadata – especially the tendency to include flexible descriptive information in the title and/or keyword fields to balance the less flexible date and author text – indicate that within Swedish LAMs, digitized photographs are treated not as artistic or historical in nature, but as multifaceted documents. But they do require a unique and more extensive set of metadata in order to be fully interoperable as artistic, historical, technological materials. This concern is, perhaps, not surprising, given the long history of research highlighting the photograph’s layers of meaning (Mitchell 1995; Sassoon 2004; Schwartz 1995; Scruton 1981). Using Joanna Sassoon’s theorization to analyze the examined materials, description of the intentional object is privileged, photographic documents as representations of material objects is included only intermittently, and intentionality is generally ignored (Sassoon 2004, p. 199).

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9 This issue was also a problem for the Lars Tunbjörk project, which used a museum list designed for cultural art objects housed in museums – a list not well-suited to modern photography collections.
Materiality is represented linguistically in a variety of ways, all of which lean on archival context and a connection with the (assumedly physical) archival document. All LAMs considered provide a path to the archival version for most of their digital photographic material. Both the National Library and the National Archives include text on where the physical version of the document can be found, most often a reference code or identifier (for an example from each institution, see Appendix B.5.1; C.2.1; D.3.1), but in the case of the National Archives extending to information on which archive and series the photograph belongs (Appendix C.2.1-C.5.1). This information can occasionally also be found in title information (Appendix D.4.3). This information places each photographic item within an archival context, which acts as a proxy for historical contextualization and the physical nature of the document.

But more concrete, descriptive linguistic patterns that directly reference a photograph’s individual materiality are rare, appearing most often when the document is categorized as something closer to an object. Daguerreotypes are the most flexibly and fully defined digitized photographs across all institutions, because information about the technology used to create them and information on their physical form is always included. Daguerreotypes are consistently treated as more object-like across institutional type, with the inclusion of frames (Appendix B.5.1), information on photographic materials (Appendix C.5.1), the space around these three-dimensional items (Appendix D.5.2), and inclusion of the backside of these items (Appendix D.5.3). Indeed, personnel at the National Archives define this kind of photograph as an object (Appendix A.2.2). The linguistics of daguerreotype description thus ground these documents in glass, paper, and particular kinds of cameras in a way that description of other kinds of photographic material does fails to do.

These linguistic markers are occasional with other items, but they are often connected not to the object’s definition as a photograph but rather as another kind of object. In other words, the material nature of these documents is recorded because their identity as photographs is secondary to and thus somewhat divorced from their identification as an object. The postcard of Malmö’s park at the National Library is one example of an item considered as a multi-dimensional object (Appendix B.3.2). This material more consciously placed on the boundaries of both textual and object categorization, in alignment with the recommendations of Conway and Yeo (Conway 2010; Yeo 2008). A more extensive approach is represented by the Nordic Museum’s approach to the contact sheets in Appendix D.3.1, where the museum identifies a lack of markings, as well as the camera used to create the images (a Leica), which are cut and attached to a piece of paper.

More modern analog photography is treated more often as a flat image conveying information. A good example is, once again, the Sex Pistols photography housed at KB (Appendix B.4.1, B.4.2, B.4.3), where the document could easily be understood as a born-digital image if the user did not possess knowledge of the history of photographic technology. This approach is common across institutions when it
comes to more contemporary photography (Appendix C.3.1 for a similar approach at the National Archives and Appendix D.2.2 for a similar approach at the Nordic Museum). There are several drawbacks with this approach, including the user not knowing the measurements of the physical photograph or the materials composing the document.

This potentially questionable status as directly related to archival documents is not an insurmountable problem. Unclear connections are mitigated with the addition of metadata detailing the digitization timeline and chain of responsibility, along the lines of the Nordic Museum’s Flickr page material (see Appendix D.4.4 for a full metadata record with extensive information on the digitization process) or the records of digital alteration available through KulturNav. However, thorough documentation of this process is not available to the user for most digitized photographs across Swedish memory institutions (though it may exist within the files of the LAMs themselves). And while trust in digital documents lies primarily in trust in home institutions, this trust can only stretch so far (Usherwood 2005, p. 93).

Based on this material, there is evidence that the definition of “photograph” within the context of Swedish digital libraries is influenced by their (unacknowledged) status as “boundary objects” in the sense used by Star and Yeo, a fact consistent across institutional boundaries (Star 2010; Yeo 2008). Failing to fit into the stereotype of archival document (text) or museum document (object) means that they receive less rather than more attention at the level of the individual item and, as a result, “tack back and forth between forms of the object”, as phrased by Star (Star 2010, p. 605). This attention to description varies, increasing as the document is categorized as something closer to an object. There is generally evidence that these materials require extensive data and metadata description combining attention to a photograph’s materiality, informational content, and cultural-historical context. All of this data is necessary in order to define the “function and context” that Joan Schwartz has posited as the core of how most memory institutions understand photographic material (Schwartz 1995). However, there is a collective linguistic treatment of the photograph as a piece of cultural history material, a flexible linguistics upon which convergence could potentially be built.

4.2 Discussion of digital architecture

Paul Conway’s article “Best Practices for Digitizing Photographs” highlights the importance of understanding the relationship between digital items and the platforms on which they are housed (Conway 2010). Conway notes that these platforms should be as flexible as possible, to increase the accessibility of digital materials by increasing the variety of contexts in which digital items can be found. Conway’s observations are interesting in the context of a comparison of digital library architecture at the National Library, the National Archives, and the Nordic Museum. While there are a variety of platforms employed by these three institutions, diversity actually reinforces some similarities of approach across
platforms, within and even between LAMs. The architectures can thus be read as adding to or restricting the linguistic flexibility built into the individual documents.

Amongst the three Swedish memory institutions under analysis here, digital architecture is most varied with the Nordic Museum’s collections. The museum’s own website houses photographer-centered pages and historical theme-centered pages. These pages are complimented by KulturNav pages that build the interoperability of photographic material around individual photographers. Both Wikipedia materials and the museum’s own pages on photographers and historical themes attach the museum’s digitized photographs to texts that emphasize historical and cultural context. Other platforms like the Digital Museum and KulturNav create interoperability across memory institutions beyond the three in question here while creating new digital contexts for material. In the case of KulturNav, the connections are grounded in similar artistic authorship, while DM is structured to emphasize specific forms and broadly-defined subject matter. Lastly, Flickr materials reinforce groupings seen as important or popular by the Nordic Museum (Appendix A.2.3).

The architecture of the digital collections of the National Library is more uniform and thus more restricted, resulting in varying access to and categorization of digitized photographs. Like the Nordic Museum, KB uses grouping and texts describing the context for these groups as a method of contextualizing and classifying material (Appendix B.4.2). And the architecture of the entire site directs users towards searching within the category of photography via the photography help page and other form-based shortcuts (Appendix B.1.1, B.1.2). But the catalog’s search fields allow for more varied searching across type of material, even within the digitized collection (Appendix B.1.3). This kind of variation means that the digitized photographic document has a more flexible definition as a specific kind of cultural-historical artifact and as a varied set of documents containing varied kinds of information, depending on the route a user employs to find a particular document.

The institution with the most rigid digital library architecture is clearly the National Archives, which forces the user to access documents according to strict and hierarchical archival principles and makes those principles visible at all stages in the search process. This architectural rigidity does facilitate and make obvious photographic embeddedness in a physical archival context – an embeddedness that does not always exist for photographs housed in the other two institutions, both of which tend towards a cultural-historical approach emphasizing both photographic authorship and photographic content. This approach has its downsides. As previously stated, this is the institution where it is hardest to search for photography as a category of material, forcing the user to search using more historically substantive categories like subject matter, authorship, location, or archival collection (Appendix C.1.2). The archives-centered approach also forcefully grounds photography in business and government history – an important set of
contexts highlighting the fact that photography has been a tool (as well as conveyor of information) since its invention.

Within the context of these LAMS, there are four approaches that use digital architecture to link materials together and lend context to digitized photographic items. These approaches are: (1) the creation of clear, inflexible connections between documents that are imposed on the user via both platform and search options; (2) the creation of search functions that provide flexibility for the user within a pre-determined structure of metadata, data, and search terms; (3) the use of tagging to link digitized photographic materials by subject matter; and (4) the creation of themed pages devoted to either photography or a history that can be illustrated using digitized photographs.

LAMs generally appear hesitant to impose clear, inflexible connections between textual and photographic materials in the institution’s collections. In this analysis, the National Archives is alone in this category. The National Archives embed some of their photographs in the archival collections of which they are a part, letting the collection provide context for all the documents it contains. Other photographic materials have been plucked from their original collections and placed in archival collections composed solely of photography (as at Krigsarkivet, or the War Archive, with the Fotosamlingarna, or the Photography collections). This approach potentially allows digitizers to scale back the individual-level data and metadata creation for photographs and instead piggyback off of the word-searchable textual documents related to the photographs or the collection-level metadata. Though the digital architecture of the National Archives does not yet support elastic movement between documents, the site has the potential for a flexibility that supports context through following links between documents.

More flexible but still prescriptive is the KulturNav platform for the database of Swedish photographers. The register of photographers creates connections between documents (and thus a visual context for materials) in this way, though a short biographical text on each photographer links visual materials together (Appendix D.2.3; D.2.4). This structure dictates that the user search for material via pages organized around individual photographers (or creators more generally – see the drop-down menu in Appendix D.2.8). This is the platform that most closely defines photographic documents as artistic rather than historical, as the pages foreground the photographer as artist. Even searching via the listed photographic firms leads a user back to individual photographers linked to those firms. As a result, KulturNav’s functionality sits in between options 1 and 2, combining highly structured access with a circumscribed search function that accepts keywords and searching via a list of broad categories, but is easiest to use for searches for particular (artistic) authors (see Appendix D.2.8).

The second architectural approach is a flexible search function, like those of the National Library and the Digital Museum allow for more flexible searching and, thus, more flexible contextualization. These search engines provide for searching
by topic, time period, keyword, place, and in the case of the Digital Museum, museum (Appendix D.1.6). The National Library’s search function is varied, since there are two systems in use: (1) Regina, which is an in-house catalog, and (2) Libris, which is the national academic library catalog. Regina allows for the added functionality of searching within digitized material (Appendix B.1.3), providing search returns beyond photographic material, facilitated by the searchability of entire texts in the KB collection (Appendix B.1.4). This approach allows users to define the scope of contextualization for themselves; in this scenario, context drives the grouping of materials, including digitized photographs, rather than the photographic form dictating relationships between materials.

Wikipedia architecture sits between options 2 and 3, providing grouped photographic materials organized around texts that most often privilege historical information but also linking individual digitized items through a system of topical keywords. In Appendix D.5.4, these tags range from the descriptive (“Black and white portraits of women and men”) to the authorial (“Mats Landin”). Several of the Nordic Museum’s platforms also facilitate the third option, tagging, which links materials across subject matter. With the addition of interoperative tags that can be used to search for specific photographic content, these pages are slightly more flexible, facilitating browsing between individual items and groups of materials. These options also allow for some contextual searching, though the possibilities are limited to the broadly-defined cultural-historical metadata categories embedded in digitized material.

By far the most common approach to digitized photographic material is the creation of collections of digitized photographs based on photographer, time period, photographic technology (in the case of daguerreotypes), or subject matter. This approach creates context through the collective presentation of photographs – images are supposed to provide context for one another through association. The Nordic Museum’s Flickr pages are examples of this (Appendix D.4.1), as are the photographer-based and historical period-based pages at the museum (Appendix D.1.3) and the more narrowly topical pages of the National Library (Appendix B.4.1). The collection of photographic materials from the War Archive at the National Archives can also be understood in this way, organized as it is around the photograph as a unique kind of archival item.

The kinds of pages that create context through architecture and background textual materials are clearly the most resource-intensive of all four options. These materials are often created after an exhibition that demanded the digitization of relevant material. With pages like “Folkhemmet” (Appendix D.1.5), the Nordic Museum has created a thorough website architecture, including texts that can be applied to an entire group of photographs rather than just one. These pages also consciously group materials that cover photography as both artistic and historical material. The cheaper and speedier version of this approach is adding material to Wikipedia, which contains a pre-constructed architecture of textual and image information that functions, as one digital professional noted, as the closest thing
Swedish memory institutions currently have to a teaching platform that integrates home documents.

This wide set of options is representative of the variety of website architectures available to memory institutions – and they need not choose just one. Both the Nordic Museum and the National Library of Sweden employ several different platforms. The appeal of this approach is clear. By testing various platforms, an institution can test various approaches to data and metadata and document presentation. Additionally, spreading material across an array of well-trafficked sites increases the likelihood that new users will discover the institution’s breadth of holdings. For instance, after the Library of Congress’ success with Flickr, numerous other LAMs have attempted to bring in new users with this approach (Hadro 2009).

Additionally, the regular grouping of photographs together, apart from other kinds of materials, is most visible at the home sites of the LAMs themselves, where institutions have the most unilateral control. The Nordic Museum is a good example of the wide variety of platforms available to institutions – the “hard choices” institutions must make extends from material acceptance to decisions about what materials to digitize to the selection of software, hardware, and platforms best suited to preserve and provide access to these documents. Often, however, it is the sites on the memory institution’s own platforms which allow staff to group photographs, surround them with text, and link them through digital architecture, providing context that is lacking on the more aesthetically clean sites like the Digital Museum.

All Swedish memory institutions under question in this analysis use platform design(s) to provide context for their digitized photographs – most often by grouping and linking photographic material together, thereby reinforcing the commonalities and interoperability built into the metadata. Digital collection platforms should be understood as structuring the discursive world of digital photographs; embeddedness can be understood both as constructed and as a sign of the “taken-for-grantedness” of the unified nature of the category “photography”, in the words of Star (2010, p. 611). The way in which photographic material is organized buttresses the cultural-historical emphasis of the metadata attached to the digitized photographs at these LAMs, as well as separating out photographic material from other kinds of items. Beyond this emphasis, these systems define photography as a unique kind of material – here, the category “photograph” is often constructed through a grouping of these items, which involves separating them from objects and textual matter.

### 4.3 Photography, digitization, and institutional boundary maintenance

The theory of convergence is based partially on the rapid spread of digitization and partially on a series of suppositions about what kinds of changes will ensue as these
now ubiquitous digitization departments expand their work. In an early argument for convergence, Cornell digitization specialist Peter Hirtle lists the effects of digitization as (1) a decline in the quantity and use of paper materials, both archival documents and general book collections; (2) the materials in special archival collections will become less “special”, defined as uniqueness and, to some extent, inaccessibility; (3) the job of managing special collections will change; and (4) collection practices will change (Hirtle 2002). So are these large, systemic changes happening in Sweden?

The material collected for this project cannot address all of these suppositions. However, of the interviews with digitization professionals at Swedish memory institutions can speak to changing approaches to digitization’s effects on the collection and management of special collections. The task of digitizing clearly has an effect on the daily practices of LAMs, both in terms of collection and management of materials. Digitization is uniformly seen as a job of these institutions, part of preserving and providing access to documents and thus a central part of the “ecosystem” of each LAM (Hartig 2014, p. 240). These twin roles are the way in which Swedish memory institutions serve the public. Further, staff at the Swedish memory institutions in question verify that exhibitions are indeed a “common element” facilitating digitization of groups of material and the reconstruction of these exhibition groups on online platforms (Dupont 2007, p. 16).

And because photography makes up a sizable portion of the collections, its digitization is an important part of the development of digitization programs at each of these LAMs (Appendix A.2.1, A.2.2, A.2.3). The institutions have widely varying numbers of digitized photographs, but the scope of each of the general photographic collections at each institution is substantial. This wealth creates problems of choice that all institutions find difficult. While the Nordic Museum has created what is by far the most thorough and broad collection of digitized photography amongst the three institutions examined here, the digitized selection is still a fraction of the overall collection. This volume creates problems, accentuating the perception that photography digitization consumes sizeable resources and simultaneously requires the “hard choices” talked about by staff at the Nordic Museum – choices that trained photograph professionals are in the best position to make (Appendix A.2.3).

These selection conversations do not extend beyond the walls of individual LAMs. Interviewees consistently noted a lack of understanding about the collection acceptance practices elsewhere (Appendix A.2.1, A.2.2, A.2.3). Staffers often do not know what happens to a collection once it has been rejected by their home institution. However, the wards for such homeless collections move on, from one memory institution to the next, looking for a knowledgeable group to accept, catalog, and preserve their material. As archival theorist Terry Cook notes, more dialogue around these issues is needed, both (1) to ensure the transparency of rules for acceptance and rejection of collections and (2) to understand national cultural heritage as a collective endeavor for all a nation’s LAMs (Cook 2001, p. 34).
Digitization practices are specific to each institution in part because personnel follow historical practices that prioritize certain materials and digitization practices over others. It is the many differences in institutional history, training, and organization that are responsible for various understandings of and descriptive approaches to photographic objects. There are numerous examples of this institutional stasis. Within Swedish institutions, museums are most attentive to photography. The National Library prioritizes textual material (Appendix A.2.1). In the context of digital libraries, the National Archive of Sweden prioritizes photographic material least, forcing the user to adapt to the highly hierarchical structure of archival practice – a structure that impairs interoperability and the use of these materials outside of academic research projects dedicated to and designed around specific collections.

These differing approaches are rooted in institutional differences, highlighted by the interviews conducted for this thesis. The National Library digitization department is the most integrated into the overall structure of the library, but personnel dealing with photographs and digitization are separated from one another. While well-equipped, the photographic digitization group at the Nordic Museum has just two employees, and these individuals do not have much of a dialogue with personnel focused on texts or objects. And the National Archives has a department devoted not just to photographs but to the moving picture as well, dividing the attention of archivists. These varying institutional contexts affect how Swedish LAM professionals understand the meaning of and context for photographic material.

The case of Swedish memory institutions’ digitization of photographic material indicates that staffers see the benefits of digitization as real but varying in degree of usefulness. For instance, the facilitation of new kinds of research is seen at both the National Library and the Nordic Museum as a net positive but also not a goal that should drive digitization practices (Appendix A.2.1; A.2.3). Photographic material is being reassessed primarily because of new digitization efforts, which require a more systematized approach to photographic classification and description (Appendix A.2.2). But this analysis also demonstrates that increased collection use and the development of more research and new users is an ongoing struggle for institutions with broad public service missions. Different institutions have different ways of employing digitization to expand their publics, and the need to create sustainable digitization departments and projects reinforces these differences.

LAM professionals are acutely aware of the material and social effects of this prioritization. These practices can subvert some of the promised benefits of digitization, especially the preservation imperative. As noted by several interviewees, the most well-known collections are the most requested, though they have already received more resources (Appendix A.2.1; A.2.3). Nordic Museum staff specifically mentioned newspaper photographers as popular subjects for both inhouse and external digitization requests. However, this material is available via several routes, including the digitized newspaper database of the National Library.
Meanwhile, less well-known materials remain hidden in the NM collection, more likely to deteriorate.

The problem of too few resources also seems to contribute to the maintenance of institutional boundaries in a variety of ways. Personnel at the National Library and the National Archives both cite insufficient financial support as a reason for not putting a more concerted effort into photographic collections. Swedish memory institutions have long deemed the implementation of standardized descriptive metadata at the level of individual photographs to be too costly (Klijn & de Lusenet 2004, p. 10). Developing guidelines, implementing guidelines like SEPIADDES, or digitizing collections that include various kinds of photographic material, which requires more manual labor adding data and metadata to the digital photographic material than textual counterparts. This lack of new practice development and avoidance of larger-scale digitization of photographic collections means that older practices are left unchallenged, even if they are not optimal for the digitization of certain materials or new technologies.

Personnel at these institutions are, however, aware of the need for systematic treatment of photographs; this sentiment is reflective of a longstanding wish across Swedish LAMs to improve coordination between memory institutions (Källman 2012). The development of a thorough and flexible approach to the description and digitization of photographic material across memory institutions is more important with every day, as this material has a shorter and more unstable lifespan than most textual documents. Photography is an area in which preservation and digitization are co-dependent (Klijn & de Lusenet 2004, p. v-vi), and the digitization of photographic material is dependent on the availability of in-house photographic expertise.10 It is clear that memory institutions are currently engaged in the development of their photographic digitization expertise, via Facebook groups and conferences. This is a development that supports the growth of expert networks for the exchange and streamlining of photography digitization (Conway 2008, p. 97-98).

There are already practical commonalities upon which convergence can be built. All the institutions examine here have consciously built their definition of photography around the material’s cultural and historical relevance (see especially Appendix A.2.3). All eight interviewees mentioned the fact that photographs require a uniquely broad and flexible approach to metadata and data, requiring more thoughtful and thorough contextualization than other material due to the democratic nature of its production (and reproduction) and the current lack of optical character recognition (OCR) technology capable of making images

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10 This list of “areas for future work” is a six-point list in Klijn & de Lusenet (2004, p. v-vi). The entire list is paraphrased as follows: (1) the development of national and international best practices for photographic collection preservation; (2) the integration of photographic expertise into digital departments at LAM institutions; (3) the treatment of digitization as a method of photographic preservation; (4) establishing a clear line between the physical document and its digital version; (5) the development of descriptive and metadata guidelines to promote interoperability; and (6) long-term access to digital materials.
machine-readable. If convergence is to be a goal, cross-institutional work on the development of standards regarding the description and contextualization of digitized photographic material would not be a bad place to start the process in Sweden.

This makes especial sense given the simultaneous underdevelopment of this data and metadata across memory institutions and the collective understanding of a need to adopt sufficiently similar approaches to photographic description to ensure interoperability. The National Archives is even currently in the process of deciding what approach to descriptive metadata is more appropriate as the institution moves forward with plans to digitize its extensive photographic holdings (Appendix A.2.2). And while other LAMs examined here are further along in the development of their digitization programs, there is an awareness amongst the interviewees of being at the start of a process of developing standardized practices.

Peter Hirtle lists the benefits of digitization as (1) increased collection use; (2) the facilitation of new types of research; (3) attracting new kinds of users, and (4) a new understanding of documents housed by LAMs (Hirtle 2002). These benefits are supposed to spur the adoption of digitization programs that unify and streamline the way in which LAMs understand their societal role and change the daily operations of these organizations (Given & McTavish 2010). These are broadly defined benefits, and digitization programs are created in different contexts, built for different reasons, and constructed with varying amounts of money and expertise. If Swedish institutions are any guide, memory institutions may not always prioritize these benefits in the same way. It may not be enough that all institutions understand the benefits of digital programs in similar ways.
5 Conclusion

This section uses the collected empirical evidence to answer the three questions posed at the start of the paper, each of which precede the discussion subsections. The conclusion here is that while similarities in digitization practices and item-level description exist, digitization is understood differently in different institutional contexts and in a world of resource scarcity, LAM convergence between the National Library of Sweden, the National Archives of Sweden, and the Nordic Museum is unlikely. A discussion of the benefits of greater dialogue between institutions and directions for future research bookends the thesis.

5.1 The state of digitized photography at Swedish memory institutions

This section attempts to answer the research questions posed at the beginning of the thesis, using the empirical material and analysis that precede the section. Especial interest will be placed on the photograph as a distinct kind of material that has until now often been defined by what it is not (a text or an object) rather than by its unique attributes, primarily its materiality and the flexibility and mutability of photographic material over time. After a discussion of this material, the thesis then turns to possibilities for Swedish LAM digital convergence, which are not currently considered to be promising.

5.1.1 The digitized photographs

Q1: How is the concept “photograph” defined at the level of the individual (item-level) document? What qualities do digitization practitioners emphasize when classifying photographs and applying metadata to them? Does item-level description favor historical, artistic, or technological concepts?

The individual digitized photographs collected from the Nordic Museum, the National Archives of Sweden, and the National Library of Sweden reveal a common emphasis on the photograph as an artifact of cultural history. The longstanding arguments over the nature of photography as art or history seem to have little import on the classification and description methods of the major Swedish LAMs; all memory institutions analyzed here seem to have accepted historian David Nye’s contention that photography should be considered “as the concretization of social values”. Instead, the major difference between institutions lies in the scope and extent of information attached to digital materials; individual photographs have varying degrees of mutability across these LAMs. The threat of decontextualization is, thus, diverse across institutions, substantiating photographic archival theorist Paul Conway’s warnings about the problems of photography’s placement “at the margins of core archival concepts” (Conway 2010; for a similar argument for classification of physical archival materials, see Yeo 2008). These
findings indicate that greater attention must be paid to approaching the photograph as a unique kind of document, rather a material type that lacks characteristics of textual and object documents.

Swedish LAMs are still in need of a standard set of guidelines for a more multifaceted, supple definition of the term “photograph” built from lower-level concepts. There are several guides that exist, but some are incomplete, and their use is uneven (Hartig 2014, p. 228). The SEPIADES guidelines note that the name for a digitized photograph is under development (Klijn ed. 2003, p. 240). And the Swedish digitization initiative Digisam notes the need for standardized, clear language differentiating between “fotografisk bild” (photographic image) and “fotografiskt verk” (photographic work) given the different rights laws covering these categories (Digisam 2016, p. 49, 86). The definitional breadth of the word “photography” and parsing its synonyms is a continuing problem. But even lower-level, seemingly fixed concepts like “daguerreotype” indicate broader problems with standardization and interoperability, as demonstrated by the unfixed spelling detailed earlier.

Though attractive for digitization because of its simple, flat format and popularity amongst digital library users, digitized photography is uniquely difficult to fully describe in a systematic and flexible way. Often, the documents detailed in this thesis lack key pieces of background information more common for textual or object material – specific dates and authors are particularly tricky to pinpoint. This lack indicates that other kinds of information unique to photographs may be more useful in flexibly describing this kind of document. As highlighted with the daguerreotypes from Swedish LAMs, photography is particularly affected by digitization’s tendency to deemphasize materiality (a tendency noted in Björk 2015, p. 203) or slip into the category of object. This evidence also suggests the scope of the term “photography” is at assumed to be static and bounded, though these bounds are actually established through day-to-day practice.

This thin description has consequences for long-term preservation. LIS theorist Fiona Cameron has argued that there is a general fear amongst researchers and the public that digital heritage materials fail to retain the attributes of the physical documents from which they originate, and for this reason are “undervalued and subject to suspicion” (Cameron 2007, p. 70). Further, beyond accessibility outside their LAM homes, digitized photographs sometimes fail to provide new points of access, as with word-searchable materials or materials that would be impossible to closely examine by hand but can be zoomed in on in their digital format. It is important to expand the descriptive flexibility of digitized photographs not just to make them more findable but to ensure their longevity.

What is particularly interesting about the findings here is that the discursive world in which photographic material lives is defines as primarily cultural-historical in nature, indicating that digitization personnel understand this kind of document as sitting astride the theorized gap between art and historical artifact. This finding
contradicts prevailing literature on photography and archival theory, which emphasizes a dilemma, a choice between photography as history or art (the exception being Delaney, who notes an emphasis on cultural history and the exclusion of information on photographic technology; see Delaney 2008). Both metadata embedded in the selected digitized photographs and interviews with digitization staff demonstrate a shared emphasis on periodization, photographer, and the information contained in images themselves. This consistency is predicted by literature on LAM convergence due to digitization practices and shared technology more than convergence literature based on a supposition that the coordinated development of metadata standards will drive memory institutions towards similar approaches to document description (both arguments are summarized in Trant 2009).

Swedish LAMs have instead emphasized divides between document types, defining the identity of “photograph” as unique in form but not content, separating these two categories though the photograph is, by definition, a merging of form and content. These choices are visible in both the item-level description and the architectural choices of these institutions. At the item-level, descriptions of the content of the photograph (the National Library’s digitized photograph of Malmö park, to the Nordic Museum’s more descriptively voluminous digitization of a Lucia celebration in a staircase, for example) indicate that photography is useful because it can convey information about cultural history – precisely the same kind of description that might be applied to textual or object material. This approach ignores the unique way in which photography structures and presents information, and how photographic form can, as Sontag warns, influence how an audience understands the information contained within a photograph.

The software and digital architectures employed by these institutions facilitates this categorical separation of photographic material while replicating the discursive approach applied to text description in the data and metadata of digitized photographs (a not uncommon problem; see Huvila 2014, p. 46). This approach partially reflects theorization that flatten the definition of a “document”, arguing that all repositories hold documents of varying types but often treat them in similar ways (Huvila 2014; Latham, 2012; Lund & Buckland, 2008). Digitization is supposed to further standardize this material, since computers cannot distinguish between document types, but findings here suggest that software and institutional practices have reinforced these distinctions. Because textual material is the most ubiquitous amongst digitized documents, practices applied to text have been extended to photographic materials that are created using different means and with different historical trajectories. The fact that these materials must be read (and thus described) differently is evident from the fact that migrating the discursive approaches applied to texts and objects too often ends up reducing photographic material’s description to the bare minimum – a short description of the content of the photograph and an approximate year.
This study indicates that memory institutions should consider thinking differently about their definition of photographic material as deviant from objects and texts. The treatment of photographs as “nonprototypical” has meant less rather than more data and metadata for digital items; the meaning of a “photograph” thus relies too much upon what it is not rather than elaborating on what it uniquely is. This evidence points to the importance of archival theorist Geoffrey Yeo’s recommendation that LAMs use “boundary” items like photographs to determine best practices for classification and description, placing this kind of document in the center rather than at the margins of LAM practice. This focus would require a greater emphasis on context, materiality, the photograph’s distinctive usefulness as a tol and the complex interrelationships between digital documents; as Joan Schwartz has argued, the “archival value in photographs resides in the interrelationships between photographs and the creating structures, animating functions, programmes, and information technology which created them” (Schwartz 1995, p. 50).

How do digitization personnel define the boundaries of the category “photograph” now? Photographs are not texts because they do not have words, but why are they not objects? Daguerreotypes demonstrate that the working definition of the photograph is mostly tied to the technologies that have produced this kind of material, though these technologies are not often mentioned in the surrounding data and metadata. The descriptions of daguerreotypes look much more like descriptions of objects; here, digitization staff have consistently included information on materiality, technology, and restoration or preservation. Yet these digital objects fall into the “photograph” category, boundary objects within a broader boundary category, due apparently to their technological origins. This technologically-bound definition should be made more visible in the item-level description of photographic material.

Questions posed by photographic historians Elizabeth Edwards and Sigrid Lien linger:

[T]he status of photographs is uncertain. Are they ‘objects’ in their own right? At what stage in their social biography can they be accorded such a status? […] when does a supporting document become an historical object? If they [photographs] are ‘mere reproductions’ what is their place in the hierarchy and the ‘rhetoric of value’? (Edwards & Lien 2014, p. 5)

This liminality is visible in photographic material’s discursive position as both art and historical artifact. Though description is relatively thin in individual item-level data and metadata, Swedish LAM staffs have clearly understood and attempted to balance these qualities or the concept “photograph” in their descriptions of digitized photographs. But equally important, based on the analysis here, is the photograph’s apparent linguistic suspension between the categories of object and text, defined as having facets of both categories while belonging to neither. As a result, the discursive representations of these materials reduce the concept of the
photograph to a method of conveying static information from and about its date of creation, rather than as an historically flexible and easily reproduceable tool that can shift between roles as art, scientific evidence, and historical document, amongst others.

5.1.2 The digital architecture

Q2: Does platform architecture contribute to the item-level description of digitized photographic material? If so, in what way? How do search routes, platform structure, and the number/variety of platform options affect how the concept “photograph” is defined?

The rhetorical ambiguities of the digitized photographs examined here are reinforced by some of the architectures used by digital collections at these three institutions. Separating the digitized photograph out from other kinds of images both makes finding these materials easier and reinforces their identity as a specific kind of document. Highlighting this specificity is not wrong, nor is the tendency confined to Sweden (Edwards & Lien 2014, p. 6). While an acknowledgement of the specificity of photographic material is not without merit (indeed, users should be educated about how and why photographic material should be read differently than texts or objects), this parsing tendency is constraining if photographic material lacks a full contextual interoperability that connects individual photographs to their multiple contexts in art, history, and technological development.

The digital architecture within which digitized photographs are housed clearly plays a role in helping to define digitized photographs, filling in some of the gaps left by limited data and metadata. In this sense, architecture provides contextual meaning to individual digitized photographs, highlighting the contingency of defining “photograph” as a special class of material. Using a varied set of platforms is not just about broadening an institution’s user base. Variety can also potentially lend a flexibility to or narrow the classification and description of digitized material. The National Archives retains tight control over how its digitized photographs are defined by not spreading materials out across a number of platforms, grounding this material in a very specific and inflexible historical-archival context. Meanwhile, the Nordic Museum has the most extensive range of approaches to the descriptive data and metadata of digitized photographs, in part because the museum uses the largest range of digital architectures.

These platforms demonstrate how architectural heterogeneity can increase the distribution and interoperability of the digitized photographic material in a structured way, while also tying the definition of “photograph” to a specific physical form. The discursive representation of the materiality of photography is architectural, rather than linguistic. The Nordic Museum’s multiplicity of platforms all make searching across text/photograph/object divides much harder than searching by form, creator, historical period, or broadly-defined subject matter. The Digital Museum epitomizes this trend; the database also makes searching within specific material forms, topics, and time periods easy (Appendix D.1.6) but
contains only a few textual materials amongst the thousands of digital documents. While other extra-LAM platforms operate slightly differently, all are organized around and thus separate out photographic material from other kinds of documents.

In sum, digital platforms can contribute definitional flexibility to materials like photographs, which can be understood as artistic or historical items, but this flexibility has boundaries. The Nordic Museum’s multiplicity of sites illustrates a few benefits to this approach; interoperability is increased, context is expanded, and digitized photographic material becomes more flexibly defined. Each platform does something different – KulturNav provides interoperable information based around photographers, the Digital Museum places photographic material in a Nordic art-historical context, and Wikipedia connects digitized photographs to historical text. There are costs here as well; this approach requires extra resources to group materials, create surrounding text, maintain material across these institutions, and create and maintain links across platforms.

While the use of multiple sites provides flexibility, this approach is not the only way to use digital architecture to enhance the interoperability of and expand context for digitized photographic material. The Nordic Museum, the National Archives, and the National Library all house digital collection pages that could be enhanced to increase the connections between photographs, groups of photographs, and photographs and text. These choices can either expand the definitional flexibility of digitized photographic material or reinforce the definitions already in place at these institutions. Based on digital architecture choices, these definitions range from the cultural-historical definition employed at both the Nordic Museum and the National Library to the strictly historical definition in use at the National Archives.

This approach to grouping can work against the historicity of photographic material, instead emphasizing the artistic side of photography. Digital architecture at these LAMs often elevates the photographer or the kind of photography (but rarely both) over the historical context in which the material has existed. Though the recent observation that “everyone collects everything” is true, the material heterogeneity of any given historical moment is not reflected in the LAM-created connections between digital documents (Dupont 2007, p. 16). A purely artistic or form-based set of connections makes searching for photographs as historical material difficult, even if those documents have history-inflected individual item-level description (Dahlgren 2009; Sassoon 2004; Schwartz 2000). The tendency of grouping photographs to the exclusion of text and object highlights the dangers of Joanna Sassoon’s concern that without proper attention, digitized photographic material could be reduced to picture databanks (Sassoon 2004, p. 204).

However, these tendencies also reveal the possibilities offered by digitization. The architecture examined here can be seen as merely reflecting the traditional collection practices of Swedish LAMs. All memory institutions under question here have grouped photographs together within their physical collections, organizing
material around individual photographers or merely grouping photographic material together after having culled it from other collections. Digitization can potentially overcome the physical and cataloguing barriers placed between photographic material and other types of documents. Joan Schwartz argues, if photographic “archival value” emanates from the “interrelationships” between the physical material, the digital material, item-level description, and the connections between items facilitated by digital technologies and platforms, digitization offers a way to create truly “functional context” for these materials (Schwartz 1995). In this way, the definition of “photograph” can be made more flexible, in accordance with its historical malleability.

5.1.3 Possibilities for convergence

Q3: Have these three memory institutions laid the groundwork for convergence? What can an examination of the similarities and differences between LAM approaches to digitized photographs tell us about the possibilities for Swedish LAM convergence? Are these institutions engaged in conversations that might lead them towards a standardization of photography digitization practice?

The clear differences in how individual photographs are described and situated within digital architectures demonstrates the persistence of gaps between institutional practice. Convergence is still more theoretical than real. Differences persist despite the establishment of international, EU-specific, and Swedish guidelines for photograph description designed specifically to bridge these gaps (Klijn & de Lusenet 2004, p. 10). And these gaps persevere though staff – most often photographic conservators, in the cases in question here – move between museums, libraries, and archives. There are a number of practical reasons for the staying power of institutional differences in the context of what might seem like the best site for convergence: digital collections.

The simply extraordinary scope of photographic material available at these institutions seems insurmountable, a full “ecosystem” of material that performs a multitude of functions for LAMs, as both digitization practitioner Kajsa Hartig and photographic historians Elizabeth Edwards and Sigrid Lien put it (Edwards & Lien 2014, p. 4-5; Hartig 2014, p. 223). Combined with this material’s unfixed status – Hartig states that, in the Swedish context, “[t]here has never been […] clarity about either the purpose or status of photograph collections” (Hartig 2014, p. 226) – the task of including materiality and multifaceted contextualization in the digitization process has clearly been seen as too great, a job for tomorrow. Preservation of images has, as a result, superseded preservation of other layers of photographic material (excepting with daguerreotypes). This approach is clearly changing, as conversations with digitization professionals demonstrate, as digitization itself becomes a more engrained part of these organizations.

The digital collections of the three major Swedish LAMs – their content, organization, and description – demonstrate that convergence is a process that is not simply about document definitions, classification practices, and internal
cultures and systems. These things matter, but they are not the entire conversation. Convergence has costs and requires resources including time, money, and extra personnel, which memory institutions often do not have in abundance. Standardization of terminology and practices requires not just the collective development of these standards but also dialogue between digitization practitioners across LAM boundaries as they implement these standards. Interoperability demands the adaption of these standards to specific institutional and digital contexts.

Proponents of digitization have, like sellers of internet-based technologies generally, tended to market the growth of digital libraries as a path towards greater openness, a road towards true freedom of information (Cannon 2013; Dupont 2007; VanderBerg 2012). These assertions are disposed to ignore a variety of differences that can be reflected in or even heightened by the translation of materials to digital libraries. Financial inequalities and differences in institutional practices are reflected in, not erased by, the drive to digitize (Baker and Evans 2009; Borgman 2007, 21). Photography digitization is perhaps more illustrative of these problems than other materials, given the quantity, variety, and specific difficulties inherent in describing photographic material.

The “hard choices” highlighted by the digitization specialists interviewed for this thesis have meant that these LAMs have sometimes prioritized the digitization of materials that they know will receive attention and use, rather than primarily employing digitization as a tool for preserving and making little-seen documents accessible to the general public (Appendix A.2.3). All LAMs focus on the digitization of materials for exhibits and commissions. Additionally, materials that are simpler to digitize are privileged which, in the case of photographs, means a focus on paper positives rather than items like negatives, photographic glass plates, and other materials that, unfortunately, are also most susceptible to decay within the archive (Palm & Johansson 1995). This focus may shift over time, but for now, resource scarcity dictates the digitization decisions of LAMs much more than is visible in the literature. And this set of choices, in turn, allows for continued de-emphasis of the aspect identified here as integral to the LAM definition of “photograph” – its uniqueness rooted in evolving camera technologies.

Sweden’s memory institutions are a long way from developing something like a joint portal for searching the collections of libraries, museums, and archives. Despite the variety of platforms employed by the institutions examined here, there is little platform overlap, beyond the odd set of materials on Flickr or Wikipedia. If Swedish memory institutions are to, as Kirchhoff et al. put it, “serve as bridges connecting the digitization islands in the vast sea of the Internet”, they have a long construction phase ahead of them (Kirchhoff et al. 2008, p. 255). But there are several benefits to putting in this work. Arguing not just for convergence but the development of “integrated access systems” for LAMs, Katherine Timms lists an expanded user base, decreased financial inefficiency, and the ability to advocate for LAMs with a unified voice as potential positive results of this coordination (Timms
Along with this, one might add more dialogue around not just the definition of the concept “photography”, but greater attention to the ways in which this category is constructed linguistically in ways that hinder item-level interoperability.

5.2 Future directions for research on Swedish memory institutions, photography, and convergence

The difficulties and choices inherent in the digitization of photographic material in Swedish memory institutions highlight the ongoing importance of memory institutions. These institutions house such enormous amounts of material that selection processes both serve to maintain the relevancy of these organizations and the separation between them; as LIS scholars Ravenwood, Matthews, and Muir have noted, digitization selection processes vary substantially, these distinctions reinforced by variation in core criteria recommendations (Ravenwood et al. 2012, p. 298). So this analysis does not support opinions that the development of the digital collections means the end of memory institutions (for an example of these arguments, see Usherwood et al. 2005).

It is entirely possible that the way towards a set of guidelines for an interoperable definition of the term “photography” in Swedish memory institutions, at least in the digital realm, is collective work on digitization requirements and projects. As this thesis demonstrates, there is already some important common ground upon which to build an interoperable definition of photography; material is defined as cultural history, making the development of interoperable data and metadata less arduous than if these institutions had disagreed on the categorization of photography. Yet a more thorough integration of art-minded LAMs – Moderna museet (the Modern Museum) chief among them – might make this conclusion shakier. Certainly, an institution defined by its focus on artistic creativity might yield a more complex picture of the boundaries of the “photography” concept. But pressuring software suppliers to expand the metadata fields for photographic material to conform more fully to International Press and Telecommunications Council (IPTC) recommendations might provide the tools for building flexible boundaries.

A more thorough cross-item comparison, comparing digitized texts, photographs, and objects might also add to this investigation of how the boundaries between these kinds of material are created and upheld. While materials are often grouped by form, a thorough investigation of item-level description of other materials is necessary to assess the interoperability of materials across form. While photography is recognized as a particularly tricky kind of material to describe, embedding the “functional context” recommended by archival theorist Joan Schwartz in other kinds of material is also necessary. Though the recommendation here is that photography be understood as a “boundary object”, this material can only be multi-functional if other kinds of digitized documents are described with similar flexibility (Yeo 2008). The increasing importance of and possibilities inherent in linked data, and the potential for using this tool to build flexibility into digitized photographs – a possibility already being explored with the KulturNav
catalog and the National Library’s use of archive.org for a small amount of its material (for a case study, see McAuliffe et al. 2017).

The European context also requires more investigation in order to assess the transnational grounds for LAM convergence – for the development of both interoperable terminology and digital architecture. EU digitization goals and the coordinated development of the digital library Europeana pushed Sweden to enact a law in 2012 mandating the development of a digitization strategy for cultural material (Digisam 2016). This strategy was developed by soliciting information and recommendations from all major memory institutions in the country (including all three analyzed here), with a timeframe of 2012-2015. And there have been some results. Importantly for photographic material, these initiatives have resulted in the development of standards like the SEPIADES guidelines (Klijn ed. 2003). However, the goal of digitization coordination is largely unfulfilled, three years after the end of this national digital strategy drive.

Also worth investigating in greater depth is how the new legal concerns of digital life affect memory institutions and their digitization projects. As noted by cultural heritage scholar Jennifer Trant, “libraries, archives, and museums operate within common social, organizational, political, economic, and legal contexts” (Trant 2009, p. 378). This fact is ever more visible due to new EU rules – the furor surrounding conformance with the General Data Protection Regulation (GDPR) guaranteeing an individual’s rights to personal information is just one example. Rules like these may push LAMs towards new approaches to digitization. The development of similar practices is also a possibility, both because they will need to conform to these laws in similar ways and because they will need to rely on similar technologies to comply.

Even within Sweden, there is room for research on the coordination that is occurring, which is structure of standards development in the specific area of photography. The coordination that does exist tends not to address the specific difficulties of photography digitization. Digisam’s mission is to create “scalable solutions and recommendations to the benefit of the cultural heritage sector as a whole” (Källman 2012), but as the National Archives notes in Digisam’s 2016 report, greater cross-institutional attention to photographic collections is especially needed (Digisam 2016, p. 8). There is evidence that, instead of being a top-down process, convergence will occur via midsized institutions with more specialized collections and access to university researchers. What this development does not necessarily solve is how to develop data and metadata standards for collections that contain but are not necessarily organized around photography.

Additionally, it may not be larger institutions that establish guidelines for fully and flexibly defined and described digital photographs. Smaller institutions like Landskrona Museum are already taking the lead, their work funded by joint ventures with universities. Given the funding system and the scarcity of resources, these smaller institutions with a preexisting focus on photography are in a better
position financially and organizationally. The dilemmas posed by digitization are perhaps clearest with photography digitization; analog photography is, after all, the earliest form of digitization (Schwartz 2000, p. 20). Photographs require more resources to digitize and, partially because of this resource consumption, are often not prioritized despite their potential for rapid physical deterioration.

But this thesis most highlights the need for continuing research across LAM boundaries as digitization efforts in Sweden progress. The field of digitization is still very young everywhere, meaning that institutions still have a chance to be innovative (Abbey 2012). And there is interest in cooperation between the digitization personnel at Swedish LAMs, which could improve the accessibility of Swedish photographic collections, especially the seemingly insurmountably large collections housed at national memory institutions. As researchers Anna Dahlgren and Pelle Snickars observe, the larger national institutions in Sweden are at the beginning of digital collections development (Dahlgren & Snickars 2009, p. 19). Given that there is much to gain from greater both more fluid institutional boundaries and greater interoperability for photographic material in all LAM institutions, ongoing cross-institutional research is important.

**Reference list**


Kungliga biblioteket. (n.d. 1). Fotografisamlingarna på Kungliga biblioteket (The Photographic Collections at the National Library). Available at https://www.kb.se/download/18.5e9440ea15f8ee666c7188/15118654


Appendix A – Interviews and institutional information

Appendix A.1.1 – Notes on the Interviews
Before interviews, a set of preliminary questions and an initial draft of this paper’s introduction and literature review were sent to participants. Handwritten notes were taken. A full draft of this paper was provided to all participants for review.

The series of preliminary questions sent to personnel:

How do you and/or your institution decide whether to accept a collection that contains photography? Are collections organized around photography or a photographer generally accepted by your institution?

Do you find that the digitization of photographs presents a particular, unique challenge for the digitization department at your institution? Do you feel that photography fits easily into the standardized practices of your institution’s digitization department?

What kind of information do you look at when classifying individual photographs? Groups of photographs?

How do these classification decisions affect decisions about the extent and nature of the data and metadata for this kind of document? What kinds of metadata do you generally apply to digital reproductions of photographs? Why?

Do you believe that the digital platform used by your institution works well for digitized photographs?

Do you talk with other digitization practitioners about digitization best practices regarding photographs? If so, what are the biggest issues you have encountered, as a group?

Do you believe that there are differences in how libraries, archives, and museums understand photographs? Are there meaningful differences in how these institutions digitize photographs?
Appendix A.2.1 – Keywords and phrases from interviews at the National Library of Sweden

Points repeated more than twice are bolded.

**User-oriented**
Digitalization amongst by accident
Conversations around photography are ongoing

**Photography is often treated like text**
Negatives are not a part of the digitalization process
Desire to put more time into photographs, especially negatives

**Need for best practices**
No well-developed network for best practices discussions

**Huge collections**
Build on pre-existing collections

**Digitization orders often drive decisions about what to digitize**
Three categories that are important: motif; named individuals, places, occurrences; rights/copyright owner
Problems with adding more systems to existing systems, which are most often built for text
MARC (Machine-Readable Cataloging) applied to metadata, most often title, year, copyright owner
IAD (Institutional Archival Description) standards applied more often now
Metadata as library’s specialty
Difficult to define material in a neutral or objective way

**Photography has a social/political function**
Photographs from newspapers are important
Mass digitalization is expensive
Important to consider the camera as well as the photograph
Need more expertise with photography and photographic conservation

**Library different from the archive or the museum**
Some but not extensive knowledge of practices at other LAMs in Sweden
Appendix A.2.2 – Keywords and phrases from interviews at the National Archives of Sweden

Points repeated more than twice are bolded.

**No systematic approach to photography in past**
Save analog photography

**Digitization as method of preservation**
Millions of photographs in holdings
Money can drive decision-making
Selection occurs at numerous points
Photography as art, history, and research material

**Provenance**
Photography attractive to users, easy to sell prints, etc.
Europeana is used
More interaction with the National Library; almost none with the Nordic Museum
Focus on the National Database
Questions of copyright getting more complicated

**SEPIADES guidelines under consideration**

**Daguerreotypes especially interesting**

**Daguerreotypes are objects**
Cannot publish as much in digital library as other kinds of institutions

**Originality of archive important in selection process**

**Metadata important**
Need to be able to explain why document or archival collection has been chosen for digitization
Digitization occurs in stages
Every stage is expensive
Moving target of target group, shifting number of archive users who understand and use the Internet for research
Who will take responsibility for the ethical questions inherent in photography digitization?

Difficult with collections of professional photographers

**Problems with organizing photographic collections**

Exist between mission to represent public/citizen life and function as archive for government documents
Appendix A.2.3 – Keywords and phrases from interviews at the Nordic Museum

Points repeated more than twice are bolded.

1970s conversation about responsibility for photography with the Modern Art Museum in Stockholm, little dialogue with other LAMs

**Documentary theme**

**Nordic theme**

Swedish state has not taken responsibility

Focus on protecting materials already accepted by museum

**Cultural-historical focus**

Policy to guide and facilitate best practices, with a focus on (1) newness, (2) provenance, (3) likelihood of use

Museum has role as cultural protector

PRIMUS system

Conversations with Wikipedia ongoing

**Cultural-historical context**

**Preservation imperative**

**Hard choices necessary**

**Huge collections of photography**

**Cultural-historical subject list also in use at other museums**

**What is an original, and what is a copy?**

**The content of the photograph is more central than the photographer**

**Wikipedia as teaching tool, historical context**

Re-searchability problematic

**Dating difficult, attempts to estimate within 5-10 years**

Digital platforms not intuitive

**Little chance of influencing the platform or the software connected to the platform**

**Difficulties in identifying “the public” as target audience**

**Small department for photographic digitization**

Separate from staff dealing with texts and objects

Long time in between deciding on an exhibition and the exhibition opening

Smaller museums faster, more nimble

Flickr good-looking but disappointing

**Problem of working with too few resources**

Often digitalize based on orders from within or outside the organization

**Need to rethink photography digitization practices with focus on (1) praxis, (2) potential for use, (3) ease of digitalization, and (4) routines development**

Can add to digital resources

Networks and groups developing around photography digitization practices and software

**Provenance**

Photograph is more object than text
Appendix B – The National Library of Sweden (Kungliga biblioteket)

Appendix B.1.1 – Homepage for photography

Fotografier

Från en julfoton i Västerås 1848 till en punkspelning i Hamnstad 1977. På KB kan du se hur fotografiet har förändrats genom historien.

I KB:s samlingar hittar du fotografier av alla möjliga slag, från tidiga fotografiekvarter till digitala bilder.

PORTRÄTTFRÅN VAGGAN TILL GRAVEN
KB:s samlingar innehaller bland annat fotografier av platser och händelser. Men en stor del av materialen är porträtt av rika kända och okända människor. De syns på såväl privata och professionella som på uppslagen familjebilder. Här finns barn, kvinnor i klänning och människor på aldersgräns.

DOKUMENTÄRT OCH KONSTNÄRLIGT
De flesta bilderna är tagna av svenska fotografer. Här hittar du välkända arkitekt- och pressfotografier som amatörer. Några av dem jobbade kända mest för bröllopgåva medan andra var upphöjda pionjärer som betraktade fotografiet som en konstnärlig form.
Appendix B.1.2 – Photography help page

Få hjälp att hitta fotografier
Många fotografier är inte sökbara och därför kan du behöva hjälp att hitta. Här kan du kontakta oss om fotografier.

Fotografier hittar du framför allt i KB:s bildsamling men de är också vanligt förekommande i våra personarkiv.

TESTA FÖRST ATT SÖKA I VÅRA SÖKJÄNSTER

- De bilder som är katalogisade i Littera och Bonnegröna är sökbara på motiv, upphov och ämnesord. Du beställer materialet med ditt lönekort direkt i sökJänsterna.

Är du osäker på varifrån något av våra fotografier kommer? Om du känner till fotografiets signum kan det vara en ledträd. Signum som börjar med KoB tillhör bildsamlingarna, signum som börjar med HS tillhör personarkiv.

KB:s fotografier får du tillgång till i Specialläsesalen. Läs mer om läsesalen.

JU MER SPECIFIK DU ÄR, DESTO SNABBARE SERVICE KAN VIGE

För att hitta ett specifikt fotografi måste du ofta kontakta oss. Vi kan lättare hjälpa dig om du försöker anpassa din fråga efter dessa kriterier.

Visa mer

TA DEL AV VÄRDT DIGITALISERADE MATERIAL

Det kan finnas begränsningar kring tillgängligheten på vissa fotografier, men du kommer åt att se många av dem hemifrån.

Visa mer
## Appendix B.1.3 – KB’s search catalog Regina

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<thead>
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<th>Beschreibung</th>
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<td>Avhandlingar från svenska universitet och högskolor.</td>
</tr>
<tr>
<td>Desiderata</td>
<td>Böcker etc. som saknas i KB:s samlingar.</td>
</tr>
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<td>Digitaliserade böcker, kartor, bilder, handskriffer etc.</td>
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<td>Kortan</td>
<td>Atlaser och svenska tryckta kartblad.</td>
</tr>
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<td>KB:s äldre samlingar (1830-1955)</td>
<td>Årnesökringar i litteratur tryckt 1830-1955 klassificerad enligt KB:s gamla Signeringsschema - SiIon.</td>
</tr>
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<td>Svenska tryckta noter från och med 1866.</td>
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<td>Nilsson, Bo, 1946</td>
<td>Autokromer : färbilder från 1910-talets Stockholm</td>
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Appendix B.2.1 – Carl Gustaf Mannerheim, no date

Link:
http://weburn.kb.se/metadata/137/digbild_20210137.htm
Appendix B.2.2 – Carl Gustaf Mannerheim, no date

Appendix B.2.3 – Carl Gustaf Mannerheim, no date
Appendix B.3.1 – Malmö, Folkets park, no date

Link:
http://weburn.kb.se/metadata/068/digbild_20215068.htm

Appendix B.3.2 – Malmö, Folkets park, no date

Link:
file:///C:/Users/Lenovo/Downloads/urn-nbn-se-kb-digark-6008372.pdf
Appendix B.3.3 – Malmö, Folkets park, no date

Appendix B.3.4 – Malmö, Folkets park, no date
Appendix B.4.1 – Sex Pistols in Halmstad, Sweden, 1977


Appendix B.4.2 – Sex Pistols in Halmstad, Sweden, 1977

Sex Pistols i Halmstad 1977

Sommaren 1977 bläste det rejält kring Sex Pistols. Singeln God Save the Queen släpptes tidigare samma år och blev snabbt förbjuden att spela på brittisk radio. Pressen var stor och bandets manager, Malcolm McLaren, såg bara en utväg – skicka Sex Pistols på Skandinavinturné!

Sagt och gjort. Den 15 Juli 1977 gjorde bandet sin första Sverigespelning inför ett fullsatt Diskotek Stranden i Halmstad. I den lilla restauranglokalen med havsutsikt såg 125 nyfikna punkfans sina idoler framföra låtar som I Wanna Be Me, Pretty Vacant och Anarchy in the UK. Konserten avslutades med bandets stora hit, God save the Queen – alltså samma låt som tvingade bandet till Sverige till att börja med!


Appendix B.4.3 – Sex Pistols in Halmstad, Sweden, 1977

Link:
https://www.kb.se/hitta-och-bestall/digitala-kollektioner/sex-pistols-i-halmstad-1977.html (click on one of the photographs in the slideshow)

Appendix B.5.1 – Portrait of the Törnblom siblings, 1848

Link:
https://www.kb.se/hitta-och-bestall/om-samlingar-och-material/fotografier.html (photograph 5 of 22 in the slideshow)
### Appendix C – The National Archive of Sweden (Riksarkivet)

### Appendix C.1.1 – The Digital Research Portal

Här finns det länkar och olika specialsök till Riksarkivets databaser och register som finns tillgängligt digitalt. Du är också välkommen att fördjupa dig i databaserna på plats i någon av våra forskarexpeditioner. Där får du också tillgång till mer material än vad som kan publiceras på internet.

**Nyskännde volymer**

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<td>Kykkoarkiv</td>
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Appendix C.1.2 – Searching in the Digital Research Portal
### Appendix C.2.1 – Carl Johan Adlercreutz

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[Kommentera post/rapportera fel](#)
Appendix C.2.2 – Carl Johan Adlercreutz, no date

Appendix C.3.1 – Krigsskolan (the War School), 1890
Appendix C.4.1 – Frivilliga i Finland (the ”Freely Willing” volunteers for the Winter War in Finland), no date

Appendix C.5.1 – Portrait of Hampus Reinhold Huldt, 1856
Appendix D – The Nordic Museum (Nordiska museet)

Appendix D.1.1 – The Nordic Museum homepage
Appendix D.1.2 – Homepage for photographic collections
Appendix D.1.3 – Homepage for photographic collections, featured photographic collections

André och Irène Reisz

Berndt Klyvare

Björn Myrman

Erik Tryggelin
I den svenska fotografins historia (1860-1940) anses Erik Tryggelin (1879-1965) som en av de mest betydande fotograferna. Han arbetade i flera olika områden, från porträtt till landskap och industri. Han hade en egen unik stil och blev känt för sina naturliga och rörliga fotografier.

Gunnar Lundh
Gunnar Lundh (1918-1986) var en av de mest kända fotograferna i Sverige under 1950- och 60-talen. Han hade en egen unik stil och blev känt för sina porträtt och landskapsbilder. Lundh var också en aktiv politiker och han blev medlem av Sveriges Riksdag. Han blev känt för sina löftesfulla fotografier och hans verk fick stor lycka.

Gösta Glaase
Appendix D.1.4 – Folkhemmet (the People’s Home) educational pages

Appendix D.1.5 – Folkhemmet educational pages, photograph sub-collections
Appendix D.1.6 – The Nordic Museum’s Digital Museum collections
Appendix D.1.7 – The Nordic Museum’s Wikimedia material
Appendix D.2.1 – Featured collection page for photographer Erik Tryggelin

Erik Tryggelin

I Den svenska fotografins historia 1840–1940 (Rittsel/Söderberg, 1983) beskrivs konstnären Erik Tryggelin (1878–1962) som en samhällsreporter som ”på sina ständiga vandringar efter motiv alltid hade kameran med sig. Om man vill veta hur sekelskiftets människor såg ut, rörde sig och var klädde så skall man börja med att titta på Tryggelins fotografier, målningar och teckningar.”

Tryggelin, som var utbildad vid Konstakademien, använde aldrig sina fotografier för mekanisk efterbildning utan enbart för inspiration och för detaljestudier. Hans intresserade sig främst för Stockholmsmiljöer och fascinerades av kontrasterna i storstadens färsktäckta folkliv.

Erik Tryggelin hade en anmärkningsvård förmåga att komma tätt innan de människor han avbildade, oavsett om de var överklassdominer på Norrtull eller själva på Södermalms. Sannolikt använde han en så kallad detektivkamera som enkelt gick att dölja.

Stämningarna i hans bilder kan påminna om de i tidens flanörlitteratur som till exempel Söderbergs Doktor Glas; en suggestiv melanolk som gör att bilderna uttar sig fast i minnet.

Appendix D.2.2 – Linked Erik Tryggelin photograph without data or metadata
Appendix D.2.3 – Erik Tryggelin’s KultuvNav biographical page

Appendix D.2.4 – Erik Tryggelin’s KultuvNav biographical page, biography
Appendix D.2.5 – Erik Tryggelin’s KultuvNav biographical page, linked data

Nordiska museet (Museum, Stiftelse) [sv]
1 to 20 of 68 Hits.

Ojämnsig
NM.0115684
item
linked data

Tavla
NM.0259264
item
linked data

Tavla
NM.0259266
item
linked data

Tavla
NM.0259267
item
linked data

Tavla
NM.0259576
item
linked data

Porträtt
NM.0259013
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linked data

Spiegelbild
NM.00250591
item
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Tyggröv
NM.025488A+
item
linked data

Tyggröv
NM.025489A-
item
linked data

Stol
NM.025705A-
item
linked data

Taburett
NM.025706A-
item
linked data

Kringstol
NM.025707A-
item
linked data

Skål
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linked data

Appendix D.2.6 – Erik Tryggelin’s KultuvNav biographical page, administrative information

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Appendix D.2.7 – Erik Tryggelin’s KulturNav biographical page, statistics

Appendix D.2.8 – KulturNav, Database of Swedish Photographers main search page
Appendix D.3.1 – Gunnar Lindh, contact sheets for series featuring a Luciatåg, no date

Motiv: (ingen anteckning): Interiör med ett Luciatåg står i trapphuset i ett hyreshus och en man i morgonrock står i en dörröppning, ett Luciatåg går i en trap

Innehåll: N/A (2025/7/7)

Skrivare: N/A

Referenser:

License Information

Metadata

Copyright © 2021. Foto: Gunnar Lindh. All rights reserved.
Appendix D.4.1 – The Nordic Museum’s Flickr page section “Various Archival Photographs”

Appendix D.4.2 – K. W. Gullers, Kobra telephones photograph, 1965

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Appendix D.4.3 – K. W. Gullers, Kobra telephones photograph data, 1965
Appendix D.4.4 – Kobra telephones, 1965, metadata
Appendix D.5.1 – The Nordic Museum’s Wikimedia page for daguerreotypes and other older photographic techniques
Appendix D.5.2 – Mats Landin, portrait of an unknown man and woman, 1850s

Copyright CC 1.0, available at https://creativecommons.org/publicdomain/zero/1.0/deed.en
Appendix D.5.3 – Mats Landin, portrait of an unknown man and woman, 1850s

Appendix D.5.4 – Mats Landin, portrait of an unknown man and woman, 1850s