



In History, the Future: Determinism in the Early History of Photography in France

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Technological determinism and media specificity have profoundly shaped the history of photography (two strands of thought inherited from nineteenth century predecessors). Media archaeological approaches (while not always explicitly and perhaps, as Thomas Elsaesser has recently suggested, rather as symptom) have been taken up in the history of photography in response to long held narratives shaped by a disciplinary media determinism. This article explores discourses of futurity and historicity in early photographic writing in France, examining one thread in the early trajectory of media determinism in the history of photography. Taking up Eric Kluitenberg's concept of "imaginary media", this article argues that early photographic discourse employed both historical and future-oriented narratives in order to define photography as a discreet medium. Medium specificity (photography as a unified set of technologies with a shared history and a set of specific aesthetic characteristics) can therefore be understood as one characteristic of the media imaginary. The story of photography's medium specificity is most often (and not incorrectly) told as a narrative of photography's acceptance as a fine art form in the late nineteenth and early twentieth centuries. However, this article argues that a parallel genealogy of photography's medium specificity can be outlined based upon the construction of photography as a progressive technology with a unified technical history. Building on recent work focusing on future-oriented rhetoric and the technological imagination in nineteenth century photographic discourse, this paper will examine roots of this historiography of photography in Enlightenment thought and Utopian philosophies of technology of the early nineteenth century, asking what photography's history would look like if photographic hopes, dreams, and failures were given due consideration alongside those objects deemed by the historical canon to represent photographic "success."

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Introduction

From the public presentation of the daguerreotype in 1839, photography had a distinct history and a promising future. Signaling the cultural stakes of a historicist understanding of photographic innovation, photographer James Mudd's 1865 essay "A Photographer's Dream," presents a peculiar future.¹ Presented at a meeting of the Literary and Philosophical Society of Manchester in 1865 and later published in two instalments in *The Photographic News*, the text recounts a dream in which Mudd arrives in the far future (somewhere around the year 2780) and attends a meeting of a photographic society much like that of Manchester's own in the mid-nineteenth century. The twist is that even in the year 2780, photography remains a novel invention—Mudd learns that somehow in the intervening centuries, photography had been lost, and subsequently rediscovered. Just before he falls asleep, Mudd reflects that

it was reported that some learned Greek had done centuries ago what we have been doing—possibly better. What a drop to our vanity! So it comes to this: we are diligently rediscovering what was known a thousand years ago, and it cannot therefore be unreasonable to suppose that, at some remote period of time—after our present knowledge has been buried long enough to be forgotten—it will again be discovered, dug laboriously up by enthusiastic photographers..."²

The idea of an ancient form of photography that had somehow been lost to future generations was more than a Victorian nightmare.³ Mudd's tale exemplifies two prominent characteristics of early histories of photography: firstly, the idea that photography (as with other inventions and discoveries) had been a latent idea awaiting discovery, and second, that the future development of photography relied on a thorough understanding of the invention's unique history.

Arguments for photography's media specificity have dominated much of the twentieth-century scholarship on the history of photography. While these claims have been adequately deconstructed over the last three or four decades, the story of photography's medium specificity is still most often (and not necessarily incorrectly)

¹ James Mudd, "A Photographer's Dream," *The Photographic News*, May 5, 1865, 212-214; second instalment published in *The Photographic News*, May 12, 1865, 222-224.

² Ibid., 213.

³ Edward Eigen has explored one such alternate genealogy of photography, see Edward Eigen, "On Purple and the Genesis of Photography, or the Natural History of an Exposure," in *Ocean Flowers: Impressions from Nature*, Carol Armstrong and Catherine De Zegher, eds. (The Drawing Center New and Princeton University Press: New York and Princeton, 2004): 271-287.

told as that of its aspiration to status as a fine art and its evolution towards being accepted as such.⁴ This article argues that in the early historiography of photography there exists a parallel genealogy of photography's medium specificity—based upon the construction of photography as a progressive invention with a unified technical history.⁵ Examining the relationship between photography as “medium” and photography as “invention,” this article examines the discursive construction of photography as an independent invention—awaiting, as film theorist Noël Carroll has put it, the “transformation of [a] technical media into [an] art form.”⁶ As defined with recourse to a shared set of technological precedents and speculative futures, photography's media specificity can thus be understood as part of a “media imaginary,” constructed to outline an expansive definition of what photography was and could be.⁷

In order to outline the discursive contours of such a “media imaginary,” this article examines a variety of texts from the early history of photography in France, paying particular attention to recurring narratives about the prehistory of the medium, anecdotes about the inevitability of photographic invention, and speculations on the glorious future which was deemed to be photography's birthright. This article joins recent scholarship examining how photographic processes plural became photography in the singular. Of particular note here is Steffen Siegel's recent edited anthology, *First Exposures: Writings from the Beginnings of*

⁴ Geoffrey Batchen and Lisa Gitelman, “Afterword: Media History and History of Photography in Parallel Lines,” in *Photography and Other Media of the Nineteenth Century*, ed. Nicoletta Leonardi and Simone Natale, eds. (University Park, PA: Penn State University Press, 2018), 205. Batchen also takes up this problem in his now canonical book *Burning With Desire: The Conception of Photography*. (Cambridge and London: MIT Press, 1997.)

⁵ This model of technological determinism—the belief that technology has the power to drive historical change—has been the subject of much debate in the history of technology, see for example Merritt Roe Smith and Leo Marx's now canonical edited compilation, *Does Technology Drive History?: The Dilemma of Technological Determinism* (Cambridge and London: MIT Press, 1994.)

⁶ Noël Carroll, “Medium Specificity Arguments and the Self Consciously Invented Arts: Film, Video and Photography,” in *Theorizing the Moving Image* (Cambridge: Cambridge University Press, 1996), 3.

⁷ Eric Kluitenberg, “Second Introduction to an Archaeology of Imaginary Media,” in *Book of Imaginary Media: Excavating the Dream of the Ultimate Communication Medium*, ed. Eric Kluitenberg (Amsterdam: De Balie and Nai Publishers, 2006), 8. In his description of “imaginary media,” Kluitenberg cites Benedict Anderson's concept of “imagined communities.” See Benedict Anderson, *Imagined Communities: Reflections on the Origins and Spread of Nationalism* (London and New York: Verso, 1991.) On a media archaeological approach to film history which has been useful here see Thomas Elsaesser, *Film History as Media Archaeology: Tracking Digital Cinema* (Amsterdam: Amsterdam University Press, 2016.) Jacob Lewis has discussed the rhetorical project of photography's medium specificity in relation to the project of instantaneity, see Jacob Lewis, “Charles Nègre in Pursuit of the Photographic,” (PhD diss., Northwestern University, 2012.)

Photography, which provides a wide-ranging survey of French, English, German and American writing on photography from that inaugural year of 1839.⁸ This impressive selection of texts provides a comprehensive complement to the present national case-study, whose focus is justified in part by the tendency of early French authors to offer a paternalistic lineage of photographic invention.⁹ In narrowing the focus to texts written in France in the period of photography's early development, this article examines what the repetition and circulation of a particular group of narratives and anecdotes about photography's development and future might tell us about the history of photography's conceptual underpinnings. Outlining the importance of such narratives in histories of new media, Simone Natale has suggested that scholars might employ a "biographical" approach to the study of media, calling for an examination of "how narratives about media move beyond the medium whose history they describe, to convey meanings about change, the relationship between the present and the future, and the role of technology in societies and world."¹⁰ In this case, the overarching narrative is that of technological determinism—the belief that technology, in this case photography, had the power to determine the course of history. Rather than assess the validity of this brand of technological determinism as a model of history, this article focuses on what might have been the practical utility of technological determinism as a theory of history in the early historiography of photography in France.

Past, Present and Future Photographies

In the first few decades after the presentation of the daguerreotype in 1839, French photographic discourse repeatedly made reference to the past and future of the technology, situating photography in what would become a veritable litany of

⁸ Several of the texts I discuss here are also included in Sigel's anthology. See Steffen Siegel, ed., *First Exposures: Writings from the Beginnings of Photography* (Los Angeles: The J. Paul Getty Museum, 2017.)

⁹ Historians of photography such as André Gunthert, François Brunet and Anne McCauley have examined similar narratives in French photographic discourse across the nineteenth century, as well as American, British and German literature, enabling historians of photography to generalize more broadly about these historiographical trends. See François Brunet, *La naissance de l'idée de photographie* (Paris: Presses Universitaires de France, 2012); François Brunet, "Inventing the Literary Prehistory of Photography: From François Arago to Helmut Gernsheim," *History of Photography* 24:4(2010): 368-372; André Gunthert, *La conquête de l'instantané, Archéologie de l'imaginaire photographique en France (1841-1895)*, PhD diss., École des Hautes Études en Science Sociales, 1999; Anne McCauley, "Writing photography's history before Newhall," *History of Photography* 21:2(1997.)

¹⁰ Simone Natale, "Unveiling the Biographies of Media: On the Role of Narratives, Anecdotes, and Storytelling in the Construction of New Media's Histories," *Communication Theory* 26:4(2016): 432.

technological precursors.¹¹ Early French histories of photography, such as those prefacing manuals in photography's first few official decades, have often been categorized by historians as primarily technical accounts.¹² This categorization of photography's early history as somehow outside the social and theoretical approaches that would characterize later accounts of the medium's history serves to obscure the cultural and philosophical currents that shaped early writing on photography.¹³ While unabashedly promoting certain technical innovations, such texts present a distinct "media imaginary" through speculation on the possible pasts and futures of photographic development. Unknown inventors, chance encounters and fugitive images color the pages of these accounts in distinct and fateful ways.¹⁴

¹¹ In addition to individual manuals such as, M. Alophe, *Le passé, le présent et l'avenir de la photographie* (E. Dentu: Paris, 1861); Auguste Belloc, *Les quatre branches de la photographie, traité complet théorique et pratique des procédés de Daguerre, Talbot, Niepce de Saint-Victor et Archer, précédé des annales de la photographie et suivi d'éléments de chimie...* (Paris: Chez l'auteur, 1855); Louis-Désiré Blanquart-Evrard, *La photographie, ses origines, ses progrès, ses transformations / par Blanquart-Evrard.* (Lille: L. Danel, 1869); Disdéri, *L'art de la photographie.* (Paris: Chez l'auteur, 1862); Louis Figuier, *La photographie: texte et illustrations du troisième volume des Merveilles de la Science* [1888] (Marseille: Laffitte Reprints, 1983); Marc Antoine Gaudin, *Derniers perfectionnements apportés au daguerréotype. Troisième édition, augmentée de l'emploi de l'iode de brome sans boîte à iode; d'un procédé pour colorer les épreuves et les fixer à froid; de leur reproduction en cuivre, et de leur dorure par la galvanoplastie, etc. et suivie d'une notice* (Paris: Lerebours, 1841); Alexandre Ken, *Dissertations historiques, artistiques et scientifiques sur la photographie* (Paris: Librairie Nouvelle, 1864); Charles Nègre, *De la Gravure héliographique, son utilité, son origine, son application à l'étude de l'histoire, des arts et des sciences naturelles... par Charles Nègre...* (Nice: V.-Eugène Gauthier et compagnie, 1866); J. Thierry, *Daguerréotypie. Franches explications sur l'emploi de sa liqueur invariable, sur les moyens qu'il met en usage pour en obtenir le maximum de sensibilité... Précédées d'une histoire abrégée de la photographie* (Paris; Lyon: Lerebours et Secrétan, 1847); Gaston Tissandier, *Les Merveilles de la photographie, par Gaston Tissandier. Ouvrage illustré de... vignettes par Jahandier... et d'une planche tirée à la presse photographique.* (Paris: Hachette, 1874), a number of excellent anthologies exist, including André Rouillé, ed. *La Photographie en France: Textes & Controverses, Une Anthologie, 1816-1871.* (Paris: Macula, 1989 and Steffen Siegel, ed., *First Exposures: Writings from the Beginnings of Photography* (Los Angeles: The J. Paul Getty Museum, 2017).

¹² André Gunthert has described this tendency to categorize all histories of photography written before Beaumont Newhall's *The History of Photography*, first published in 1937, as primarily "technical." Newhall is thus understood to have inaugurated the "art history" of photography. See André Gunthert, "L'inventeur inconnu. Louis Figuier et la constitution de l'histoire de la photographie française," *Études photographiques* 16(May 2005), <http://journals.openedition.org/etudesphotographiques/713>, accessed March 26, 2018.

¹³ Notable exceptions to this trend include Brunet, *La naissance de l'idée de photographie;* Brunet, "Inventing the Literary Prehistory of Photography; Gunthert, *La conquête de l'instantané;* McCauley, "Writing photography's history before Newhall"; Jérôme Thélot, *Les inventions littéraires de la photographie* (Paris: Presses Universitaires de France, 2003.)

¹⁴ A number of recent edited volumes have sought to acknowledge these more ephemeral histories, including Kris Belden-Adams, *Photography and Failure: One Medium's Entanglement with Flops,*

These texts often take a similar form, with a short preface exclaiming upon the powers and great future photography had in store followed by a short history of the set of technologies quickly understood to constitute the prehistory of photography. The rest of the text would either be taken up with arguments for the artistic application of photography, or more commonly, an up to date summary of various photographic methods, applications and tools necessary for the trade. These texts would often see a number of editions, updated each time with new innovations in photographic technology, tending to highlight the author's own contributions. These texts held the past, present and future of photography in close proximity—outlining the trajectory of photography from a seemingly incoherent assortment of scientific discoveries and inventions to a coherent technology with discrete boundaries

The decidedly futuristic orientation of these texts was not exclusive to photography. Carolyn Marvin has explored a similar discursive formation in her study of late nineteenth century electrical communication.¹⁵ As she suggests, it is relatively impossible, and indeed not entirely useful, to try and separate the public discourse on novel inventions from the appetite and expectation for future possibility. Marvin's study focuses on the practitioners employed under the aegis of a new medium—in her case electricians. She describes the historiographical problem of electricians, writing that, “technological historians have treated electricians exclusively as technical actors, accepting mostly at face value the boosterism of their professional rhetoric.”¹⁶ As with photographic manuals, Marvin deals with texts that represent real events, and others that do not, but were treated publicly as if they did, while others are, to use Marvin's terms, “unselfconsciously extravagant media fantasies.”¹⁷ As she notes, however, “fantasies and dreams are important human products that define limits for the imagination. Fantasies help us determine what “consciousness” was in a particular age, what thoughts were possible, and what thoughts could not be entertained anymore.”¹⁸ This has been equally true of the history of photography, as photographers and commentators repeatedly underscored photography's unfurling future development as a defining factor of its present status. Outlining the philosophy of history which shaped such accounts will help to articulate the cultural stakes of narratives of photography's early development.

Underdogs, and Disappointments (London and New York: Bloomsbury, 2017) and Sabine T. Kriebel and Andrés Mario Zervigon, eds. *Photography and Doubt* (London and New York: Routledge, 2017.)

¹⁵ Carolyn Marvin, *When Old Technologies Were New: Thinking About Electrical Communication in the Late Nineteenth Century* (Oxford: Oxford University Press, 1990).

¹⁶ *Ibid.*, 7.

¹⁷ *Ibid.*

¹⁸ *Ibid.*, 7-8.

For early photographic practitioners, there was an impetus to be inventors-historians, a designation tied in part to the process of patent application.¹⁹ In applying to patent their photography-related innovations, inventors were required to include a justification of why such an innovation departed markedly from previous models. Such justifications could take the form of a short, written summary of the relevant technologies, constructed to demonstrate the innovative potential of a technical development or novel application. Geof Bowker has described the parallel rhetorical construction of patent texts and historical accounts, demonstrating the way in which both kinds of texts feature an “authorized” version of events (a historical occurrence or a scientific/technological discovery), produced by the discussion of documents written to fit strict formal codes.²⁰ This shared goal of defining the precise moment and nature of innovation is observable in many nineteenth-century accounts of photography’s genesis, constructed to highlight the moment of photography’s emergence or “first idea” and its establishment as an independent invention or media.

Writing in his 1847 manual *Daguerreotypie*, J. Thierry, summarized this historicist approach to photographic innovation, writing,

As the numerous works on photography have appeared, we have read them with eagerness, thinking in each of them that we would find a history of the science, if only an abbreviated one; our expectations are always deceived. It is however, a necessary knowledge to acquire. When one sees what prodigies are produced by a discovery, is it not of great interest to know what was the mother of the idea, the first idea. What was its progress and developments? We’ve been collecting documents for a long time, so that we might follow, in our imagination at least, the ascendant course of Photography.²¹

To track the “ascendant course of Photography” in one’s imagination, was indeed the goal of such texts. Lynn Berger has argued that editors and authors of nineteenth-century American photographic publications saw these texts as constituting a “photographic community,” fostering and promoting technological innovation.²²

¹⁹ The wide-ranging professional occupations of early photographers would also shape their understanding of the role of patent rights in early photographic innovation, with those with experience dealing with questions of priority in the scientific community recognizing the power of official documentation.

²⁰ Geof Bowker, “What’s in a Patent?,” in *Shaping Technology/Building Society: Studies in Sociotechnical Change*, ed. Wiebe J. Bijker and John Law (Cambridge: MIT Press, 1992), 54.

²¹ Translations my own in less otherwise noted. Thierry, *Daguerreotypie*, 5.

²² Lynne Berger, “Peer Production in the Age of the Collodion: The Bromide Patent and the Photographic Press, 1854-1868,” in *Photography and Other Media in the Nineteenth Century*, Nicoletta

Likewise, in France, early photography journals such as *La lumière* (1851-1867) and the *Bulletin de la Société française de la photographie* (1855-1928) sought to define a particular vision of what photography was and should be.²³ Of particular interest from a historiographical perspective are the ways in which the history and prehistory of the medium was imagined to support such a community. As Thierry outlined in 1847, the history of photography, as with all history writing, was an imaginative act.

The short history section included in these publications quickly became formulaic, with a set of precedents rapidly canonized as the pre-history of photography was summarized, if not directly copied, from previous texts. The most common source for this prehistory was, unsurprisingly, François Arago's presentation of the daguerreotype in July of 1839. Attributing the invention of the camera obscura to Jean-Baptiste Porta, Arago described the various developments Porta contributed to the device, from achromatic lenses to the creation of a portable model of the camera obscura. However, as Arago notes, "Porta's predictions were not fully realized."²⁴ Arago writes,

Is there anyone who, after viewing the remarkable clarity of contours, the truth of form and color, the exact shading offered by images created by this instrument, did not strongly regret that the images did not *preserve themselves*; did not wish for a way to fix them on the screen. In everyone's eyes, it must be said, it was a dream destined to take place amongst the extravagant constructions of a Wilkins or a Cyrano de Bergerac. The dream, however, has been realized. Let us follow the invention from its seed and carefully note its progress.²⁵

Arago's text posits photography not simply as the invention of an individual but rather as that of the century or indeed the world itself—that is, as a dream finally realized.

Leonardi and Simone Natale, eds., 91-102 (University Park, PA: Penn State University Press, 2018), 92.

²³ The SFP was, from its inception, instrumental in fostering interest in the history of photography, from the publication of their meeting minutes to the collection and preservation of an astounding collection of experimental prints. See Michel Poivert, ed. *L'utopie photographique: regard sur la collection de la société française de photographie* (Paris: Point du Jour, 2004.)

²⁴ Emphasis original. François Arago, *Rapport de M. Arago sur le daguerreotype, lu à la séance de la chambre de députés, le 3 juillet 1839, et à l'académie des sciences, séance du 19 août*, (Paris: Bachelier, 1839), 9.

²⁵ *Ibid.*, 10.

A number of early texts feature a tale of an anonymous inventor, representing the mythological emergence of photography and standing in for this collective dream of humanity.²⁶ The story goes that one day in 1826, a mysterious figure stopped by the shop of the Paris optician Chevalier and left behind a mysterious flask of liquid that he claimed would fix images on a surface along with a number of positive paper prints. Daguerre later visits Chevalier to purchase lenses for his photographic experiments, and the rest, as they say, is history.²⁷ This rhetoric of chance also colors accounts of the discovery of the effects of iodine. Marc-Antoine Gaudin reported that Niépce, having left a silver spoon on top of a metal surface that had been coated with iodine, noticed that upon its removal the perfect image of the spoon remained on the surface.²⁸ The forgotten spoon, alongside the mythic and ephemeral figure of the unknown inventor, underscores the phenomenon of collective invention.²⁹ In weaving together these various stories of photography's technical development, André Gunthert has argued that texts such as Francis Wey's 1853 "Comment le soleil est devenu peintre [How the sun became a painter]," attempt to demonstrate the mechanisms of technical development and scientific work, shifting towards a history of what could now be understood as the "medium" of photography, rather than simply the history of the daguerreotype.³⁰ Photography had to have a history, however anecdotal, in order to ensure its future development. This understanding of the role of historical knowledge in the development of technology (and thus the continuation of social production) has its roots in Enlightenment historiography.

In History, The Future

The inheritance of a technology-focused determinism as a theory of history in the nineteenth century emerged from the writings of Enlightenment philosophes such as Anne Robert Jacques Turgot and the Marquis de Condorcet. As Rosalind Williams has noted, the writings of Turgot and Condorcet have frequently been recognized as characteristic of the Enlightenment faith in unending human progress but much less

²⁶ André Gunthert has outlined the historiography of this anecdote, see André Gunthert, "L'inventeur inconnu," no page number.

²⁷ As Gunthert notes, this anecdote is recounted in Charles Chevalier, *Guide du photographe* (Paris, self-published, 1854) and recounted in Francis Wey, "Comment le soleil est devenu peintre. Histoire du daguerréotype et de la photographie," *Musée des familles*, vol. XX, juin 1853, 257-265, juillet 1853, 289-300.

²⁸ Gunthert, "L'inventeur inconnu," no page number.

²⁹ Ibid.

³⁰ Ibid.

often described as constructing a “hard technological determinism.”³¹ Writing in his “Sketch for a Historical Picture of the Progress of the Human Mind,” Condorcet argued that historical narratives “will instruct us about what means we should employ to make certain and rapid the further progress that his nature allows him still to hope for.”³² Outlining the trajectory of human progress, Condorcet suggested that it would be necessary to devote a vast effort to enforcing such a vision on the world’s population, “using every literary form from the vast erudite encyclopedia to the novel or broadsheet of the day.”³³ Presaging and indeed inspiring the science popularization movement so prominent throughout the nineteenth century, Condorcet suggested that the climate for unending human progress depended not only on scientific and technical developments themselves but also on the development of the scientific and intellectual community necessary to perpetuate and maintain future developments through generalized understanding of the path of industrial development.

The creation and maintenance of such communities was to be the focus of the philosophy of Utopian thinkers of the early nineteenth century such as Henri de Saint-Simon and Auguste Comte. For Saint-Simon and his followers (Comte among them), the notion of progress as the key structural force of their century required a reconceptualization of the linearity of history, leading from primitive origins to present progress. Antoine Picon has suggested that such an orientation initiated “a gradual displacement of utopia into history...whereas utopias had previously been described as contemporary kingdoms, they were often relocated into the future, as the final stages of human progress.”³⁴ Taking seriously Condorcet’s proposal that the history of progress already achieved was key to future development, Comte was to enshrine the history and philosophy of science as a primary tenet of its future progress. For Comte, this speculative quality of science was key, for the successful application of scientific principles depended on accurate predictions.³⁵ These speculations were to come from published accounts of successful inventions and

³¹ Rosalind Williams, “The Political and Feminist Dimensions of Technological Determinism,” in *Does Technology Drive History?: The Dilemma of Technological Determinism*, eds. Leo Marx and Merritt Roe Smith (Cambridge, MA: MIT Press, 1994), 223.

³² Condorcet, “Sketch for a Historical Picture of the Human Mind [1793],” in *Condorcet: Selected Writings*, ed. Keith Michael Baker (Indianapolis: The Library of Liberal Arts and The Bobbs-Merrill Company, 1976), 211.

³³ *Ibid.*, 228.

³⁴ Antoine Picon, “Utopian Socialism and Social Science,” in *The Cambridge History of Science, Volume 7: The Social Sciences*, Roy Porter, Theodore M. Porter and Dorothy Ross, eds. (Cambridge: Cambridge University Press, 2003), 75.

³⁵ Warren Schmaus, “A Reappraisal of Comte’s Three-State Law,” *History and Theory* 21:2 (May 1982), 254.

discoveries, and perhaps even, as Condorcet had described, in the form a “general table of known truths, from which could be discovered at a glance, the current state of each science, the stage at which it had come to a halt, the discoveries that are most necessary to its progress, and those it can hope for most quickly.”³⁶ In the philosophies of history which colored the decades of photography’s emergence in France there was therefore a cultural imperative to demonstrate both how a particular invention had come to be, how it continued to be, and what it was to become.

Exemplifying this historiographical influence, writing in his 1861, *Le passé, le présent et l’avenir de la photographie*, Alophe attempts to trace the occulted beginnings of photography, citing the by now well-known references to Tiphaigne de la Roche’s novel *Giphantie* from 1760 and noting multiple historical references to proto-photographic processes, dating back at least 300 years.³⁷ Alophe suggests that these sources allow us to locate “the first seeds, the embryo of the discovery that interests us.”³⁸ While Alophe notes France’s key role in the invention of photography, he also highlights the important role of the communication of the process in later innovation (itself a sign of French governmental benevolence.) He writes, “as soon as the invention was put into the public realm, the field was open to all imaginations, intellects and knowledges.”³⁹ Indeed, throughout the text, Alophe notes the importance of the public experimental culture of photography’s early decades. Speaking to the future of the medium, Alophe writes: “there are few discoveries in which a field so vast is open, as that which opens in advance of the photograph.”⁴⁰ He describes the encyclopedic possibility of photographic research, proposing the global reach of photographic collections, forming a “body of work that will be one of the most important works of the century and will become a universal encyclopedia of nature, arts and industry.” Alophe’s text exemplifies rhetorical attempts to cohere photography’s history as a comprehensive field or medium, noting specifically the role of the public and textual cultures of in the development of photography. Likewise, writing in his *Merveilles de la photographie*, Gaston Tissandier would write,

³⁶ Condorcet, “Fragment on the New Atlantis [1793],” in *Condorcet: Selected Writings*, ed. Keith Michael Baker (Indianapolis: The Library of Liberal Arts and The Bobbs-Merrill Company, 1976), 293.

³⁷ M. Alophe, *Le Passé, Le présent et l’avenir de la photographie, manuel pratique de photographie* (Paris: E. Dentu, 1861), 5. As Alophe notes, this reference has its origin in Edouard Fournier’s *Le vieux-neuf. Histoire ancienne des découvertes et inventions modernes* (Paris: E. Dentu, 1859).

³⁸ Ibid., 5.

³⁹ Ibid., 7.

⁴⁰ Ibid., 41.

Nothing is more instructive than the impartial history of great discoveries; it shows us how slow is the march of progress and how many milestones follow one another throughout the centuries to guide the inventor in the path of discovery. A man appears at first to sow the seed, others later cultivate it, until some genius fertilizes it and makes it germinate.⁴¹

As outlined in this passage, Tissandier was particularly dedicated to a comprehensive popular history of the sciences. Contributing both through a lively written oeuvre and through his role as editor of the pioneering popular science journal *La Nature*, Tissandier would embed this devotion to both history and futurity in much of his work. This commitment to the history of the invention/medium, demonstrated by Alophe, Tissandier and others, recalls Thierry's assertion (cited above) that to understand the progress of the technology was both an imaginative act and a demonstration of a commitment to the future of the technology. The communally imagined history of photography would ensure its ongoing progress and development.

Imagination-ordered Discovery

The relationship between speculative thinking and progress outlined by Comte is reiterated throughout numerous texts written by photographic practitioners. Writing about the Exposition universelle in 1855, Disdéri stated,

When a discovery or an invention occurs in the field of science or art, he who would have the insight and boldness to outline all the consequences and all the applications which can be made, would surely pass for a dreamer. Such would have been the one who, upon the discovery of steam, would have prophesied the work of Fulton, and the numerous useful applications found since then...However willing we are to believe in the wonderful discoveries reserved for a future century, we certainly don't go as far as to believe in impossibilities, and yet those things which one hundred years ago would have been considered impossible, scarcely arouse curiosity today....⁴²

Disdéri goes on to analogize the process of invention with that of human development—from birth, to walking, to acting. He notes that inventions first appear to great surprise, followed by a period of stagnation, leading to its “perfectionnement” in full form, that is, its application to useful ends.⁴³ Describing

⁴¹ Gaston Tissandier, *Les merveilles de la photographie* (Paris: Librairie Hachette et cie, 1874.), 3-4.

⁴² Disdéri, *Renseignements photographiques*, 28.

⁴³ *Ibid.*, 29.

the evolution of photography away from portraiture towards industrial and scientific ends, Disdéri writes:

If the following lines can be charged with exaggeration, in ten years we will be forced to confess that we remain not only within the limits of the possible but behind reality; in ten years what we put forward as hypotheses, probabilities, instead of being marked with boldness, will be marked with shyness...There may be no industries or sciences where photography does not have its application waiting for it. Our sons, if not ourselves, will see it applied to geometry, geology, metallurgy, meteorology, surveying, astronomy, physics, botany, chemistry, to mineralogy, to zoology, to mines, and we will go even further to military science!⁴⁴

This trajectory from hypothesis to assurance echoes Comte's thesis on the role of speculation in the formulation of scientific hypotheses, with informed hypothesis leading to scientific fact. These inventor-historians attempted to outline a theory of innovation, striving, as historians have ever since, to construct an adequate story of photographic origins. Recounting the early history of the camera obscura, Thierry writes,

But, in spite of all these improvements, the dark room despite Porta's predictions, is still of very limited use and is often relegated to the physicist's cabinet, from which it is only taken out as an object of curiosity. It is then that MM. Niépce and Daguerre, each alone, seized this instrument with their audacious mind, forcing light on the focal screen, and to leave there the images which it traces in a wonderful but fleeting way: this daring thought, they realize it!⁴⁵

Thierry conceptualized the invention of photographic technology as a trajectory of *unrealized* possibility and the photographic proof as possibility *realized*.

The very nature of what an invention was and how it was to be made was changing throughout the very period in which photography emerged. Writing in his *Dictionnaire des inventions et découvertes depuis le commencement du monde jusqu'à nos jours* (1843), N. Boquillon describes the role chance and luck play in the domain of invention, highlighting the role of literary narrative in the communication of invention stories in the historical record. He writes:

As we have repeated over and over, with great effect, that the fall of a leaf caused Newton to discover the laws of gravitation, we are accustomed to repeating this understanding of genius. It is said that

⁴⁴ Ibid., 30.

⁴⁵ Ibid., 9-10.

an everyday experience taught Montgolfier to launch a balloon, that the dissection of a mouse and a frog revealed to Galvani the liquid that bears his name. What can we conclude from such assertions? Who would doubt that the most common fact, that occurs every day before our very eyes is not the expression of a law of nature and that this law still to be discovered. For centuries. However, perhaps it will still continue until its discovery enriches the learned world. The leaves fell long before Newton, the electric fluid developed in contact with bodies long before Galvani, and smoke rose before Montgolfier, yet gravitation, galvanism and aerostation remained unknown. What did it take to see them? The eye of a genius.⁴⁶

Imagination and invention are understood to be almost synonymous here, as demonstrated in the definition of the verb “to imagine” in the 1798 edition of the French academy’s *Dictionnaire*: “to represent something in the mind...it also means to invent...to imagine an entertainment, a machine...”⁴⁷ Likewise the definition of the verb “to invent,” reads “to find something new by the strength of his mind or imagination.”⁴⁸ By the beginning of the nineteenth century, the process of invention was strongly allied with the creative force of the imagination and for nineteenth-century photographers and photographic practitioners, the historical imaginary of photographic origins was a key part of the process of innovation.

Conclusion

For the authors of the early histories of photography described above, photography was understood not simply as a series of images, nor as a group of machines, but as an ideal entity with a victorious past and a righteous future. The contours of this ideal entity are visible in the very structure of these texts—which move between ancient past and speculative future, evincing a belief in the power of invention to change the course of history. Gathering together moments from the history of chemistry, optics and, art, among other disciplines, these narratives form part of a “media imaginary,” which sought to define photography as a specific invention (and new media) with a linear past and future. Revisiting the early historiography of

⁴⁶ N. Boquillon. *Dictionnaire des inventions et découvertes depuis le commencement du monde jusqu'à nos jours* (Paris: Librairie de Maison, 1843), x.

⁴⁷ Académie française, *Dictionnaire de l'académie française, revu, corrigé et augmentée par l'académie elle-même, cinquième édition, tome premier A-K* (J. J. Smits et cie: Paris, 1798), 708. This shifting understanding is noted by the nineteenth-century French scientist Michel Eugène Chevreul in an interview with the photographer Félix Nadar. See Félix Nadar, *L'art de vivre cent ans*, unpublished manuscript, Department des manuscrits, Bibliothèque national de France, NAF13828, f. 148.

⁴⁸ Ibid., 744.

photography, we are thus reminded of the historiographical imperative to restore a temporal complexity to the past, holding in tension the multiple pasts, presents and futures photographers and commentators on photography deemed possible. Such an approach seeks to foreground the philosophical and cultural imperatives which provoked such narrative constructions rather than assess the veracity of any particular account.

This article has taken a media-archaeological approach to the study of early histories of photography, examining how narratives about the technology's technical development were employed to construct a particular vision of photography's future. These narratives form a parallel genealogy of photography's medium specificity, in that a group of technologies and inventions began to be defined as photography singular through an increasingly generic set of tales about the development of the technology. While these narratives functioned to define photography as a coherent medium, they were not inherently "specific" to photography itself, but rather to the broader character of invention in nineteenth-century culture.⁴⁹ Photography's "media imaginary" thus inevitably shares characteristics with other new media technologies and inventions of the nineteenth century. It is to these shared narratives to which scholarship in the history of photography is now turning.⁵⁰ Exploring the connections between media specificity and media determinism and unpacking the historiographical utility of these narratives in the early development of photography, this article has sought to approach a foundational question in the history of photography from a media archaeological angle—to what purpose did photography become a medium? Approaching photography as one of the characteristic inventions of the nineteenth century provides an alternative set of questions with which to interrogate photography's foundational myths.

⁴⁹ Brunet, "Inventing the Literary Pre-History," 369.

⁵⁰ See Leonardi and Natale, eds., *Photography & Other Media in the Nineteenth Century*.

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