

Convergence, connectivity, ephemeral and performed: new characteristics of digital photographs

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The recent convergence of digital cameras into mobile phones with Internet connectivity has provided the opportunity for individuals and organisations to adopt new image-making practices. The widespread use of photo-sharing and social networking platforms for sharing, accessing and storing digital photographs is presenting scholars in the social sciences with new areas of research that address the nature of digital photography. By examining the technological, social and cultural factors involved in contemporary image-making practices, scholars are presenting new concepts regarding the characteristics of digital photographs that impact archival activities aimed at managing and preserving trustworthy digital records. This article identifies and discusses the key concepts emerging from social science research on digital photography that are most relevant to the archival field. Analysis of the findings of these studies suggests that new technologies and social practices are changing how people use digital photographs and their expectations of permanence. Therefore, archivists need to be engaged in interdisciplinary discussions regarding the evolution of photographic practices and emerging characteristics of digital photographs in order to anticipate the management and preservation activities required to protect contemporary visual records for future use.

Keywords: digital photographs; social media sites; trustworthy records

... digital photography is revealed as a continuation of the user's practices enacted with the analogue medium; only it is faster, even less permanent and even more excessive.¹

I. Introduction

With a combined daily upload of 800 million digital photographs to the most popular photo-sharing and social networking sites, Facebook (<<http://www.facebook.com>>), Instagram (<<http://www.instagram.com>>) and Flickr (<<http://www.flickr.com>>), the prolific use of the online environment for accessing and storing digital photographs is a growing area of research for social science scholars interested in visual communication and cultural and media studies.² The aim of this article is to introduce the topic of digital photographs created with mobile devices (for example, camera phone) and shared

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through social networking platforms to the archival community, with the intention of identifying new concepts being introduced by social science scholars that highlight the interplay of the social and the technical in the production and use of digital photography. In doing so, the article raises awareness within the archival community to potential issues that archivists may need to address in the near future when determining the value of digital photograph collections held in online environments. Exploratory in nature, the article presents the author's preliminary investigations into the trustworthiness of digital photographs in social networking platforms and introduces an interdisciplinary approach to the research topic. The article is organised into the following sections: I. Introduction, II. Concepts and III. Summary. The second section on concepts is further divided into the following subsections: i. Media Convergence, ii. Connectivity, iii. Ephemeral and iv. Performed.

In 1827, Joseph Nicéphone Niépce wrote to the Royal Photographic Society about the result of his extensive research 'on the manner of fixing the image of objects by the action of light, and of reproducing them by printing, with the aid of the known processes of engraving'.³ To support his claim and encourage the Royal Photographic Society to fund his work, Niépce presented the first permanent photograph, an image of the view from the upstairs window at his French estate, Le Gras. He referred to his process for fixing light as 'héliographie' (Greek: helios, meaning 'sun' and graphein, meaning 'write'). Unfortunately, the Royal Photographic Society was not interested and Niépce entered into an agreement with Louis Daguerre, a Parisian diorama painter, in an effort to commercialise the process of 'fixing the image of objects'.⁴ The following 180 years reveal a succession of photographic processes, techniques and equipment under the moniker of photography. Archival literature on the technology of photography examines the combination of processes, techniques and equipment used in the production of photographs, providing archivists and conservators with the knowledge required to support accurate identification of photographs and appropriate preservation activities.⁵

Contemporary research on digital photography by social science scholars approaches the expansion and proliferation of photography as an outcome of broader technological changes, such as mass production and global networks. The research is framed by social and cultural theories of late capitalism, materialism and consumption, and asserts that technological change is itself shaped by the social circumstances within which it takes place.⁶ A number of these studies reveal that early reactions in the 1990s to the advent of digital photography, which heralded the death of analogue photography and the beginning of the post-photographic era, are no longer relevant.⁷ Instead, what has surfaced is a recognition that some of the cultural conventions of traditional photography remain intact and shape the reception and use of digital image-making technologies, whereas other aspects have been completely transformed and introduce new modes of creating photographs which rely on interactions between software, file formats and protocols for information exchange that contribute to the meaning and use of photographs.⁸ As individuals and organisations utilise online platforms for sharing and storing their digital photograph collections, it is important for the archival community to understand the interplay between technology and social and cultural factors in determining the content and context of contemporary photographs. Furthermore, the role of photo-sharing and social networking platforms as repositories for visual culture and social memory should be examined from the archival perspective in which consideration of ownership, copyright and privacy must be weighed along with ongoing accessibility and long-term preservation.⁹

A review of the social science literature on digital photography reveals a number of studies that focus on personal image-making practices that utilise mobile devices with built-in cameras, such as camera phones, tablets and laptops. The practice of personal photography as ‘that which is done by non-professionals for themselves and their friends and intimates’¹⁰ is unlike professional pursuits of photojournalism, law enforcement and fine art, in which issues of authenticity, reliability, accuracy and the truth-value of a photograph are prioritised.¹¹ In fact, manipulations of personal digital photographs are treated as ‘deliberate acts of self-deception’,¹² as opposed to acts that alter or destroy the photograph’s trustworthiness. Historically, personal photography as a social practice developed in the late nineteenth century, following in the wake of institutional and commercial applications of photography.¹³ The personal photograph was used predominantly as an aid to memory – images of loved ones and family members were represented and treated as keepsakes. The presentation of personal photography typically involved framing photographs and hanging them in the home, or gathering collections of photographs and mounting them to pages in a bound album. Personal photographs were rarely viewed outside of the home and were considered to be private, precious objects.

The growth of the photographic industry in the twentieth century provided services and cameras aimed at supporting the amateur photographer, and by 1970, the majority of American and European households owned at least one camera.¹⁴ The popularity of photography as a personal practice is captured best by Susan Sontag in *On Photography*, ‘[r]ecently, photography has become almost as widely practiced an amusement as sex and dancing’.¹⁵ In her seminal text, Sontag draws attention to the fragmentary quality of photographs; how easily they can be unmoored from their original context with the passage of time, and how quickly their new associations and groupings can present new readings.¹⁶ Throughout the mid to late twentieth century a number of theories were advanced regarding the nature of photography and the construction of photographic meaning, including Allan Sekula’s assertion that photographic meaning is determined by use, and John Tagg’s claim that photographic meaning is found in the technical, cultural and historical processes in which photographs are used.¹⁷

Cultural theorists Rubinstein and Sluis make the observation that the initial adoption of digital photography by amateur photographers was limited by a number of factors including the cost of digital cameras, the lack of convenient methods for sharing digital images, and the complexity and cost of publishing images on personal websites.¹⁸ Furthermore, it was not until digital cameras became affordable, viewing technologies improved (in-camera and through external devices), image storage expanded and transmission across telecommunications networks became available and reliable that personal digital photography gained widespread use. Rubinstein and Sluis assert that: ‘[t]he disappearance of the camera inside the telephone bonded photography to the most important device of personal communications that ever existed – the mobile phone’.¹⁹

Findings of studies conducted by Van House on the transition of image-making practices from traditional film-based to contemporary pixel-based technologies reveal that the digital environment and changes in social and cultural approaches to visual communication encourage spontaneous, opportunistic image-making and experimentation.²⁰ Digital technology and its associated practices have increased the volume of images available; and as a result, people are accessing and using more digital photographs, including those made by family, friends and strangers.²¹ Additional studies reveal how the use of personal photography has shifted in the past 20 years from being a tool for memory, to a means of communication.²² Instead of documenting major

events and family history, personal photography has evolved into a form of identity formation and a tool to chronicle everyday experiences. This is evident in the proliferation of the 'selfie' – a style of personal portraiture typically created with a camera phone. Studies on American teenagers and camera use reveal a preference for photography as social communication.²³ '[I]ndividuals articulate their identity as social beings not only by taking and storing photographs to document their lives, but by participating in communal photographic exchanges that mark their identity as interactive producers and consumers of culture.'²⁴ The growing interest in studying personal digital photography is attributed to the fact that prior to the Internet, access to personal photography was limited. The emergence of photo-sharing and social networking sites has provided a platform for individuals to deliver their images to millions of viewers (and researchers). Nevertheless, Van House suggests that personal digital photography, as an area of study, is being under-represented in academic research and lacking in theory.²⁵ In contrast, the most recent issue of the *Journal of the Association of Canadian Archivists, Archivaria* no. 76, is dedicated to perspectives on personal archives, and the previous issue included an article by Jordan Bass entitled 'A PIM Perspective: Leveraging Personal Information Management Research in the Archiving of Personal Digital Records'.²⁶

II. Concepts

The social science literature that explores digital photography through an examination of its technological, social and cultural factors introduces a number of concepts that are new to the discourse of photography and relevant to subsequent discussions within the archival community regarding the many contexts of digital photography. Following an extensive review of the literature the following concepts have been selected for examination: *media convergence*, *connectivity*, *ephemeral* and *performed*. During the review it became apparent that authors use different terminology to express similar concepts. For example, the concept of connectivity is also referred to as mobility and liquidity. Considering the interdisciplinary nature of this area of investigation, there is a confluence of theory and methodologies, which results in similarities and differences in the application of concepts. Attempts have been made throughout the following sections to clarify terms and explain differences by highlighting the context in which they originate.

i. *Media convergence*

Convergence is a term that is used in the social sciences to describe the technological, industrial, cultural and social changes in the way that media circulates within our culture.²⁷ Media convergence is the process whereby new technologies are accommodated by existing media and communication industries and cultures.²⁸ It is used to describe the adaptation, merging and transitioning that occurs when old and new technologies converge. In the context of digital photography, media convergence can be used to reference the flow of photographs between cameras, mobile phones, computers and the Internet. At one time, these devices and their technologies were distinct and self-contained, but now they are recombined into a new distribution mode that incorporates various platforms and access devices. As a result, the way that people use media changes. For example, a mobile phone is now a camera, a phone and a personal computer, which enables the user to transmit and receive data as audio, image and text. Media

convergence can be seamlessly integrated into devices so that users are left unaware of the layers of distribution involved in accessing and delivering their digital photographs. This can present a situation in which management of personal digital content is hindered due to a lack of knowledge about the actual processes and services involved.

Media convergence can present challenges for archivists who may be tasked with acquiring the digital photographs of a prolific artist or public figure that has donated their personal archives.²⁹ Unlike the relationship between donors and archival repositories that is discussed in the recent Council on Library and Information Resources report *Born Digital: Guidance for Donors, Dealers, and Archival Repositories*,³⁰ which addresses the key issues and stages in acquiring and transferring born-digital materials held on physical media including external hard drives and personal computers, the relationship with donors who have their digital photograph collections stored on photo-sharing and social networking platforms may involve consideration of the rights of the service provider as a third party. Additionally, if different services are used, such as Flickr, Facebook and Twitter (<<http://www.twitter.com>>), the challenge to establish the context of creation for digital photographs becomes increasingly complex as the image files may be scattered throughout different devices, accounts and platforms. If the donor has passed away without recording the passwords for the accounts, then legal action would be required to gain access (requiring the donor agreement contract as proof of permission). Depending upon the amount of time that has passed since the accounts were in use, the service providers may have purged their systems, gone bankrupt or been purchased by another entity. A reflection of the growing importance of controlling access to online accounts and managing passwords in the event of accidental or unforeseen death is the rise of 'digital life management' services, which offer subscribers the ability to manage passwords, synchronise multiple devices and assign an heir.³¹

Media convergence affects the routine use of different devices and processes at each stage in the creation, management and storage of digital photographs. Scholarly research into personal information management of digital photographs has produced findings confirming that an abundance of digital photographs stored on mobile devices and in multiple online platforms presents a significant obstacle to managing collections over the long term.³² Without management activities, creators may be unable to determine the long-term value of specific photographs or collections and by default, they adopt passive solutions to preservation activities such as accumulation. As a result, creators become increasingly reliant on photo-sharing and social networking applications to provide management tools and limitless storage for their digital photograph collections. For example, Flickr currently offers new members one terabyte of free storage, which has the potential to encourage individuals to accumulate massive volumes of digital photographs; however, there is no assurance that the photo-sharing service provider will maintain ongoing access to the digital content.³³ With the majority of commercial online services being provided by third-party cloud computing infrastructure and delivered through layers of providers (all with their own service-level agreements), the care and handling of digital photograph collections is placed in the hands of for-profit companies who manage data for an exponentially large number of users. It is yet to be determined if ongoing access and long-term preservation of digital photographs, guided by the principles of archival science, is a priority for the owners of photo-sharing and social networking platforms, or even a possibility.

Social networking platforms provide information about their users' interactions, either through their own analytics or through third-party application programming interfaces (APIs).³⁴ Embedded metadata in users' photographs are also mined by APIs. This

information is extremely valuable to private and public entities who are willing to pay social media companies to collect and/or purchase it; therefore, one might assume that as long as there is commercial value in providing free accounts to social networking sites, the digital photographs of millions of users will be stored for the long term.³⁵ Yet, as users of the photo-sharing site Instagram learned in late 2012, the terms of services (ToS) can be changed by the provider without prior notice to the customer.³⁶ Essentially the change in the ToS granted Instagram the perpetual rights to all images uploaded to their site for commercial purposes. The public backlash that ensued put enough pressure on the photo-sharing service provider that it withdrew the clause; however, the incidence has raised concern among professional photography associations and legal scholars in regards to the fairness of ToS and future consequences of such agreements on control over members' digital content.³⁷

The extent of ToS agreements required by photo-sharing and social networking platforms invites further analysis by the archival community to determine the roles and responsibilities of service providers and customers in regards to issues of content ownership, copyright, and ongoing access and long-term preservation of digital photograph collections. Any number of changes to the ToS, including the addition of a per-use membership fee, could alter the current situation and potentially prompt members to respond with legal action and/or remove their digital content from the photo-sharing and social networking platform. Removal of digital content from social networking sites is neither an easy nor a predictable process. A survey conducted by the International Press Telecommunications Council as part of the Embedded Metadata Manifesto project reveals that downloading digital photographs out of some social networking platforms results in the removal of embedded image metadata from the image file header that are necessary for identifying the name of the photographer, image copyright and the date the photograph was taken.³⁸ Thus, the simplicity presented by converging cameras into mobile devices with Internet connectivity and accessing and storing digital photograph collections via social networking platforms that rely on cloud computing infrastructure should be thoroughly investigated in an effort to understand the complex web of technological and legal relationships introduced by new image-making practices. Furthermore, the impact of shifting notions of ownership, copyright and control needs to be assessed by the archival community if digital photograph collections held within social networking platforms are to be considered for future reference or use as records of social memory and cultural history.

ii. Connectivity

Connectivity is defined as '1) the quality, state, or capability of being connected; 2) the ability to make and maintain a connection between two or more points in a telecommunications system, or computer system'.³⁹ In the context of digital photography, connectivity is also referred to as mobility and describes the characteristic of digital photographs to change, to be acted upon by individuals and systems, and to continually transform through multiple representations.⁴⁰ The following section discusses the connectivity of digital photographs within photo-sharing and social networking sites and the characteristic of connectivity in the online platform.

In the last decade, digital photography has taken the place of film-based photography for most personal uses (for example, travel, family portraiture and events). The emergence of online photo-sharing and management sites like Flickr are encouraging individuals and organisations (through Flickr Commons) to share and manage their

digital photographs (born-digital and digitised). In doing so, photo-sharing sites perform as online social networks that are characterised by visual communication. The process of sharing photographs is facilitated through the online application's graphical user interface (GUI), which provides a tool for uploading digital content to the site, as well as rich site summary (RSS) feeds, email and third-party plug-ins for image management applications (for example, iPhoto and Lightroom).⁴¹ The process of managing (that is, classifying and organising) digital photographs involves collaboration with other members of the photo-sharing platform. For example, Flickr members are encouraged to give their contacts (that is, other members) the permission to add comments, ratings and tags to their personal digital photographs, which become associated by the photo-sharing application as metadata about the digital photograph and are used by the application to discover, search and organise images within the collection and across collections in the system.⁴² The collaboration can take different forms, but it is characterised by the breakdown of boundaries between the producers of content and the users of content. When users contribute metadata to a digital photograph, they are transformed from consumers to producers and are engaged in a process of *produsage* (that is, the collaborative and continuous building and extending of existing content in pursuit of further improvement).⁴³ In the context of photo-sharing communities and online image-making practices, members acting as *producers* (that is, participants who are users as well as producers of information and knowledge) are involved in a process that does not aim to create a discrete and complete product.⁴⁴ Unlike a traditional photographic print, which is fixed as a discrete object, the digital photograph is always connected to a system or interface, which enables changes to occur. In this sense the networked photograph is always in the process of becoming.⁴⁵

Connectivity can be explored by the archival community as a potential challenge to establishing authorship and determining the necessary components of the digital photograph as a record. Unlike traditional photographs, which may be under the control of a single photographer, or identified as being created by an individual or studio, the digital photograph that circulates in photo-sharing and social networking platforms may potentially be treated as the expression of many contributors, including the system in which it is held. If the context in which the digital photograph is intended to be received is the social networking platform, which includes comments, ratings and likes, then these components of the record are integral to its meaning. Additionally, the digital photograph can be included in any number of collections (that is, photostreams) that belong to different members. Ownership of the images is rarely required in order for members to access or use digital photographs within the photo-sharing platform; yet, access controls can be set by the owner when uploading digital photographs into the online environment. Findings of studies on personal photography and social networking sites confirm a shift in attitudes about ownership and use. Interviews conducted by Van House with members of Flickr reveal a sense of public ownership over all the images accessed through the photo-sharing site, as if the photographs were a public resource.⁴⁶ Digital technologies make it easier to associate and re-associate photographs with different photographers, places and times, thus creating new collections and sequences, but more importantly – new meanings. By using the same online interface for access and storage, the boundary between public and private, owned and open, and communication and preservation is blurred.

Connectivity is also discussed as a characteristic of social networking platforms and their underlying database structure. Studies that explore the Flickr platform (that is, interface, algorithm, database and APIs) suggest that Flickr does not simply enable

connections between photographs, humans and technology, but actually constructs them through metadata, software code and protocols.⁴⁷ Throughout the social science literature the underlying network database is likened to a fluid repository of visual culture; yet, there is no mention of a trusted custodian.⁴⁸ The mobility of networked photographs is discussed by Van House as giving images ‘a life of their own’ and acting as non-human agents moving within the online system.⁴⁹ In the actual operation of an archival repository, access to records and their use are determined by a combination of legal agreements with donors, intellectual copyrights, statutes and privacy acts. Establishing and monitoring these restrictions are the responsibility of the archival institution. In contrast, photo-sharing and social networking platforms typically place the responsibility for clearing legal copyrights and gaining permission to upload digital photographs onto the user. As outlined in ToS and/or separate privacy policies, the provider of the service will respond to complaints made by individuals about specific digital content and, if deemed necessary, the content will be deleted from the photo-sharing and social networking platform.⁵⁰ The efficacy of this approach has yet to be assessed by the archival community. It is very likely that the majority of visual content held within member accounts in social networking platforms has not been cleared for public access and thus may be unsuitable for acquisition by an archival institution.

It should be noted that another aspect of the social networking environment is the collection of information about its members. Whereas an archival repository retains statistical data on researcher requests for records to assist with managing the archives (for example, information can contribute to setting digitisation priorities or identifying conservation treatments) and to provide justification of operating costs to private funders and public bodies, the network database uses system metadata to track users’ interactions with the database and metadata linked to the digital photographs to provide responses to search algorithms. In respect to tracking users’ interactions, the system can reveal behavioural patterns which in turn are used to steer users’ behaviour by adjusting the interface.⁵¹ In regards to search algorithms for tagged metadata, the system can provide information that was never meant to be public, but that is available as a result of automated connectivity signals between tags and visual content.⁵² Thus, the connectivity of the network database is mediating the user experience and could provide tech-savvy entities with access to information about members of social networking platforms that may be protected under privacy legislation. It would be interesting to apply postmodern perspectives on the participatory role of the archivist in constructing the meaning of archives to the ideology of the digital platform.

iii. Ephemeral

Ephemeral is defined as ‘lasting for a very short time’.⁵³ In the context of digital photography the quality of an image being ephemeral is closely linked to its use as visual communication and not as an object to be permanently preserved. Unlike film-based photographs that require a series of processes (for example, capture, film development, print production) to create the final image, the digital photograph can be captured, edited and disseminated almost instantaneously. The shift in photography, from a time-based activity to one of immediate gratification, is a reflection of technological innovation and changing cultural attitudes. As a result, the social uses of digital photography have expanded beyond album making and framed keepsakes to include real-time Twitter exchanges.⁵⁴ Increasingly, the value of a photograph has been transformed from an

object of permanence to a fleeting expression that is meant to be consumed and immediately destroyed.

Van House discusses image-making practices with mobile phones and Flickr, and suggests that new technologies and social practices are changing the temporality of images, resulting in photography as a form of visual communication, but without any expectation of permanence.⁵⁵ Furthermore, the potential for digital photographs to be easily deleted, lost and/or corrupted may encourage the change in attitudes about image-based activities from being geared towards permanence to embracing immediacy and the short term.⁵⁶ An example of this shift can be seen in the 2011 release of Snapchat (<<http://www.snapchat.com>>), a unique photo-messaging application that enables users to take photos, add text and send the images to a controlled list of recipients – with a time limit on how long recipients can view the received images (up to 10 seconds).⁵⁷ Once the time limit is reached, the digital photographs are deleted from the receiver's mobile phone. As of 28 October 2012, users of the Snapchat application were sharing 20 million images a day.⁵⁸ Its appeal is that users can focus on communicating with digital photographs and not have the burden of managing or storing them, nor the concern that the digital photograph may be repurposed by the receiver. This application epitomises the new attitude towards photography, one that values communication over preservation. Traditionally, value is expressed by collecting and permanently preserving photographs; however, the philosophy of Snapchat is '[t]here is value in the ephemeral'.⁵⁹

In the context of the archival community, value in the ephemeral prompts a discussion about the value in forgetting. Records managers and archivists are aware of the need for retention schedules for certain classes of records, balancing access to personal information and protection of privacy, and the challenges introduced by digitisation and online access to archival holdings.⁶⁰ The extended life of digital information on the Internet is a growing topic of concern, as exemplified in the proposed new legal framework for the protection of personal data in the European Union.⁶¹ The policy has three components: the right to oblivion of the judicial past; the right to oblivion established by data protection legislation; and the right to oblivion of personal data having an expiration date in the context of social networks. Essentially, the policy grants users greater control over their personal information being held by a company or government agency.

Application of the 'right to be forgotten' in the context of digital photography could be that a user deletes their Facebook account and under the new law, Facebook would have to ensure that all personal information about that user and their digital photographs were permanently deleted from the company servers and any third-party cloud-based servers that store data for Facebook (for example, Amazon web services). This process may appear straightforward; however, the growing complexity of services, the ubiquity of data mining, and repurposing of both digital content and member account information held by photo-sharing and social networking platforms make it challenging for companies to completely delete an individual's activity and presence within a system. The importance of controlling personal online information and content is prompting responses by companies such as Facebook, Google and Apple to provide services that increase user control over sensitive information in digital format. For example, Facebook recently purchased an application (drop.io) that offers private file sharing with expiration date settings to delete files; Google provides a method to set dates to exclude webpages from being included in search results; and Apple's iCloud allows you to synchronise privacy settings across devices.⁶² The implications of digital photographs containing expiration dates have yet to be discussed by the archival community, but there are a number of potential issues including archival repositories

being unable to acquire digital photographs with known deletion dates, or unknowingly acquiring digital photographs with deletion dates. From the perspective of records management in an organisation, policies would need to be in place to ensure that employees did not apply deletion dates to records designated for retention and transfer to the archives.

iv. Performed

Roland Barthes, critical theorist and author of *Camera Lucida*, describes the relationship between the photographic image and the actual person or place it represents as ‘this-has-been’, which can be interpreted to mean that the image is a pictorial representation of someone or something that was once in front of the camera, but is now no longer there.⁶³ Current approaches to understanding the immediacy and presence that characterise digital photographic practice are exploring digital photography as a performed practice that represents ‘this-is-happening’. The performed practice is expressed in relation to how digital photography is used and the rhetoric of representation. Mette Sandbye’s research findings on web albums (that is, logical organisations of personal digital photographs on Flickr, Facebook and Picasa) reveal that the volume of digital photographs on photo-sharing sites, their sequencing and their subject matter are presented in a manner that reflects the structure of cinema and enables the viewer to experience the unfolding (that is, performance) and occurrence (that is, presence) of the photographic moment.⁶⁴ Unlike traditional still photographs in which only one image might be captured to represent an entire evening or a special celebration, digital photographs are continually being created throughout any and all events, no matter how banal the activity. The ubiquity of photography as a practice has saturated daily existence to such a degree that people have trouble believing an event has occurred without visual documentation.

The performance of photography is traditionally considered in relation to the staging of the event in front of the camera prior to image capture, and in relation to the ‘show-and-tell’ of presenting an album of family photographs to another person. Sandbye introduces the performance of digital photography in the context of articulating and transmitting a feeling of presence.⁶⁵ This is achieved through the immediacy of uploading digital photographs to online platforms so that others can view the digital photographs and respond with comments, or links to their own digital photographs that might be related or highlight a similar experience. Sandbye points to other studies on personal digital photography that discuss the mundane nature of digital image content and the similarity between the multitude of digital photographs documenting a single event.⁶⁶ Furthermore, studies on photo-sharing communities suggest that once the digital photograph becomes part of the online environment, its performative function changes every time the digital photograph is accessed.⁶⁷

A study of moblogging, the specific practice of creating digital photographs with mobile phones and uploading the digital photographs to photo-sharing platforms, has been conducted by Karen Wagner and her findings are discussed in ‘Moblogging, Remediation, and the New Vernacular’.⁶⁸ Initially, moblogging was distinct from other digital image-making practices that involved digital cameras and websites; but, due to the growing appeal of camera phone photography, many social networking platforms are now making it possible to upload images directly from mobile phones. Wagner describes the way moblog stories evolve as a result of the interaction between the blogger and commentators (that is, users that participate in the blog by responding with comments, which are typically in the form of digital photographs transmitted from their

camera phones).⁶⁹ The exchange of visual content drives the conversation between the moblogging members. Unlike film-based photography that requires a lengthy process of capture, development and printing before viewing, the practice of moblogging is characterised by immediacy (for example, visual content is uploaded in-the-moment) and the experience of the image-based conversation can occur in real time.⁷⁰ The instant publication of mobile phone images compresses the traditional time between production and consumption of photographic images, likening the exchange to 'being-there'. Wagner observes that the immediacy of the relationship is expressed in moblogging habits, which include posting a digital photograph that presents specific visual content, such as a coffee cup in the morning or a bottle of beer at the end of the work day, that signal to other moblogging members who understand this type of image content as the moblogging vernacular for 'ready to communicate'.⁷¹

The concept of performed practice in the context of digital photography may not introduce additional challenges to archivists that have not already been addressed in earlier sections of this article; yet, it is worthwhile for the archival community to be aware of external disciplinary perspectives that explore new ways of understanding digital photography and its use. The concept of performed practice alters traditional notions of how photographs are used, the relationships drawn between photographs within an online collection and the environments in which exchanges and communications are taking place.

III. Summary

Personal digital photography has been made visible to the world through photo-sharing and social networking platforms. The traditional private practice of personal photography has become a public activity that is facilitated by media convergence and characterised by the qualities of connectivity, ephemeral and performed. Social science scholars exploring photography as a practice that is defined by social, cultural and technological forces are producing research that identifies the continuity of image-making practices and the ruptures in which digital practice departs from pictorial traditions. With an emphasis on practice, researchers are providing archivists with valuable information about the technologies and social activities that individuals are adopting to create, manage, use and store their digital photograph collections. The role of media convergence in shaping how individuals interact with photographic devices and online platforms cannot be understated. This article has focused on the characteristics of contemporary digital photographs; yet, it is important to be aware that media convergence invokes obsolescence as technologies rise and fall from use and social habits respond to new modes of visual communication. As the documentary universe evolves, archivists and information professionals will need to remain engaged and ready to explore the characteristics of records and changing practices of record-making and recordkeeping. The social science research on digital photographs and social networking platforms, and related discussions addressing the database as an archives, present an exciting opportunity for archivists, who are informed by archival theory and methodology, to engage and contribute their valuable perspective.

Due to the available literature, this article has focused on concepts related to digital image-making practices of individuals; thus, an exploration of digital photographs in organisational and institutional contexts would be useful to determine if the characteristics of connectivity, ephemeral and performed are inherent to all digital photographs in online environments. The cultural factor would be different, but as more

organisations allow employees to use personal mobile devices to conduct business activities, the potential for similarities between individual and organisational digital image-making practices exists.⁷² Furthermore, as organisations embrace cloud computing services for on-demand applications, platform interoperability and unlimited storage, the issues of data ownership, controlling access and storage of records that are subject to privacy laws, and managing content under copyright, will need to be addressed prior to signing ToS agreements with service providers. This is especially true for archival institutions that are considering adoption of cloud computing services for their digital repositories.⁷³ As stated in the introduction to this article, this is a preliminary investigation into digital photographs in social networking sites. Future research activities include a web-based survey questionnaire, in-depth interviews, and analysis of photo-sharing and social networking ToS agreements.

Endnotes

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