Introduction

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In *Media and the American Mind*, a seminal work for media history published in 1982, Daniel J. Czitrom argued that the era of modern communication in the United States was inaugurated by the introduction of the telegraph in 1844.[1] In an attempt to explore "how media of communications have altered the American environment over the past century and a half," he focused on the advent of telegraphic technology, on the rise of the motion picture at the turn of the twentieth century, and on the development of American radio from wireless through broadcasting.[2] In a book whose time frame is 1844 to 1940, it is curious that almost no reference is made to photography, which is mentioned in passing only as a precondition for the appearance of another medium, cinema.

More than thirty years later, media history has become an established field of inquiry, supported by dedicated journals, associations, and conferences. Topics of interest to media historians include technologies as different as telegraphy, telephony, radio, television, film, sound recording, and digital media.[3] More broadly, a systemic approach has emerged within this discipline, which not only explores the relationship and intersections between different media but understands media as an integrated field of technologies, systems, and artifacts that can only be studied in its entirety.[4] Yet, in this context, photography has remained a neglected subject. An integrated approach to the history of photography and media is still much needed.

Conceived by two scholars who have different training and work in different disciplinary environments, art history and media studies, this book is built upon the assumption that a media history that fully and programmatically includes photography in its field of interest can make a substantial contribution to the discussion of the history of this medium. The word "other" in the volume's title, *Photography and Other Media in the Nineteenth Century*, is intended provocatively. It reflects the need to overcome artificial distinctions among "individual" media in favor of an integrated approach. In fact, the evidence and reflections collected here show that any medium is not just one thing but many, depending on its meanings and its uses, and demonstrate the need for further examination of photography's insertion into nineteenth-century

media systems and cultures, as well as for consideration of its links and exchanges with the many "other" media of the time. Such endeavors promise to be stimulating and productive challenges for scholars in different disciplines, such as media historians, historians of photography, art historians, historians of science, visual and material anthropologists, material culture scholars, and cultural geographers.

Written from a cross-disciplinary perspective and having as its main object of inquiry the relationship between photography and other media, this volume moves away from the notion of an autonomous history of photography. It points to the opportunity of decentering the dominant narratives of canonical and new histories of photography, in the attempt to build a more inclusive, diversified, and empirically oriented approach to the study of photographs and photographic apparatuses. While this volume focuses on Western cultures and places, the contributors offer insights into the potentials and promises of a perspective that, we hope, will continue to be explored in the future, as the study of photography in Western and non-Western societies develops from different methodological, theoretical, and disciplinary viewpoints.

The book covers a time frame that runs roughly from the invention of photography (an event that, like most inventions, can only be arbitrarily dated, in this case to the year 1839) until the end of the nineteenth century. The borders of this periodization are flexible, however, and occasional excursions before and after these time limits are included. While starting with the introduction of photography might be an obvious choice—although arguably a tricky one[5]—the end of the nineteenth century is only one of many potential end points for our time frame. Yet media historians have often considered media as "a nineteenth-century invention."[6] It is in this period that one might uncover the foundations of modern media culture—defined by Erkki Huhtamo as "a cultural condition where large numbers of people live under the constant influence of media."[7] If ongoing processes of technological and institutional convergence in the digital age have stimulated scholars of photography to look beyond the borders of their discipline, this book serves as a reminder of the fact that photography and other media have been converging and mingling for a long time—indeed, they have always done so.

Both the 1830s–1840s and the 1880s–1890s are periods marked by what media historians have defined as "explosive innovations" in the field of communication. Photography, rapid typographical techniques powered by steam engines, the telegraph, and the postage stamp were introduced between the 1830s and the 1840s. At the end of the nineteenth century, photography was entirely redefined due to the emergence of new forms of collective entertainment, such as the cinematograph, along with the appearance of fast newspaper-folding machines; the linotype; the typewriter; the gramophone; Edison's Kinetoscope; the telephone; radiotelegraphy; new literary genres; sports such as baseball, rugby, and football; modern advertising agencies; and new journalistic formulas.[8] Yet a history based on inventions and "new media" is only one among the many possible narratives through which we can make sense of media change throughout the nineteenth century and beyond. As Gaudreault and Marion rightly point out, media are born not just once but two or multiple times, as they are

constantly renovated on technological, cultural, social, and institutional levels.[9] The history of photography, in this regard, is a history of continuous change, a history that can be told only by combining, rather than contrasting, the ideas of rupture and continuity. Several contributions in this volume engage with the implications and the inescapable contradictions that result from the encounter between different media and practices. In pointing to the complex relationship between rupture and continuity, as well as between the "old" and the "new," they offer an escape from the otherwise limiting boundaries of historical narratives based on the idea of technological revolutions.

In the last few years, a rising corpus of works addressing nineteenth-century photography from a perspective complementary to our own has emerged, offering an important context and inspiration to us and other researchers who are working in this direction. Scholars have started to investigate photography's insertion within the broader context of media history, looking at the photographic medium in relationship with the history of communications, print culture, and the news.[10] Moreover, a range of theoretical and methodological explorations have pointed toward new directions and possibilities for conceiving the history of photography and, more broadly, the humanities and social sciences. Perhaps the most relevant of these explorations is the wide shift in the study of society and culture that has been labeled the "material turn."[11] Until relatively recently, the most prevalent tendency within the history of photography has been to consider images as an essentially visual phenomenon. The materiality of images has been predominantly conceived of as a mere support for their textual productivity, for their status as commodities, and for the analysis of their meanings as expressions of dominant ideologies projected onto them. The physical presence of photographs has been mostly overlooked or addressed in terms of connoisseurship and conservation. Furthermore, the history of photography has so far been constructed primarily as a history of images and authors. Cameras, supports, presentational forms, modes of distribution, and so forth have been largely overlooked. Contrary to such tendencies, the impact of the material turn has brought about the idea that a material perspective is essential to looking at the history of this medium. Starting in the late 1990s, scholars working within the history of photography have produced groundbreaking studies on the materiality of photographs.[12]

Issues of materiality have recently gained centrality in the fields of media history and media studies too. Authors such as Lisa Gitelman and Jonathan Sterne have deepened a perspective that addresses different media technologies as complex sociotechnological artifacts whose material nature influences the way they are used and actively interpreted by audiences and users.[13] In this regard, a theoretical framework that relies on the study of material culture promises to be a powerful tool for fostering dialogue and mutual exchange between scholars in the fields of media history and the history of photography. As Jennifer Roberts rightly emphasizes in her recent book on the movement of images in early America, mobility is a function of materiality: in other words, the material character of photographs is the condition that ensures the limits and reaches of their movement in space (as well as time).[14] Yet,

while Roberts posits a rigid distinction between new electrical media emerging since the nineteenth century, starting with the telegraph, and the "stubborn materiality" of analog pictures,[15] media scholars have shown that materiality is an element that shapes the movement of information in all media. Even digital media, in fact, move and exchange information through physical changes that possess their own materiality—although this might not be immediately evident to our senses.[16]

Within media studies, a powerful impetus for the study of material culture has been given by the work of authors working under the umbrella of media archaeology. Scholars such as Erkki Huhtamo, Jussi Parikka, and Wolfgang Ernst have pointed to the opportunity to combine the skills of the historian with those of the antiquarian, looking at the traces of media culture that can be located beyond written texts, in artifacts and objects to be researched and studied in archives as much as in antique shops, flea markets, private collections, and museums.[17] Although art historians are used to working in such environments and to looking at objects and artifacts as primary sources for their work, the example of media archaeology stimulates the addition of further depth to this enterprise. Huhtamo's recent monograph on the history of the moving panorama, for instance, is an example of how media archaeologists interrogate artifacts in terms of their visuality, materiality, technology, and context of use.[18] Artifacts—which, in the case of photography, include pictures but also and crucially cameras, photographic supports and materials, reagents, and so forth—can literally be brought back to life by the work of media archaeologists, who do not limit their gaze to the visual, cultural, or technological character of objects, but explore the broader implications of the material turn.

In recent years, moreover, increasing attention has been directed to photographic practices outside the professional and artistic realms, as well as to the productions of groups of individuals such as amateur photography clubs, commercial photographic studios, and researchers from the scientific community. The ways in which photographs circulate and change hands in different social and cultural circles, both within organizations and institutionalized groups and in private and informal contexts, has also come under scrutiny.[19] From this methodological standpoint, studying the work of amateurs can substantially contribute to integrated approaches to the history of photography and media. As indicated by Gil Pasternak, despite the fact that amateur photography has at times been addressed through the notion of the vernacular, this has never produced a decentering of dominant narratives about photographic history. As he puts it, "The canonical and new histories of photography have both paved orthodox courses to tell the story of photography, inserting it into different filing cabinets in a library that fails to record how vital photography has been to private experiences of modern everyday life and public experiences of the ordinary."[20] In this context, the opportunity for historians of photography to enter into dialogue with studies of the role of amateurship in the history of media such as wireless telegraphy and radio, as well as digital media, is a promising direction that has until now been very little explored.

Another fruitful context of dialogue for scholars interested in the history of photography is the tradition, heralded by Bourdieu's influential volume on the topic,[21] which focuses on the use and impact of photography from a sociological standpoint. Media history's transdisciplinary perspective, which combines historical methodologies with sociological perspectives and approaches, offers a powerful encouragement to pursue and further develop this focus. Media scholars interested in inquiring how people integrate different media (including photography) into their experience and everyday life have recently shown how qualitative methods may provide key insights into photography's social and cultural presence.[22] Historical scholarship can take up this same preoccupation in the attempt to recover and animate the social life of the photographic medium, exploring how it was used and integrated into the experience of people in different times and places. In this book's opening chapter, pioneering media archaeologist Erkki Huhtamo observes that histories of photography tend to emphasize the medium's achievement from aesthetic, technological, and cultural points of view. As a consequence, sources that display the problems and difficulties people encounter with photography may be disregarded. Just as ethnographers need all their attention to perceive the full complexities and nuances of what informants and sources tell them, historians need a fresh and receptive mind frame to enter into the fabric of textual, visual, and material sources through which they contribute to building our understandings of the past.

While looking at the drastic changes in the technologies and practices of communication that characterized the nineteenth century—such as the introduction of electric telegraphy and the development of the railway and the postal system—in relationship to and in conjunction with the contemporary emergence of photography, the essays collected in this volume offer theoretical explorations that address the history of photography from fresh viewpoints. The volume is organized in three parts. This structure helps highlight the significance of three processes—communication, reproduction, and dissemination—through which photography is inserted within a broader system of media and communications.

Part 1, "The Emergence of Modern Communications," looks at the emergence and early history of photography as embedded in broader changes concerning the history of communications.

The first chapter, "*Elephans Photographicus*: Media Archaeology and the History of Photography" by Erkki Huhtamo, charts the ways in which media archaeology could be made a productive tool for questioning and broadening our understanding of photography, its cultural contexts, and its interrelationships with other media. Through a discussion of the historiography of photography, Huhtamo argues that an archaeology of photography should be *media* archaeology: instead of dealing with photography in isolation from other media practices, it should embrace the connections it has with them on all possible levels. Huhtamo shows how discussing photographs as symptomatic pointers to underlying developments should be part of the endeavor, but never separated from the contexts—from material to

discursive—that informed their becoming and within which they radiate impulses to other media forms.

In chapter 2, "A Mirror with Wings: Photography and the New Era of Communications," Simone Natale questions how and to what extent photography participated in the transformations of the ways communication was conceived, administered, and used in the mid-nineteenth-century United States. Examining aspects of the medium's reception of the period, he shows that this was related to improvements in communication and transportation technologies and that photography was conceived, from the very beginning, as a medium of communication in the strictest sense of this term: a tool for putting images in movement in order to be carried, marketed, and transported.

The contemporaneous introduction of photographic techniques and cheap postal services in the Western world is at the base of chapter 3, "The Traveling Daguerreotype: Early Photography and the U.S. Postal System," in which David Henkin points to the fact that, while historians of art have focused on the relationship between the spread of photography and other techniques and media of image reproduction, the value and use of daguerreotypes, and especially daguerreotype portraits, depended heavily on new and evolving methods of circulation and transmission as well. Taking the example of the United States, Henkin looks at how technologically unspectacular but nonetheless momentous shifts in how Americans used the mail in the middle of the nineteenth century enhanced and focused the appeal of the personal photographic portrait.

The extent to which telegraphy and photography, both of which promised to transcend time and space, were intertwined at crucial junctures of their histories is at the center of chapter 4, "The Telegraph of the Past: Nadar and the Time of Photography." Richard Taws argues that, in much of the discourse on telegraphy's relationship to both contemporaneous and "new" media, telegraphy resonates as a technology grounded in a turnaway from representation, a marker of the modern world's gradual drift toward elusive, immaterial, virtual presence. Yet the telegraphs with which Nadar punctuated his writings on photography operated by visual means: Chappe's system based on a network of semaphoric relays and Caselli's pantelegraph, an early form of fax machine. Taws looks at the afterlife of optical telegraphy to suggest that visuality continued to inflect the subject of telegraphy in France after the 1850s, providing a means of conceptualizing the historical meaning of diverse media.

In chapter 5, "With Eyes of Flesh and Glass Eyes: Railroad Image-Objects and Fantasies of Human-Machine Hybridizations in the Mid-Nineteenth-Century United States," Nicoletta Leonardi offers an analysis of the visual economy of railroad landscape representation and reception. By taking as objects of inquiry paintings, photographs, and prints commissioned by railroad companies and by focusing on the processes of production, circulation, and consumption of serialized image-objects, Leonardi demonstrates how, besides contemplating the machine in a pastoral setting, another aspect of landscape culture was that of looking at nature *through* machines: the train coach, the photographic camera. This landscape mode offered the viewer the possibility of moving through the panoramic landscape by way of a series of replicable

and repeatable visual experiences in which the camera, the train, and the observer's eye appeared as bound together in a single entity: a viewing subject resulting from a fantasy of hybridization of the human and the machine.

The extent to which the early history of photography was bound up with the nascent photographic press (through which technical innovations widely circulated) and the ways in which photographs were reproduced through other visual media are discussed in part 2, "Technologies of Reproduction."

In chapter 6, "Peer Production in the Age of Collodion: The Bromide Patent and the Photographic Press, 1854–1868," Lynn Berger argues that the photographic press encouraged and facilitated knowledge sharing and collaboration among the nascent photographic community in the United States, fostering a prolonged debate about the nature of intellectual property and enabling what we might today recognize as "peer production." Within this context, the importance of openness, sharing, transparency, and fraternity was stressed over and over again, and patents, while deemed unavoidable at times, were regarded with caution.

In chapter 7, "Two or Three Things Photography Did to Painting," Jan von Brevern discusses how photography, from about 1850 onwards, was expected to become a new common language and, as such, to transform the entire system of art production and reception. Looking at photographic reproductions of visual media, Brevern argues that in mid-nineteenth-century France, painters (such as Delacroix) and art critics (such as Théophile Gautier) were not interested in whether photography itself was art or not so much as in how it would alter traditional arts, such as painting. Brevern argues that the reason photography was expected to have a great impact on art was not because it produced exact reproductions, but because it was considered, compared to manual reproduction media, a medium without style.

The relationship between photography and older graphic techniques of picture making is the focus of chapter 8, "Uniqueness Multiplied: The Daguerreotype and the Visual Economy of the Graphic Arts," in which Steffen Siegel discusses how, shortly after the introduction of the new medium, reflecting about the use and value of photographic procedures went through their insertion into a horizon of comparison between different media. Through an analysis of Lerebours's *Excursions daguerriennes*, a number of subscription books containing daguerreotype views of the world's monuments redrawn by hand as aquatint engravings, Siegel shows that the wide spectrum of older graphic media, such as engraving, etching, and lithography, created and stimulated discussions about the daguerreotype's multiplication. Thus, the essential uniqueness of each single daguerreotype plate was approached under the conditions of its ability to be multiplied and taken as a point of departure for a culture of the copy aimed at producing perfect simulacra.

In chapter 9, "Photographs in Text: The Reproduction of Photographs in Nineteenth-Century Scientific Communication," Geoffrey Belknap investigates the value of the reproduced photographic image when placed in a variety of media contexts within the particular genre of scientific communication. Belknap examines the

occurrence of photographic reproductions within three sites of scientific communication: scientific periodicals; books that popularize and communicate scientific evidence; and the correspondence of two well-known nineteenth-century scientists, Charles Darwin and John Tyndall. Rather than being primarily representational, photographs in such contexts become technological objects situated in the shifting contexts of the situation within the text. How a photograph was used and what it was used to say, therefore, may change depending upon its form of reproduction within different media genres.

Part 3, "Popular Cultures," addresses the advent and development of photographic techniques as part of a broader media culture within which technologies and cultural forms such as the mass-consumed novel, sound recording, and cinema were offering new ways to access and distribute different kinds of contents.

In chapter 10, "In the Time of Balzac: The Daguerreotype and the Discovery/Invention of Society," Peppino Ortoleva looks at the advent of the daguerreotype and the birth of serialized fiction in the 1830s and 1840s as a case of systemic interdependence. Great narrators such as Balzac and Hawthorne depicted a social system characterized by the self-construction of individuals within the boundaries of social rules and hierarchies. Their portrait of society was deeply connected to the everyday storytelling of popular newspapers (which often hosted the novels themselves) as well as to photography. Following the thread of contradictions and complexities characterizing Balzac's approach to photography, Ortoleva sheds light on the fantastic and even supernatural expectations and representations that the daguerreotype inspired and that accompanied and counteracted photography's alleged "objectivity" in the nineteenth century.

In chapter 11, "Sound Photography," Anthony Enns discusses how, beginning in the late eighteenth century, scientists developed various graphic methods of visualizing sounds and points to the fact that photography was among the earliest devices used to record sounds. Like phonography, sound photography produced indexical tracings of the phenomena it served to represent, which effectively allowed sounds to record themselves. Unlike phonography, however, sound photography was seen as a natural extension of the graphic method, which facilitated the comparison and classification of waveforms by converting acoustic phenomena into quantifiable and analyzable information. Enns argues that the practice of sound photography represents a largely forgotten moment in the history of scientific attempts to translate acoustic phenomena into graphic signs for the purpose of making sounds legible as writing.

In chapter 12, "Photography, Cinema, and Perceptual Realism in the Nineteenth Century," Kim Timby explores how in the nineteenth century photography and cinematography were tied up in the same web of collective associations that surrounded visual representation. Since the invention of the photographic image, there was a desire to imbue it with aspects of human visual perception deemed missing, so as to increase its "perceptual realism." Timby argues that the experience of cinematography,

which became popular in 1895, both answered to and raised expectations of perceptual realism in photography. For the public, it constituted an extension of photography in that the new images were simply moving photographs. This spectacular and definitive-seeming solution to movement was taken as evidence that technological progress was leading toward a complete mastery of representation of the world as we see it.

Through a series of essays published over the course of several years, André Gaudreault and Philippe Marion have developed a particular approach to the genealogy of media, which they have described as the "double-birth" model. In chapter 13, "The Double-Birth Model Tested Against Photography," they employ the case of photography's early history to substantiate the model's claim that a medium does not impose itself as an autonomous medium, one worthy of the name, until it has rendered its own opacity tangible and credible; in other words, until it has defined its own way of re-presenting, expressing, and communicating the world. Employing a comparative approach that relies on examples from the history of cinema and of other media, the authors argue that photography's "second birth," that of the medium's institutionalization, consisted in fixing for a period of time the federation of the different cultural series that make up photography.

Finally, in the afterword, historian of photography Geoffrey Batchen and media historian Lisa Gitelman discuss how the study of photography can contribute to an integrated history of media and how media history can contribute to a better understanding of the history of photographic practices. Coming from two authors who have been extremely influential in their respective disciplinary fields, their dialogue reads as a powerful incitement for scholars who move at and across the intersection between these fields.

As Batchen observes, photographic history—indeed, any form of history—is a creative practice. This book is built upon the conviction that it is beyond their immediate and more familiar horizons that historians of photography and media will find new ideas and insights to feed such creativity. It should be read first and foremost as a call for further inquiries about the complex connections between photography and other media since the nineteenth century. There is much work yet to do in this context, and readers will surely find many omissions in the topics and scope of the chapters. It is our hope, however, that this book will bring some original visions and perspectives to the horizon, inspiring novel questions and ideas that will further challenge medium-specific histories and contributing to a better understanding of both mediality and intermediality in the nineteenth century.

Notes

1. Czitrom, *Media and the American Mind*.
2. Ibid., xi.
3. For theoretical and methodological discussions regarding the scope and aim of media and communications history, see, among others, Poster, "Manifesto for a History of the Media"; Nerone, "The Future of Communication History"; Brügger,

"Theoretical Reflections on Media and Media History"; Balbi, "Una storia della storia dei media."

4. Gitelman, *Always Already New*; Bolter and Grusin, *Remediation*; Stöber, "What Media Evolution Is."
5. An exploration into the history of photography may in fact start before the invention or introduction of this medium, as shown for instance in Batchen, *Burning with Desire*. Moreover, as discussed in chapter 13 by André Gaudreault and Philippe Marion, the very definition of what we mean by "invention" or "introduction" of a medium is problematic.
6. Colligan and Linley, *Media, Technology, and Literature*, 1.
7. Huhtamo, *Illusions in Motion*, 364.
8. Flichy, *Dynamics of Modern Communication*; Ortoleva, *Mediastoria*; Otis, *Networking*.
9. Gaudreault and Marion, "A Medium Is Always Born Twice." See also chapter 13 of this book, as well as Stöber, "What Media Evolution Is."
10. See, among others, Hill and Schwartz, *Getting the Picture*; Dinius, *The Camera and the Press*; Batchen, "Electricity Made Visible"; Rudd, "Public Faces"; Natale, "Photography and Communication Media"; Uricchio, "Ways of Seeing."
11. Within art history, a pioneering contribution toward the understanding of the importance of the materiality of art objects has come from the influential work of Michael Baxandall. See in particular Baxandall, *Painting and Experience in Fifteenth-Century Italy*; see also Osborne and Tanner, *Art's Agency and Art History*. Within visual and cultural anthropology and in cultural studies, scholars such as Arjun Appadurai, Igor Kopytoff, and Daniel Miller, among others, have shown that objects, like persons, have social lives and are involved in a continuous process of social transformation that involves changes in their meaning and use. Appadurai, *The Social Life of Things*; Kopytoff, "The Cultural Biography of Things"; Miller, *Stuff*; Miller, *Material Culture and Mass Consumption*; Gell, *Art and Agency*.
12. See, among others, Poole, *Vision, Race, and Modernity*; Edwards, "Material Beings"; Pinney and Peterson, *Photography's Other Histories*; Edwards and Hart, *Photography Objects Histories*; Edwards, *Raw Histories*; Roberts, *Transporting Visions*.
13. Gitelman, *Scripts, Grooves, and Writing Machines*; Sterne, *The Audible Past*.
14. Roberts, *Transporting Visions*. On materiality as a condition for movement in time, see Yablon, "Posing for Posterity."
15. Roberts, *Transporting Visions*, 6.
16. Kirschenbaum, *Mechanisms*.
17. Huhtamo, *Illusions in Motion*; Parikka, *A Geology of Media*; Ernst, *Digital Memory*. See also Natale, "The Historian and the Antiquarian"; Parikka, *What Is Media Archaeology?*; Huhtamo and Parikka, *Media Archaeology*.
18. Huhtamo, *Illusions in Motion*.
19. For a study of the role of groups of individuals in the history of photography see Edwards, *The Camera as Historian*.
20. Pasternak, "Photographic Histories, Actualities, Potentialities."
21. Bourdieu, *Photography: A Middle-Brow Art*.
22. Keightley and Pickering, *Photography, Music and Memory*.