

Articles

“Records of Simple Truth and Precision”: Photography, Archives, and the Illusion of Control*

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RÉSUMÉ Cette introduction à la littérature critique du début du XIXe siècle sur la photographie, vue comme une constellation de pratiques technologiquement, culturellement et socialement construites, amène l’auteure à une réflexion sur les origines paradigmatiques communes des pratiques photographiques et archivistiques. En éclairant le rôle des photographies dans la production de la connaissance sociale, elle fournit également des idées sur la fonction des photographies dans la société – dans les affaires de la vie ou dans la vie des affaires – et, par extension, répand une nouvelle lumière sur la nature des photographies en tant que documents et sur la place de celles-ci dans les archives. Finalement, elle invite à prendre en considération les parallèles entre les vocabulaires de la photographie et des archives, ainsi que les implications de la déstabilisation post-moderne de la vérité photographique sur les fondements intellectuels des archives.

ABSTRACT This introduction to early nineteenth-century critical writing on photography as a constellation of technologically, culturally, and socially constructed practices prompts reflection upon the shared paradigmatic origins of photographic practices

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and archival practices. In elucidating the role of photographs in the production of social knowledge, it also furnishes insights into the function of photographs in society – in the business of life and in the life of business – and, by extension, sheds new light on the nature of photographs as documents and the place of photographs in archives. Finally, it invites close consideration of the parallels between the vocabularies of photography and archives, and of the implications of the postmodern destabilization of photographic truth on the intellectual underpinnings of archives.

Introduction: “Daguerreotypomania”

In December of 1839, Théodore Maurisset, a French printmaker, produced a lithograph entitled *La Daguerreotypomanie* (see cover illustration). The scene has been described in delightful detail by Helmut and Alison Gernsheim:

The caricature shows a crowd of people pushing into the enterprising establishment of Susse Frères, attracted by an enormous advertisement to buy daguerreotypes for New Year’s gifts. Over the entrance large notices proclaim that “Non-inverted pictures can be taken in 13 minutes without sunshine.” While one photographer is just aiming his camera up the skirts of a tight-rope dancer on the left, another tries to take the portrait of a child whose mother and nannie do their best to keep his struggles in check. Baron Séguier, inventor of the portable apparatus for travellers, passes by, his boxes tucked under his arm. Their contents are displayed in the right foreground, where Dr. Donné (who attempted the first portrait) holds a sitter imprisoned in a posing-chair as if he were in the stocks, calmly counting the minutes while his victim endures the torture. Above this pleasant open-air studio, daguerreotypes are etched according to Donné’s system. A procession of daguerreotypomaniacs, carrying a banner with the inscription, “Down with the aquatint” passes the gallows, where a few engravers deprived of their livelihood have already hanged themselves, while other gallows are still to be let. Nearby, a group of revellers drunk with enjoyment dance to music round a mercury-box as if it were the Golden Calf. Train- and ship-loads of cameras are being exported, and daguerreotypomaniacs have good reason for holding a public meeting to worship the invention: has not competition by rival firms (to Giroux’s) already reduced the price of apparatus to 300, 250 and even 200 francs? The sun smiles benignly down on his creation. Surveying the things that had come to pass during the last few months, Maurisset adds a touch of prophecy: a photographer recording the scene from a balloon with a basket in the form of a camera – as are the railway carriages and the clock-tower surmounting the Maison Susse Frères.¹

In this caricature, Maurisset presented a remarkably prescient view of the expectations, applications, and implications of the daguerreotype.² Writings

¹ Helmut and Alison Gernsheim, *L.J.M. Daguerre: The History of the Diorama and the Daguerreotype*, 2nd rev. ed. (New York, 1968), p. 106.

² For an analysis of this caricature, see Gary W. Ewer, “Théodore Maurisset’s ‘Fantaisies’: *La*

by the proponents and practitioners of photography who followed elaborated upon Maurisset's themes: travel photography, portrait photography, erotic photography, aerial photography, the death of the engraver (artist), photography on paper, commercial competition, cumbersome equipment, the role of the Sun (Nature) as image-maker. Situated more broadly, the daguerreotype collaborated with the paddlewheel steamer, the steam locomotive, and the hot-air balloon to extend the powers of human observation across space, and allied itself with the clock to contain and control time. *La Daguerriotypomanie* depicted, in caricature, what Charles Baudelaire later decried as "an industrial madness."³ It also offers a visual commentary on the society which embraced not only the daguerreotype, but also the *fonds* system of archival classification. In this essay, I suggest that the social origins of "daguerriotypomania" are of particular interest from an archival perspective because the defining moments in both the history of modern archives and in the history of photography can be traced to the same two-year period in France, 1839–1841.

On 15 June 1839, France's Minister of the Interior, Tanneguay Duchâtel, appeared before the Chamber of Deputies to introduce a bill which proposed to grant to Louis Jacques Mandé Daguerre (1787–1851) an "annuity for life of 6,000 francs" as compensation for his part in the surrendering to the French government the details of what is arguably the first practicable photographic process. After years of collaboration and experimentation, Daguerre, a noted Paris diorama painter and theatre set designer, had discovered a way to fix the image of the *camera obscura*. A drawing aid and forerunner of the photographic camera, the *camera obscura* was essentially a light-tight box with a small opening on one wall. Light passing through the opening cast an upside-down, laterally reversed, but perspectively correct, image of an outside scene onto the opposite wall.⁴ The optical principles of the *camera obscura* had been known for centuries; similarly, the chemical principles of the darkening of silver salts were well documented. What Daguerre managed to do was combine these principles to produce a permanent image on light sensitive metal plates of silver-coated copper. The result was nothing short of miraculous.

The bill was passed in the lower house on 9 July 1839. The Chamber of Peers confirmed the Chamber of Deputies' decision three weeks later and, on

Daguerriotypomanie," *The Daguerreian Annual 1995* (Official Yearbook of The Daguerreian Society), pp. 135–45.

3 Charles Baudelaire, "The Salon of 1859," reprinted in Vicky Goldberg, ed., *Photography in Print: Writings from 1816 to the Present* (Albuquerque, 1988), pp. 124–25.

4 "*Camera obscura*" literally meant "dark room," and large, room-sized *camera obscuras* were built to provide an entertaining diversion, as well as the occasional opportunity to view an eclipse of the sun in safety.

19 August 1839, Daguerre's process was made public before a joint gathering of the Académie des Sciences and the Académie des Beaux-Arts, Paris. As one leading historian of photography has observed, "perhaps no other invention ever captured the imagination of the public to such a degree and conquered the world with such lightning rapidity as the daguerreotype."⁵ Daguerre's manual, published by order of the French government, was issued in no fewer than thirty-two editions, in eight languages, during 1839 and 1840. More experimentation followed, and, by 1841, chemical and optical improvements had resulted in increased sensitivity of daguerreotype plates, shorter exposure times, laterally corrected images, smaller cameras, and improved lenses.⁶

On 8 August 1839, Duchâtel issued a preliminary *Circulaire* which divided departmental archives into historical documents – those before 1789 – and administrative documents – those after 1789. Two years later, on 24 April 1841, Duchâtel followed up with another *Circulaire* entitled, "Instructions pour la mise en ordre et le classement des archives départementales." Nancy Bartlett traces the beginning of the modern era of archival theory and practice to this detailed framework for ordering and classifying departmental archives.⁷ However, while archivists have long embraced the archival principles of *respect des fonds* and original order as a natural and objective means of preserving a truthful and accurate record of the actions and transactions of an administrative or historical past, Lara Moore has suggested that this new classification system, in fact, presented a politically charged vision of the French state after 1790 as "stable, uniform, and homogeneous," through its definition of what constituted a *fonds*.⁸

As authors as diverse as Ursula Franklin writing on the world of technology, Jonathan Crary writing on vision and modernity in the nineteenth century, and Terry Cook writing on archival history have observed, the

5 Gernsheim, *L.J.M. Daguerre*, p. 104.

6 During the same two-year period in Britain, William Henry Fox Talbot announced his methods of "photogenic drawing" and then perfected his calotype process. In June of 1841, Talbot submitted the working details of his negative paper process to the Royal Society of Great Britain and the Académie des Sciences in Paris. At the same time, Antoine F. J. Claudet announced to these same two scientific bodies his finding that a combination of chlorine and iodine vapour greatly accelerated the daguerreotype process.

7 Nancy Bartlett, "Respect des Fonds: The Origins of the Modern Archival Principle of Provenance," in Lawrence J. McCrank, ed., *Bibliographical Foundations of French Historical Studies* (New York, 1991), pp. 107–15.

8 Lara Moore, "Putting French History in Order: Archivists and Archival Classification in the 1840s," paper presented for discussion at the Advanced Study Center Sawyer Seminar, University of Michigan, Ann Arbor, MI, 20 September 2000, p. 18. The paper was based on "Restoring Order: Archives, Libraries, and the Legacy of the Old Regime in Nineteenth-Century France" (unpubl. doctoral diss., Stanford University, 2001).

development of principles, practices, and technologies reflect the tenor of the times.⁹ Is it, then, merely a coincidence that these seminal events in the history of photography and the history of archives took place in Paris at roughly the same time? Is it simply by chance that the announcements, of both the bill to grant the inventors of the daguerreotype process a lifetime annuity and the instructions for classification in archives, were the responsibility of the same government official, Tanneguay Duchâtel, France's Minister of the Interior? These questions point to the nineteenth-century epistemological assumptions upon which both archival practices and photographic practices rested. They also point to shared paradigmatic origins which, when revealed, contribute to our understanding of photography as a way of communicating across space and time, the place of photographs in archives, and the nature of the *fonds* as the basis for archival classification.

This paper examines early critical writing on photography in an effort to expose tacit assumptions about the nature of photography, assumptions which defined its role in society, and, by extension, the place of photographs in archives. However, the broader relevance of this research within the world of archives is predicated on the fact that the adoption of the *fonds* and the advent of photography can be traced to prevailing ideas about the nature of knowing and prevailing concerns about the pace of change. It situates the key events of 1839–1841 in the empiricism of the mid-nineteenth century, a time when photographic technologies and archival classification, embraced as tools of knowing, held the promise of control over an increasingly complex world.

From Process to Praxis

In 1839, photography was a process in search of praxis. Its use was a matter of expectation and a subject of speculation. The utilitarian outlook of the nineteenth-century mind asked, "*Cui bono?*" – what is it good for? This question was a flashpoint for a spate of commentaries, lectures, and manuals of photographic manipulation on the value and uses of photography. French, British, and American practitioners, promoters, and critics of photography described the ways in which the new image-making processes had – or were expected to – become indispensable as a means of extending the powers of human observation. Enthusiastic responses ranged from sweeping generalizations to detailed predictions about its applications to art, science, and, more generally, "the business of life" – all of which were predicated on the firm belief in the reliability and authenticity of photographs as evidence. These

9 Ursula Franklin, *The Real World of Technology*, rev. ed. (Toronto, 1999); Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA, 1992); Terry Cook, "What is Past is Prologue," *Archivaria* 43 (Spring 1997), pp. 17–63.

writings shaped photography as a culturally and technologically defined practice which initially carried both artistic pretensions and scientific credentials, but which, ultimately, became a means by which people came to know the world and situate themselves in it. It is these epistemological underpinnings which are of interest to archivists for their broader relevance, by example and by analogy, to the transmission and preservation of recorded information.

In presenting “the particulars and motives” of the bill to grant Daguerre a lifetime annuity, Minister of the Interior Duchâtel called Daguerre’s process, “a discovery as useful as it was unexpected.” Alluding to its “immense utility,” he exclaimed:

It will easily be conceived what resources, what new facility it will afford to the study of science, and, as regards the fine arts, the services it is capable of rendering, are beyond calculation.¹⁰

To this Joseph Louis Gay-Lussac (1778–1850), a French chemist and physicist best known for his studies on the physical properties of gases, added that the arts of industry and the natural sciences would “doubtless make numerous applications of Mr. Daguerre’s process.”¹¹

The unprecedented ability to fix the image of the *camera obscura*, to make detailed and realistic images directly from nature, to make multiple exact copies of objects or drawings challenged the applications to which picture-making had previously been put. From the beginning, there was an expectation that Daguerre had “laid the foundation of a new order of possibilities.”¹² Likening the daguerreotype to the telescope and the microscope – other instruments which extended human powers of observation – French scientist and statesman, François Arago (1786–1853) declared, “when observers apply a new instrument to the study of nature, what they have hoped to attain is

10 [Comte Tanneguy Duchâtel], “The particulars and motives of a bill tending to grant: 1st, to Mr. Daguerre, an annuity for life of 6,000 francs; 2d, to Mr. Niépce junior, an annuity for life of 4,000 fr., in return for the cession made by them of the process to fix the objects reflected in a *camera obscura*, Presented by the Minister of the Interior,” Chamber of Deputies, France, 15 June 1839, reproduced in *An Historical and Descriptive Account of the Various Processes of the Daguerreotype and the Diorama*, by Daguerre (London, 1839). Souvenir reprint by the American Photographic Historical Society on the 150th Anniversary of Photography, 1989, p. 2.

11 [Joseph Louis] Gay-Lussac, “The Report of Mr. Gay-Lussac, in the name of a special committee charged to examine the Bill relative to the acquisition of the process invented by Mr. Daguerre to fix the images of the camera obscura,” Chamber of Peers, 30 July 1839, reproduced in *An Historical and Descriptive Account of the Various Processes of the Daguerreotype and the Diorama*, by Daguerre, p. 35.

12 Ibid., p. 34.

always trifling in comparison to the succession of discovery which the instrument itself gives rise to.”¹³ Symbolically, Daguerre’s process was announced to a joint gathering of the Académie des Sciences and the Académie des Beaux-Arts. As French photographers and critics, Mayer and Pierson later pointed out, “c’est sous ce double patronage que la photographie a fait son entrée dans le monde.”¹⁴ Ideas about the photograph that emerged from these twin discourses defined, in the nineteenth-century mind, what photographs were supposed to do and how people were supposed to react to them.

Photography, Science, and Observation

Although the origins of photography have usually been traced to the aspirations of a professional diorama painter, on the one hand, and the frustrations of an amateur artist, on the other, most of the applications first envisaged for the new medium treated photography as a tool of observation, an aid to documentation, and a form of data gathering. Even at the Great Exhibition of the Works of Industry of All Nations in London in 1851, cameras and camera-made images were displayed, not in the fine arts sections of the exhibition, but alongside other optical instruments. Photography shared with science common roots in empiricism and positivism, an optimistic faith in unending progress, and common agendas to see and, thereby, know the world.¹⁵

The roots of photography can be traced to an historic meeting in Paris at the close of 1838. In December of that year, three luminaries of nineteenth-century science paid a visit to Daguerre’s Paris studio. Having attempted unsuccessfully to sell his new invention by subscription, Daguerre had turned to the Paris scientific community for support in selling his process to the French government. Alexander von Humboldt (1769–1859), the great polymath, was part of a committee sent by the Académie des Sciences to assess

13 [François Jean Dominique] Arago, “The Report made in the name of the Committee charged to examine the Bill tending to grant: 1st, to Mr. Daguerre, an annuity for life of 6,000 francs; 2d, to Mr. Niépce junior, an annuity for life of 4,000 fr., in return for the cession made by them of the process to fix the objects reflected in a *camera obscura*, by Mr. Arago, Deputy of the Upper Pyrennees,” Chamber of Deputies, France, 6 July 1839, reproduced in *An Historical and Descriptive Account of the Various Processes of the Daguerriotype and the Diorama*, by Daguerre, p. 27.

14 Mayer et [Louis] Pierson, *La Photographie considérée comme art et comme industrie: Histoire de sa Découverte, ses Progrès, ses Applications – son Avenir* (Paris, 1862), reprint edition (New York, 1979), p. 223.

15 For an examination of the link between photography and travel as ways of seeing and knowing the world, see Joan M. Schwartz, “The Geography Lesson: Photographs and the Construction of Imaginative Geographies,” *Journal of Historical Geography* 22, no. 1 (1996), pp. 16–45.

Daguerre's new process for fixing the images of the *camera obscura*.¹⁶ The significance of this encounter, between Humboldt, a "father" of modern geography, and Daguerre, a "father" of modern photography, has largely been overlooked. Although Humboldt occupied intellectual space at the nexus of developments in the history of science and the history of photography, and played a key, behind-the-scenes role in the technological and cultural acceptance of Daguerre's process, he is known as only a minor figure at the dawn of photography.¹⁷ Yet, his influence on the origins, acceptance, and applications of photography as a technology of both image making and information transfer should not be underestimated. Furthermore, Humboldt's involvement in the scientific support for, and political approval of, the daguerreotype process can be taken as representative and revealing of the paradigmatic origins of photography within the discourse of science.

Humboldt's concerns shaped photographic practices; his wide-ranging mind and vast experiences as an explorer, naturalist, historian, writer, and scientist directly affected assumptions about the range and effect of the camera. Daguerre's invention influenced the nineteenth-century imagination; his experience and success as a diorama painter had demonstrated the persuasiveness of realistic representation and the public fascination with visual illusions. The daguerreotype offered a way of seeing across space and time. Little wonder, then, that Humboldt, the scientific traveller, critical observer, and prolific writer, sensed the significance of this new technology.

After the initial visit of Humboldt, Daguerre showed his silvery images to a host of notable scientists, including the American inventor of the telegraph Samuel F.B. Morse, and influential British scientists Sir John F.W. Herschel and James Watt, Jr., as well as Sir Roderick I. Murchison, "chief architect" of the Royal Geographical Society. Among the names associated with the invention and initial applications of photography were many other prominent

16 The other members of the committee were Humboldt's close friend, Arago, Permanent Secretary of the Académie des Sciences, Director of the Paris Observatory, and a member of the Chamber of Deputies, and Jean-Baptiste Biot (1774–1862), a French mathematician, best known for his discovery of a fundamental law of electromagnetic theory, who collaborated with Arago on calculating the measure of the arc of the meridian and the refractive properties of gases.

17 Humboldt's connections to Daguerre and to William Henry Fox Talbot are noted in passing in English-language histories of photography, and are all but ignored in histories of science. The most extensive treatment of Humboldt's involvement in photography is Hanno Beck, "Alexander von Humboldt (1769–1859): Förderer der frühen Photographie," in Bodo von Dewitz und Reinhard Matz, *Silber und Salz: Kataloghandbuch zur Jubiläumsausstellung 150 Jahre Photographie* (Köln und Heidelberg, 1989), pp. 40–59. I am grateful to Elizabeth Edwards for bringing this work to my attention, and to Geneviève Samson for the gift of the copy of *Silber und Salz* that belonged to her husband, my friend and colleague, the late Dr. Klaus B. Hendriks, to whom this article is dedicated.

figures of Victorian science, including Thomas Henry Huxley, Sir David Brewster, Michael Faraday, James Forbes, Louis Agassiz, and Charles Darwin, as well as a number of Oxford-educated civil servants, and keepers in various departments of the British Museum. This community of scientists embraced the medium of photography with curiosity and excitement; photographic evidence suggests that a great many of them, like Humboldt, were also familiar with its social and honorific functions from the experience of posing, either for fellow amateurs or for professional portrait photographers.

On the fertile ground of learned societies in London, Edinburgh, Paris, and other centres, photography was discussed as a process and shaped as a practice, both through formal papers and informal discussions. At meetings of the Royal Society, the Royal Academy, the Royal Geographical Society, the Royal Astronomical Society, the Linnaean Society, the Botanical Society, the Ethnological Society of London, and the Académie des Sciences, photographic processes and improvements attracted the attention of highly influential people, not only as a scientific discovery in optics and chemistry, but also as a method for observing, representing, and knowing the world. Many of the same leading scientists also discussed technical details and practical applications at meetings of the Photographic Exchange Club, the Photographic Society, the Amateur Photographic Association, and other photographic societies. Their experimental results and scientific advances in photography shared space with discoveries in natural history, geography, and ethnography on the pages of *Philosophical Magazine*, *The Edinburgh Philosophical Journal*, *The Literary Gazette*, and *Athenaeum*, as well as the proceedings and transactions of various societies.

Discussions about optics, chemistry, astronomy, botany, Egyptology, zoology, geology, geography, and photography were also carried on in a social context, and family ties were important in establishing domestic space as the basis of scientific pursuits. Pioneers of photography are known to have entertained the great figures of Victorian science.¹⁸ Grace Seiberling has noted that “the clubs and societies were based initially on social contacts, but in fostering research and formalizing communication they furthered the state of knowledge in their fields and created a sense of solidarity among their members.”¹⁹ In these ways, photography entered an elite circle of gentlemen

18 During the 1860s, for example, Julia Margaret Cameron’s home on the Isle of Wight was a gathering place for prominent poets, writers, artists, scientists, scholars, and explorers. Among the Victorian visitors who sat for her camera were Robert Browning, Anthony Trollope, Alfred Lord Tennyson, Holman Hunt, Gustave Doré, Thomas Carlyle, Henry Wadsworth Longfellow, Sir John Herschel, Charles Darwin, Joseph Hooker, Edward John Eyre, and Richard Burton. See Helmut Gernsheim, *Julia Margaret Cameron: Her Life and Photographic Work* (Millerton, NY, 1975), esp. pp. 15, 174, 190.

19 See Grace Seiberling, *Amateurs, Photography, and the Mid-Victorian Imagination* (Chicago, 1986), p. 9.

scientists, instrument makers, university professors, museum keepers, military officers, and government officials whose interests and connections were nurtured through contacts and correspondence, personal as well as professional.

For this community, interest in the photograph centred on the optical-chemical transformations that produced the photograph, and on the photograph as a means of extending human powers of scientific observation. Cameras were trained on objects near and far, large and small, extending the observational powers of the microscope and the telescope in a range of disciplines. Research in archaeology was carried out through the work of Maxime du Camp, Félix Teynard, and J.B. Greene on the monuments and inscriptions of Egypt, and through the work of Auguste Salzmänn on the architecture of Jerusalem. Photographs, Salzmänn asserted, “are not second-hand reports; they are brutal facts.”²⁰ Thomas Henry Huxley, John Lamprey, and Carl Dammann used photography in the comparative study of racial types.²¹ Charles Darwin included photographs in his 1872 publication on the expression of human emotions.²² Joseph James Forrester, the Baron de Forrester, used photography in his efforts to map and improve navigation on the River Duoro through the Portuguese wine-producing districts in the hinterland of Oporto.²³ Forrester, an active member of both the Photographic Society of London and the Photographic Exchange Club, had, himself, learned photography from Dr. Hugh Welch Diamond whose scientific application of photography to the study of mental disorders was presented to the Royal Society and published in the photographic journals.²⁴ Charles Piazzi Smyth, Astronomer Royal for Scotland, championed photography as a tool for astronomical, archaeological, and natural history purposes, and asked, “what monumental research of the present age can be effectively treated without its marvellous aid?”²⁵

20 Quoted in Michel F. Braive, *The Photograph: A Social History*, David Britt, trans. (London, 1966), p. 212.

21 Elizabeth Edwards, “Photographic ‘Types’: The Pursuit of Method,” in Joanna Cohan Sherer, ed., *Picturing Cultures: Historical Photographs in Anthropological Inquiry*, special issue of *Visual Anthropology* 3, no. 2–3 (1990), pp. 235–58.

22 Charles Darwin, *The Expression of Emotions in Man and Animals. With Photographic and Other Illustrations* (London, 1872).

23 Larry Schaaf, “Piazzi Smyth at Teneriffe: Part 1, The Expedition and the Resulting Book,” *History of Photography* 4, no. 4 (October 1980), pp. 289–307.

24 Grace Seiberling notes the diversity of Diamond’s photographic pursuits: “He photographed antiquarian monuments for the Society of Antiquaries, mental patients at the Surrey County Lunatic Asylum, which he headed, and still lifes of game and other objects arranged like paintings for the Photographic Exchange Club.” See Seiberling, *Amateurs, Photography, and the Mid-Victorian Imagination*, p. 21; Biographical Appendix, pp. 128–129; p. 149, notes 12, 13.

25 Larry Schaaf, “Charles Piazzi Smyth’s 1865 Conquest of the Great Pyramid,” *History of*

Photography came to be part of the way in which the luminaries of Victorian science saw and explored the world. But photography was also used, not so much to generate rigorous scientific data – as in Huxley’s use of anthropometric photographs to study and classify the human races, or Muybridge’s “electro-photographic investigation” of animal locomotion,²⁶ or Marey’s chronophotographic analysis of the structure of movement²⁷ – but rather, more generally, as an enhanced form of visual note taking, a tool of observation, and an accurate and reliable means of documentation. A marvel of optics and chemistry, a “mirror” of nature, and a “window” on the world, the photograph was absorbed into engagement with physical and human reality and into the diffusion of knowledge. It was a way of communicating empirical facts – “brutal facts” – in visual, purportedly unmediated form across space and time. Photographic witnessing became a substitute for eye witnessing.²⁸

Photographic Witnessing across Space

In an era when geographical movement was embraced as intellectual method, and observation was the paradigm of knowing,²⁹ photography made it possible to gather and disseminate all kinds of information in visual form, with unprecedented ease and accuracy; the implications were enormous. The daguerreotype – praised by John Ruskin as “the most marvellous invention of the century” – and the photograph on paper extended the authority of visual truth from the realm of actual experience to the verisimilitude of photographic realism. This changed the relationship of observer to material reality, and established ways of seeing that persisted and formed the basis of an increasingly visual culture. With the advent of photography, visual processes came to predominate epistemology.

When word of Daguerre’s discovery leaked to the press in early January 1839, a French newspaper predicted, “For a few hundred francs travellers may perhaps soon be able to procure M. Daguerre’s apparatus, and bring back views of the finest monuments and of the most delightful scenery of

Photography 3, no. 4 (October 1979), pp. 331–54; also, Larry Schaaf, “Charles Piazzi Smyth’s 1865 Photographs of the Great Pyramid,” *Image* 27 (1984), pp. 24–32.

26 Eadweard Muybridge, *Animal Locomotion: An Electro-Photographic Investigation of Consecutive Phases of Animal Movements, 1872–1885* (Philadelphia, 1887).

27 Marta Braun, *Picturing Time: The Work of Étienne-Jules Marey, 1830–1904* (Chicago, 1992).

28 Here, I put a photographic spin on the term “virtual witnessing” used by Steven Shapin and Simon Schaffer in their discussion of Robert Boyle’s seventeenth-century scientific method for producing empirically based knowledge. Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton, 1985), pp. 55–65.

29 Bernard McGrane, *Beyond Anthropology: Society and the Other* (New York, 1989), p. 116.

the whole world.”³⁰ Arago, himself, reporting to the Académie des Sciences on his visit to Daguerre, declared that “in addition to giving the brilliant results shown, the method is also economical, easy, and capable of being used by travellers anywhere.”³¹

Reciprocally and simultaneously, photography entered the nineteenth-century imagination as a way of capturing the world in precise detail, and bringing it home for careful study. References to travel, geography, topography, and landscape were central to the arguments in favour of Daguerre’s invention. As Duchâtel argued before the Chamber of Deputies on 15 June 1839:

... to the traveller, to the archaeologist and also to the naturalist, the apparatus of M. Daguerre will become an object of continual and indispensable use. It will enable them to note what they see, without having recourse to the hand of another. Every author will in future be able to compose the geographical part of his own work: by stopping awhile before the most complicated monument, or the most extensive *coup-d’oeil*, he will immediately obtain an exact *fac simile* of them.³²

With this statement, Duchâtel established photography as a legitimate tool of fieldwork, geographical description, and scientific data gathering. Most compelling was the argument made by Arago in introducing daguerreotype specimens for examination by the Chamber of Deputies; in it, he couched the usefulness of Daguerre’s process in the glories of the great *Description de l’Égypte*:

As you look with wonder on several pictures that will be handed to you for inspection, every one [sic] of you, Gentleman, [sic] will be aware of the prodigious advantages which might have been derived during the expedition to Egypt, from a method so quick and perfect to reproduce objects; every one of you will be struck with this reflection, that if photography had been known in 1798, we should now have correct images of a somewhat considerable number of emblematical pictures, of which the cupidity of the Arabs, or the fatal mania of certain travellers for destruction has for ever deprived the scientific world.

To copy the millions and millions of hieroglyphics with which even the outside of all the great monuments of Thebes, Memphis, etc., are covered, scores of years, and

30 H. Gaucheraud, *Gazette de France* (6 January 1839), quoted in Gernsheim, *L.J.M. Daguerre*, p. 85.

31 François Arago to Académie des Sciences, Paris (7 January 1839), quoted in Gernsheim, *L.J.M. Daguerre*, p. 84. The text of Arago’s address is reproduced at length, pp. 82–84.

32 [Duchâtel], “The particulars and motives of a bill,” p. 2.

whole legions of painters would be required. One individual, with a Daguerreotype, would effect the labour in a very short space of time. Provide the Institute of Egypt with two or three sets of apparatus, and in several of the large plates of the celebrated work the fruits of our immortal expedition, vast extents of real hieroglyphics will soon replace the fictitious ones; the drawings will every where [sic] surpass in copy and local colour the works of the most skilful painters; and the photographic pictures being submitted in their formation to the rules of geometry, will allow us, with the assistance of a very few further data, to attain the exact dimensions of the highest parts of edifices and of those most difficult of access.³³

This emphasis placed on the use of the daguerreotype by travellers, naturalists, and scientists was, at least in part, informed by Humboldt's experiences, interests, and expectations.³⁴ His own extensive travels, his emphasis on empirical research, his use of scientific instruments, and his voluminous publications suggest that Humboldt's vision would have been seminal to the committee's examination of Daguerre's images, to the assessment of the process and equipment that produced them, and to the political process that made them available to the world.

Photographs were not only adopted as a convenient form of visual note taking for those who travelled, they also became a surrogate for travel. "We need no longer embark upon perilous voyages," wrote Louis de Cormenin in *La Lumière* in 1852, "heliography entrusted to a few intrepid practitioners, will make the world tour on our behalf, without our ever needing to leave our armchairs."³⁵ "Guided by the photograph," *The Art-Journal* declared, "we can travel over all countries of the world, without moving a yard from our own firesides."³⁶ George Thomas Fisher, Jr. even suggested that the impression which "faithful representations of the monuments of antiquity ... give us, even those who have never crossed the sea ..., is but little inferior to that which the traveller receives who contemplates the moral of a crumbling arch or a broken column, on the very spots where once they stood the glory of the age."³⁷ Rev. W.J. Read, addressing a meeting of the Manchester Photographic Society, even claimed that "by careful study of a series ... [of photographs, one could] learn almost as much of a country in its general

33 Arago, "The Report," pp. 21–22.

34 Indeed, it is worth noting that, in Paris, Alexander von Humboldt attended the private lessons of Auguste Comte, the French founder of the philosophy of positivism.

35 Louis de Cormenin, "Egypte, Nubie, Palestine et Syrie, dessins photographiques par Maxime Du Camp," *La Lumière* 25 (12 June 1852), quoted in Jean-Claude Lemagny and André Rouillé, eds., *A History of Photography: Social and Cultural Perspectives*, Janet Lloyd, trans. (Cambridge, 1987), p. 54.

36 "America in the Stereoscope," *The Art-Journal* (1 July 1860), p. 221.

37 George Thomas Fisher, Jr., *Photogenic Manipulation*, 2nd ed. (Philadelphia, 1845), p. vi.

features and actual state, as by residence, and much more I think than by hasty travel.”³⁸

Hence, the photograph became a surrogate for travel at a time when travel was the premier avenue to knowledge of the world. This nineteenth-century emphasis on travel and the substitution of photographic witnessing for direct observation was elaborated most eloquently by Marcus Aurelius Root, who regarded “travelling, whether in foreign lands or our own, ... as one of the most efficient means of self-culture within our knowledge.” Root pointed out, “Comparatively few, however, are able to leave home and business and bear the heavy expenses thus required. But photography enables us to enjoy the pleasure and the advantages of travel without even crossing our own thresholds.”³⁹ Echoing Read, Root goes on to suggest that the photograph was not only a substitute for first-hand experience, but that, in some instances, it was even possible to achieve a “completer and truer” understanding through photographic witnessing than by direct observation.

The concept of vicarious travel through visual representation had been mooted by Humboldt in *Cosmos*, where he suggested that such large scale landscape paintings as panoramas and dioramas could serve, to some extent, as a substitute for travelling through different regions. Humboldt’s reference to panoramas and dioramas links the function of photographic witnessing across space to the effects achieved by these visual precursors (and contemporaries) of the daguerreotype. The panorama was a 360° painting which presented to the viewer the realistic illusion of three-dimensional geographical space; the diorama was a mammoth canvas which was lit in sequence from either side using filters to present the realistic illusion of the passage of time or movement. Both employed art in “pursuit of maximum illusion.” Bernard Comment has suggested that the panorama was invented in “response to a particularly strong nineteenth-century need – for absolute dominance”:

It gave individuals the happy feeling that the world was organized around and by them, yet this was a world from which they were also separated and protected, for they were seeing it from a distance. A double dream come true – one of totality and of possession; encyclopaedism on the cheap.⁴⁰

38 Rev. W.J. Read, “On the Applications of Photography,” *Photographic Notes: Journal of the Photographic Society of Scotland and of the Manchester Photographic Society* I, no. 9 (17 August 1856), p. 129.

39 Marcus Aurelius Root, *The Camera and the Pencil* (Philadelphia, 1864), reprint edition (Pawlet, VT, 1971), p. 413.

40 Bernard Comment, *The Painted Panorama*, Anne-Marie Glasheen, trans. (New York, 2000), p. 19. For an extended treatment of the panorama as “an architectural and information component of the new urban spaces and media networks” of the nineteenth century, see Stephan Oettermann, *The Panorama: History of a Mass Medium*, Deborah Lucas Schneider, trans. (New York, 1997).

If, as Comment continues, the panorama marked the transition from representation to illusion, then photography – and, in particular, the daguerreotype invented by the creator of the diorama – can be placed in the succession of subsequent modifications which were aimed at “perfecting the illusion” and “regaining control of sprawling collective space”⁴¹ in the wake of the Industrial Revolution.

Root and others championed the moral use of visual images implicit in Humboldt’s discussion of landscape painting. This emphasized that “the conception of the natural unity, and the feeling of the harmonious accord pervading the universe, cannot fail to increase in vividness among men, in proportion as the means are multiplied, by which the phenomena of nature may be more characteristically and visibly manifested.”⁴² But, as the arguments of Root and others suggest, photographs were cheaper, more truthful, more accessible, more convenient, and more egalitarian than other forms of visual imagery. Although the price of paper prints still made collecting portraits and landscape views a habit of the middle and upper classes, Root maintained that photographs offered – to “even the lowliest of the community” – opportunities for geographical education in domestic space.

By the late 1850s, the expanded use of photography on paper greatly increased the viability of the photograph as a surrogate for travel. In particular, stereoscopic views, issued in geographical series, offered the convincing impression of transporting the armchair traveller to distant destinations.⁴³ As a means of both education and entertainment, the stereoscopic view presented the ultimate in vicarious travel, producing an illusion of three-dimensional space which was claimed to “produce an appearance of reality which cheats the senses with its seeming truth.”⁴⁴

Photographic witnessing across space also had important societal implications. As domestic ties, social glue, and moral uplift, they were credited with contributing to the creation and maintenance of a sense of family, of continuity, and of community. But, as Lady Eastlake recognized, meaning was not an inherent or observable property:

41 Comment, *The Painted Panorama*, p. 8.

42 Humboldt went on to explain that “the knowledge of the works of creation, and an appreciation of their exalted grandeur, would be powerfully increased if, besides museums, and thrown open like them, to the public, a number of panoramic buildings, containing alternating pictures of landscapes of different geographical latitudes and from different zones of elevation, should be erected in our large cities.” Alexander von Humboldt, *Cosmos: A Sketch of a Physical Description of the Universe*, Vol. II, E.C. Otté, trans. (London, 1849), p. 457.

43 The 1858 catalogue of the London Stereoscopic and Photographic Company already listed over 100,000 cards in stock. Frances Dimond and Roger Taylor, *Crown and Camera: The Royal Family and Photography, 1842–1910* (Harmondsworth, 1987), p. 217.

44 Oliver Wendell Holmes, “The Stereoscope and the Stereograph,” *The Atlantic Monthly* 3 (June 1859), reprinted in Beaumont Newhall, ed., *Photography: Essays and Images. Illustrated Readings in the History of Photography* (New York, 1980), p. 56.

What indeed are nine-tenths of those facial maps called photographic portraits, but accurate landmarks and measurements for loving eyes and memories to deck with beauty and animate with expression, in perfect certainty, that the ground-plan is founded upon fact?⁴⁵

The geographical metaphor likening photographic portraits to “facial maps” and “accurate landmarks” is particularly important. The photograph, like landscape, was a factual ground plan that had to be invested with meaning through association and memory. Here, the “subjectivity” of the viewer met the perceived “objectivity” of the photograph, and yet, in the writings of Root and others, purity, goodness, and affection were presented as qualities evident in photographs themselves, and the ability to act morally upon individuals and nations was attributed to photography as a medium. These beliefs served to naturalize the content of the photograph, and veil the human choices and cultural values involved in its production and consumption. Photographs, because of their transparency and truth, were thus credited with being not only a way of seeing across space, but also a way of seeing those things – qualities, characteristics, emotions, values – that, in space, had no observable manifestation.

Photographic witnessing was not only a way of studying places from afar, it was also a way of investigating peoples at a safe distance. A decade before the publication of Darwin’s *On the Origin of Species*, Louis Agassiz, Harvard scientist and the father of American natural science, commissioned Joseph T. Zealy to take a series of daguerreotypes of Southern slaves to support his theory of polygenesis. In 1862, Mayer and Pierson claimed that even a cursory glance at the lifeless plaster casts of aboriginal peoples in the anthropology galleries of museums would suffice to demonstrate the services rendered by photography to the study of racial types.⁴⁶ The use of photography in the empirical pursuit of cultural difference was clearly articulated by Rev. Read in his lecture to the Manchester Photographic Society in 1856. In his discussion of what photography “can do for the illustration and record of facts connected with Natural Science,” Read explained:

Highest in the scale of Natural Science stands Ethnography, the Natural History of the Human race, and for the furtherance of this Science great help is offered by Photography. Hitherto only the practised and skilful draughtsman has been able to collect its materials, and record the distinguishing features of the great families into which our race is distributed and divided: but now the Lens may be used instead of an eye, and

45 [Lady Elizabeth Eastlake], “Photography,” *Quarterly Review* 101 (London, April 1857), reprinted in Newhall, *Photography: Essays and Images*, p. 94.

46 Mayer et Pierson, *La Photographie*, p. 164.

the sensitive tablet instead of a hand, so that any one of us however unskilled in the use of a pencil, might well furnish the Philosopher material to be built into the Temple of Science.⁴⁷

Apart from Read's morally loaded description of science as profane religion, this statement is interesting for the way in which it anticipates the adoption of photography to provide, in systematic, scientific, and standardized fashion, structured visual data about the body for studies of evolution and race.

Photographic Witnessing across Time

Photographic witnessing had a temporal as well as a spatial dimension. In giving immediate and direct visual access to the past, to sights/sites physically removed in time, the photograph served as an *aide-mémoire*, a device of memory, a form of time travel. As a way of fixing the look of the present, it was embraced as a medium of preservation. This had implications for shaping both individual and collective memory and identity. "Photography empowers us to preserve from the decay of time, and the fickle tenure of mortality, the true type of the features of those we love."⁴⁸ Ernest Lacan pointed out that it was thanks to the daguerreotype, that viewers could contemplate "des monuments que les convulsions terrestres ont engloutis, comme la cathédrale de San-Juan de los Lagos, par exemple, et qui n'existent plus que dans l'épreuve du voyageur."⁴⁹ This notion of studying photographs of buildings and monuments destroyed by the passage of time, or by natural or man-made disasters, embraced the photograph as a tool of conscious historical preservation and re-presentation.

In what might be considered architectural equivalents of the ethnographic salvage paradigm,⁵⁰ photography was employed to create for posterity a visual record of buildings and monuments fast-disappearing in the wake of

47 Read, "On the Applications of Photography," p. 184.

48 [Joseph Ellis], *Photography: A Popular Treatise* (Brighton and London, 1847), p. 41. I am grateful to my SAA colleague, Connell B. Gallagher, Director for Research Collections, Bailey/Howe Library, University of Vermont, Burlington, for bringing to my attention the library's holdings of early photographic literature.

49 Ernest Lacan, *Esquisses Photographiques à propos de l'Exposition Universelle et de la Guerre d'Orient* (Paris, 1856), reprint edition (New York, 1979), p. 20.

50 For a discussion of the "salvage motif" in ethnography, see George E. Marcus and Michael M.J. Fischer, *Anthropology as Cultural Critique: An Experimental Moment in the Human Sciences* (Chicago, 1986), p. 24. The nature, aims, and impact of architectural salvage photography and ethnographic salvage photography can be compared using Edward Sheriff Curtis's twenty-volume photographic project, *The North American Indian*. See Christopher M. Lyman, *The Vanishing Race and Other Illusions: Photographs of Indians by Edward S. Curtis* (Washington, 1982).

progress. Writing about the Château de Polignac, Lacan expressed faith in the photograph as a medium of preservation, and a belief in the essential relationship between physical form and visual appearance:

Ce précieux monument, comme tant d'autres, tombe pierre à pierre; bientôt il disparaîtra comme les générations qui l'ont habité mais, grâce à la photographie, il restera tel qu'il est encore, dans ce dessin tracé par la lumière. Tous ces vieux débris d'un autre âge, si précieux pour l'archéologue, pour l'historien, pour le peintre, pour le poète [sic], la photographie les réunit et les rend immortels. Le temps, les révolutions, les convulsions terrestres peuvent en détruire jusqu'à la dernière pierre; ils vivent désormais dans l'album de nos photographes.⁵¹

Time, revolutions and natural upheavals may destroy them down to the last stone, but henceforth they will live on in our photograph albums. In this way, photographic documentation was conflated with historical preservation in projects which served to reflect, constitute, and confirm sense of place, symbolic space, and collective memory. In photographs of "monastic piles" and "baronial halls," George Thomas Fisher claimed, "every stone will tell its own tale: ... the very spirit of the place, may now be impressed by the subtle fingers of light upon tablets of metal or sheets of paper, to speak to future ages as they speak to us."⁵² Fisher's expectations for photographic witnessing across time are analogous to the goal of diplomatics as "an art by which written records from any age and of any kind are made to speak again with a full distinct voice."⁵³

Cameras were pointed not only at architecture and monuments, but also at public figures and public events. Fisher declared "... by the wondrous science, we are now enabled to preserve and hand down to future generations the *truth-telling* portraits of our statesmen, our heroes, our philosophers, our poets, and our friends,"⁵⁴ and Lacan, writing about photography of public celebrations (les fêtes publiques), exclaimed:

la photographie ... enregistre tour à tour sur les tablettes magiques les événements mémorables de notre vie collective, et chaque jour elle enrichit de quelque document précieux les archives de l'histoire.⁵⁵

Indeed, Rev. Read called photography "a handmaid to the Muse of History,

51 Lacan, *Esquisses Photographiques*, p. 29.

52 Fisher, *Photogenic Manipulation*, p. vi.

53 Leonard Boyle, "Diplomatics," in James M. Powell, ed., *Medieval Studies: An Introduction* (Syracuse, 1976), p. 78.

54 Fisher, *Photogenic Manipulation*, p. vi.

55 Lacan, *Esquisses Photographiques*, p. 200.

in virtue of its power of putting upon record, the actual real state and appearance of persons and places as we know and see them.”⁵⁶ But, despite the rhetoric of unmediated representation, the photograph was, and continues to be, the material evidence of a human decision to preserve the appearance of a person, an object, a document, a building, or an event judged to have abiding value. In the ritual act of photographic commemoration was a valorization of what in the present was thought to be worth remembering – of the surviving past and the unfolding present – in the future.⁵⁷ In this way, a subjective decision was objectified, since neither “History” nor photography, but individuals with agendas, were responsible for the process of selection.

In their advertisements, photographers urged the public to “Mark the fleeting shadow, ’ere the substance fades.” For William Lake Price, photography was a way of “fixing passing events” so that:

Posterity, by the agency of Photography, will view the faithful image of our times; the future student, in turning the page of history, may at the same time look on the very skin, into the very eyes, of those, long since mouldered to dust, whose lives and deeds he traces in the text. ... [E]ach impressive public ceremonial will be registered and delineated; nay, even the very turmoil of the distant battle or siege and their varying aspects will be instantly fixed and transferred, with the actors, to the page of history.⁵⁸

The same sense of historicism through photographic links to future generations is expressed in the preamble to the conditions of a prize offered by the Duc de Luynes to the Société française de photographie:

One of the most promising applications of photography is the faithful, irrefutable reproduction of historical or artistic monuments and documents, so usually destroyed by the passage of time or by revolutions. Since the immortal discoveries of Niépce, of Daguerre and of Talbot, archaeologists have been aware of the full importance of this application of photography, which is called upon to transmit precious elements to future generations.⁵⁹

56 Read, “On the Applications of Photography,” p. 130.

57 Stephen Bann argues that “modes of visual representation, from the later eighteenth century onwards, became increasingly inflected with what might reasonably be termed the vision of the past.” Stephen Bann, “‘Views of the Past’: Reflections on the Treatment of Historical Objects and Museums of History (1750–1850),” in Gordon Fyfe and John Law, eds., *Picturing Power: Visual Depiction and Social Relations* (New York, 1988), p. 40.

58 [William] Lake Price, *A Manual of Photographic Manipulation*, 2nd ed. (London, 1868), reprint edition (New York, 1973), p. 4.

59 Victor Regnault, *La Lumière* VIII (1864), pp. 392–96, quoted in Philippe Foliot, “Louis Vignes and Henry Sauvaire, Photographers on the Expeditions of the Duc de Luynes,” *History of Photography* 14, no. 3 (July–September 1990), pp. 233–50; p. 233.

As an instrument of collective identity and memory, photography was embraced as an efficient way of copying documents considered to be historically important. In what must be considered to be a nineteenth-century technological equivalent of digitization, photography was enlisted to disseminate and promote knowledge of historical, literary, and artistic treasures by copying them, and making them more widely available. Writing at length about the applications of photography to the arts, to the sciences, and to industry, Mayer and Pierson described how photography could be employed:

... à la reproduction des manuscrits précieux, des estampes rares, des chartes historiques, des vélins enluminés, des images que nous a légués le moyen âge et qui restent perdues pour la science et l'art qui ne peuvent les déterrer dans les oubliettes de nos archives nationales....⁶⁰

In retrospect, what seems remarkably akin to current initiatives to increase access to archival holdings by making them available over the Internet, they proposed that:

... un atelier de photographie devrait fonctionner dans tous les dépôts de nos archives nationales, et, sous la surveillance sévère des conservateurs, reproduire et multiplier les trésors qu'elles conservent.⁶¹

Linking photography, archives, and memory even further, Mayer and Pierson continued:

Chaque province, chaque département, chaque ville, chaque famille, pourrait ainsi avoir des facsimile[s] irrécusables des titres qui l'intéressent, et qui, déposés aujourd'hui dans les archives générales ou de collections particulières, ne peuvent être sans danger pour leur existence ni déplacés, ni confiés au public. Aucune de nos origines historiques, de nos vieilles coutumes, de nos traditions, ne resterait ignorée lorsque cette paléographie photographique aurait complété l'œuvre commencée par les Bailly, les Alexis Monteil, les Augustin Thierry, les Letrone [sic], les Michelet, les Lacabanne, etc., et rendu si facile la tâche aujourd'hui si ardue des chercheurs érudits qui consacrent leur vie à reconstruire l'histoire encore si mal connue de notre passé.⁶²

The daguerreotype, from its invention, was known as “the mirror with a memory.” Where current concern with the nature of memory, and in particu-

60 Mayer et Pierson, *La Photographie*, pp. 166–67.

61 Ibid., p. 167.

62 Ibid., pp. 167–68.

lar, social or collective memory, has taken little account of photography (or, for that matter, archives), the relationship between memory and photography elicited comment by early critics. One writer observed:

There is a mysterious or at least interesting resemblance between the operation of photography and the faculty of memory, as connected with that of vision. The eye is the camera-obscura whereby objects are represented on the retina, whence, in a manner to us incomprehensible, the figures are communicated to the brain. There, amidst its wonderful convolutions, are the images imprinted and retained with greater or less degree of precision and intensity conformable with the condition and quality of the recipient ... lying concealed ... we suppose we have forgotten, until some circumstance involuntarily recalls the impression or reproduces the visual images of twenty, or thirty, or forty years ago. What a suggestion does this convey of the eternal permanency of our thoughts and actions!⁶³

The technology of photography and the faculty of memory made permanent thoughts and actions, suggesting parallels with the presumed function of archival records.

These ideas, expressed by nineteenth-century writers about the photograph as a tool of observation and a surrogate for travel, as a tool of preservation and a device of memory, effectively recast the photograph as an agent of spatial and temporal collapse. The annihilation of space and time was a popular theme which linked photographs to other examples of mechanical genius which gave the illusion of greater control over one's life and surroundings. In 1858 in France, Théophile Gautier declared:

Space and time have ceased to exist. The propeller creates its vibrating spiral, the paddle-wheel beats the waves, the locomotive pants and grinds in a whirlwind of speed; conversations take place between one shore of an ocean and the other; the electric fluid has taken to carrying the mail; the power of the thunderstorm sends letters coursing along a wire. The sun is a draughtsman who depicts landscapes, human types, monuments; the daguerreotype opens its brass-lidded eye of glass, and a view, a ruin, a group of people, is captured in an instant.⁶⁴

At the same time that steamships, railways – the new technologies depicted in Maurisset's caricature – and the telegraph made the world physically more accessible, photographs made it visually and conceptually more accessible. They brought into view the microscopically small and telescopically far,

63 Ellis, *Photography: A Popular Treatise*, pp. 47–48.

64 Théophile Gautier, in *L'Univers Illustré*, quoted in Braive, *The Photograph: A Social History*, p. 186.

adding cosmological scale to geographical space and temporal expanse. Photographs may not have “annihilated” space, but they radically reduced it. They made it visually possible to “be” in two (or more) places at the same time, creating the illusion of simultaneity and proximity. Photographs also may not have “annihilated” time, but they certainly altered perceptions of it. They made it visually possible to “be” in two (or more) times in the same space, creating the illusion of synchronicity and presence. The work of Thomas Richards, Edward Said, Bruno Latour, James Ryan, and others suggests that this shrinking of space and time contributed to the hegemony of Europe in the late nineteenth and early twentieth centuries and permitted the “new imperialism” to flourish. Images of empire were pervasive and were used to construct rationalizations for, and examples of, political and racial dominance over the non-white, non-Western world.⁶⁵

The Notion of Photographic Truth

If photographic witnessing was the operative mechanism by which the photograph entered seamlessly into the relationship between observer and material reality, then photographic truth was its foundational notion. To understand the role of the photograph in the nineteenth-century imagination, it is important to appreciate this ardent belief in photographic truth, to examine the ways in which it was articulated, and to consider its consequences. A great deal of late twentieth-century theorizing about photographs seeks to demonstrate that photographs are *not* truthful records of reality; however, most mid-nineteenth-century writings about photographs claimed that they were. At a time when mimesis dominated Western thinking about the visual arts, the daguerreotype and the photograph-on-paper constituted “only the plain unvarnished truth; the actual is absolutely before us, and we know it.”⁶⁶ They carried scientific credentials and exhibited optical precision: “The photograph, however, cannot deceive; in nothing can it extenuate; there is no power in this marvellous machine either to add or to take from: we know that what we see *must* be TRUE.”⁶⁷

However, the belief in photographic truth was not based solely on the

65 Thomas Richards, *The Imperial Archive: Knowledge and the Fantasy of Empire* (London, 1993); Edward W. Said, *Culture and Imperialism* (New York, 1994); Bruno Latour, “Visualization and Cognition: Thinking with Eyes and Hands,” *Knowledge and Society: Studies in the Sociology of Culture Past and Present* 6 (1986), pp. 1–40 ; James R. Ryan, *Picturing Empire: Photography and the Visualization of the British Empire* (London, 1997).

66 From a review of Francis Frith’s *Stereoscopic Views in the Holy Land, Egypt, Nubia, etc.*, published in *The Art-Journal* (1858), p. 375, quoted in Edward W. Earle, ed., *Points of View: The Stereograph in America – A Cultural History* (Rochester, 1979), p. 30.

67 “America in the Stereoscope,” *The Art-Journal* (1 July 1860), p. 221.

optical illusion of photographic realism. It was also grounded in its mechanical origins, and its capacity for exact reproducibility. Photography was seen as the work of “an unreasoning machine”⁶⁸ at a time when the goal of exact reproducibility through technology held particular fascination. Whereas Daguerre’s process produced a unique image, exact reproducibility was achieved through Talbot’s positive-negative process and the subsequent refinements by Niépce de Saint-Victor (albumen on glass, 1847), Frederick Scott Archer (wet collodion, 1851), and Gustave Le Gray (dry waxed paper, 1851) which produced multiple prints from a single negative. Thus, the photograph-on-paper was part of the debates over the legitimacy of the imitative arts, the relative value of mass-produced copies and the original work of art, which centred on electroplated, machine-stamped, and cast-iron manufactures in an age of industrialization and mechanization.⁶⁹

Photographic truth was also a matter of mathematics. The photograph was not only thought to be visually truthful; it was believed to be scientifically correct. Duchâtel noted that in the daguerreotype, “objects preserve their mathematical delineation in its most minute details, and ... the effects of linear perspective, and the diminution of shades arising from aerial perspective, are produced with a degree of nicety quite unprecedented.”⁷⁰ Arago commented that “photographic pictures ... [submit] in their formation to the rules of geometry.”⁷¹ Gay-Lussac explained that “the perspective of the landscape of every object is retraced with mathematical preciseness,” and that what was achieved was “a degree of perfection that could be attained by no other means.”⁷²

Above all, photographic truth was a consequence of causal genesis. Causal genesis refers to the “special relationship” between the photograph and Nature which was the direct result of light bouncing off some portion of three-dimensional material reality to produce a visual analogue on a light-sensitive two-dimensional surface. At a time of intense interest in the properties of light,⁷³ the photograph commanded particular attention because the photograph was believed to be “obtained by the mere action of Light upon sensitive paper ... formed or depicted by optical and chemical means alone, and without the aid of any one acquainted with the art of drawing.”⁷⁴

68 [Lady Eastlake], “Photography,” in Newhall, *Photography: Essays and Images*, p. 94.

69 A useful technological perspective is given by Julie Wosk, *Breaking Frame: Technology and the Visual Arts in the Nineteenth Century* (New Brunswick, NJ, 1992).

70 [Duchâtel], “The particulars and motives of a bill,” pp. 1–2.

71 Arago, “The Report,” p. 22.

72 Gay-Lussac, “The Report,” p. 35.

73 The first photographic journal, which began publication in February 1851 in Paris as an adjunct to the Société héliographique, was aptly entitled, *La Lumière*.

74 William Henry Fox Talbot, *The Pencil of Nature*, pp. 1–2.

Light is that silent artist
Which without the aid of man
Designs on silver bright
Daguerre's immortal plan.⁷⁵

In this verse, claimed to be the first poem “inspired by photography,” we find the foundational rhetoric of the photograph as an unmediated representation made from nature, by “Light ... without the aid of man.”

This theme was expressed in many ways – Talbot talked about the “pencil of nature.” Henry David Thoreau talked about Nature’s “amanuensis.”⁷⁶ “The sun is a rare truth-teller, which cannot lie to produce effect, nor err to lead astray,” *The Art-Journal* declared.⁷⁷ Charles Piazzi Smyth concurred, “Whatever the sun has shone on for a second, she makes her own.”⁷⁸ Whatever the terminology, the key idea projected upon photography was the same. Photography was not just a new way of seeing, it was a new way of believing. It was what Steven Shapin and Simon Schaffer have called a “technology of trust,” or what record keepers today would consider a “trustworthy information system.”⁷⁹

With this ability to make photographs directly from Nature, comparisons with more overtly mediated forms of representation were inevitable. Rev. Read claimed, “The Photographer lays before us the scene itself, the Artist his own conception of it”; he went on to explain that...

... in examining landscapes illustrative of Topography, or National Scenery, such as those of Turner and Roberts, ... [i]t is for the most part quite impossible to distinguish such spurious details from those which are true, and thus is diminished in no slight degree not only the pleasures, but the confidence, with which we examine it. A Photograph is quite without this defect at least. Though it be poor as a Work of Art, though it be indifferent as a Photograph, yet whatever detail we find in it is accurate, and the most trivial feature of the scene as there depicted, yields not at all to the most prominent in absolute truthfulness and reliable authenticity.⁸⁰

75 Helmut Gernsheim claims that this was written in 1839 “by Dr. J.P. Simon, a Frenchman residing in London.” Helmut Gernsheim, *The Origins of Photography* (London, 1982), p. 47; p. 267, note 15.

76 For a discussion of “the cultural semantics of photographic terminology,” as well as an interpretation of Thoreau’s remark, see Alan Trachtenberg, “Photography: The Emergence of a Keyword,” in Martha A. Sandweiss, ed., *Photography in Nineteenth-Century America* (Fort Worth and New York, 1991), pp. 17–47.

77 *The Art-Journal* (1858), p. 375, quoted in Earle, ed., *Points of View* (London, 1844), p. 30.

78 Quoted in Schaaf, “Piazzi Smyth at Teneriffe,” Part 2, p. 32.

79 Shapin and Schaffer, *Leviathan and the Air-Pump*, esp. pp. 55–65.

80 Read, “On the Applications of Photography,” p. 129.

Edgar Allen Poe declared the daguerreotype “*infinitely* more accurate in its representation than any painting by human hands.... The variations of shade, and the gradations of both linear and aerial perspective are those of truth itself in the supremeness of its perfection.”⁸¹ Where previously distant scenes were “known only from the imperfect relations of travellers,”⁸² photography, one reviewer declared, “has gone abroad to verify or refute hasty, dull, or prejudiced writers – to enable us to talk with certainty of what we have hitherto not seen but only read of.”⁸³ Even the writings and illustrations of the most respected names in science were called into question: “The Sun’s opinion of Egypt ... is better than Denon’s, Champollion’s, Wilkinson’s, Eöthen’s, or Titmarsh’s.”⁸⁴

Whereas travellers’ accounts and artist-made sketches were clearly humanly created and, therefore, considered suspect, camera-made images were embraced as unmediated and, therefore, unassailably truthful. In an essay entitled, “Photography as an Authority,” Rev. H.J. Morton expressed and reinforced a paradigmatic belief in the nature of evidence which could be extended from photographs to other archival documents:

What we want in a witness are capacity and opportunity for accurate observation, and entire honesty. Now the camera of the Photographer has exactly these qualifications. To exquisite acuteness of vision and instantaneous comprehension of minutest details, it adds perfect freedom from all partiality and hypocrisy. It sees everything, and it represents just what it sees. It has an eye that cannot be deceived, and a fidelity that cannot be corrupted. We have abundant ocular delusions, but the camera is never under any hallucination. Behind the most accurate human there is often a very prejudiced human mind, refracting its vision; and the most skilful hand is often moved by motives which lead it to misrepresent what it professes to delineate. But the camera’s eye of microscopic minuteness and exactness of vision has behind it a crystal plate that has no partiality, and the fingers of the sun that paint the pictures which that crystal surface bears, are vibrations from a great burning heart that throbs with no human passions. Hence the camera seeing with perfect accuracy and microscopic

81 Edgar Allan Poe, “The Daguerreotype,” *Alexander’s Weekly Messenger* (15 January 1840), p. 2, reprinted in Alan Trachtenberg, ed., *Classic Essays on Photography* (New Haven, CT, 1980), p. 38.

82 Antoine Claudet, “Photography in its Relation to the Fine Arts,” *The Photographic Journal* VI (15 June 1860), quoted in Helmut Gernsheim, *The Rise of Photography, 1850–1880: The Age of Collodion* (London, 1988), pp. 66–67.

83 “Stereoscopes; or travel made easy,” a review of Francis Frith’s series of stereoscopic views, *Views in Egypt and Nubia*, appeared in *The Athenaeum* 31 (London, 20 March 1858), p. 371, quoted in Julia Van Haften, “Francis Frith and Negretti & Zambra,” *History of Photography* 4, no.1 (January 1980), p. 35.

84 “Stereoscopes,” quoted in Van Haften, “Francis Frith and Negretti & Zambra,” p. 36.

minuteness, and representing with absolute fidelity, is a witness on whose testimony the most certain conclusions may be confidently founded.⁸⁵

This rhetoric of transparency and truth – or in archival terms, authenticity, reliability, and objectivity – that came to surround the photograph raised serious questions about the very nature of truth, in particular, in relation to art. At the surface of the problem was the degree to which a mechanical device could produce a truthful picture of reality. But, as Miles Orvell has pointed out, “the real issue was of course buried in the question itself: what was a ‘truthful’ picture of reality? Was truth to be found in literal exactitude or in artistic generalization?”⁸⁶

Art, Light, and Nature

However much photographs were embraced as a scientific and objective way of capturing the world, they were, first and foremost, pictures. Moreover, they were images formed by “Light” whose special, mystical quality had inspired Romantic art and literature in the late eighteenth and early nineteenth centuries. Light had moral and spiritual connections to the “infinite Creative Spirit”; the true photographer, Marcus Aurelius Root maintained:

like the true artist in whatever sphere, should be an intermedium, through which the light of the Divine should pass unmodified and pure, producing imprints as distinctly and delicately limned, as are the images of natural objects on the surface of a crystal pool.⁸⁷

Thus, at a time when Art served as an aesthetic conduit to Nature and the Divine, the place of photography in this discourse was not immediately clear: on the one hand, the photograph was made by Light and, therefore, had Divine origins; on the other hand, it was made by a machine and, therefore, was not Divinely inspired.

Protracted debates ensued over the nature of photography and the ability of a mechanical device to produce art. These, in turn, were part of larger issues in literary and art criticism that struggled with the role of idealism and realism, mimesis and genius, beauty and imagination, the status of the artist and the importance of originality. A powerful metaphor with artistic, religious,

85 Rev. H.J. Morton, “Photography as an Authority,” *Philadelphia Photographer* 1 (1864), pp. 180–81.

86 Miles Orvell, “Almost Nature: The Typology of Late Nineteenth-Century American Photography,” in Daniel P. Younger, ed., *Multiple Views: Logan Grant Essays on Photography, 1983–89* (Albuquerque, 1991), p. 148.

87 Root, *The Camera and the Pencil*, p. xvi.

and epistemological resonances, Light orchestrated an intimate and direct encounter between material object and “unthinking machine” (the camera). In this encounter, the role of the photographer, if acknowledged at all, was assumed to be less instrumental than that of the camera. Rather, the individual holding the camera and the human eye were successfully prevented from interfering with and, thereby, adulterating this wondrous moment of virtually unmediated transcription of Nature onto paper. Photography’s persuasiveness, therefore, resided in its ability to pull off the ultimate media trick: it made possible seemingly unmediated transcriptions of Nature.

The contested relationship of photography and art, which centred upon the role of Light and the imagination, shaped the ways in which photographs were seen, permeated nineteenth-century thinking, and influenced the relationship between observer and material reality. Photographs, as a way of representing landscape and experiencing Nature, either were acknowledged to be a factual means of pictorial delineation and rejected as art, or were championed as art and recognized as a way to imbue landscape with meaning by exploring the essence of Nature and the handiwork of the Divine. At the heart of these debates were essential concepts of Nature and Art, the relationship between them, and their joint relationship with the Ideal. These were debated at length by such prominent nineteenth-century art critics as Charles Baudelaire in France, and John Ruskin and Lady Elizabeth Eastlake in England.

French poet, translator, and literary and art critic Charles Baudelaire (1821–1867) saw photography as a “great industrial madness” that had invaded art and threatened to “ruin whatever might remain divine in the French mind.”⁸⁸ He railed against the credo that “art is, and cannot be other than, the exact reproduction of Nature,” and decried the “mad fools” who believed that “an industry that could give us a result identical to Nature would be the absolute of art”:

A revengeful God has given ear to the prayers of this multitude. Daguerre was his Messiah. And now the faithful says to himself: ‘Since Photography gives us every guarantee of exactitude that we could desire (they really believe that, the mad fools!), then Photography and Art are the same thing.’

Baudelaire’s concept of art emphasized the exercise of imagination in the creation of beauty. A painter should paint what he dreams, not what he sees, he declared. Baudelaire denigrated photography as “the refuge of every would-be painter, every painter too ill-endowed or too lazy to complete his studies.” He was convinced that “the ill-applied developments of photography, like all other purely material developments of progress, have contributed much to the impoverishment of the French artistic genius,” which, he added,

88 Baudelaire, “The Salon of 1859,” in Goldberg, *Photography in Print*, pp. 123–26.

was “already so scarce.” By “invading the territories of art,” photography, he declared, had become “art’s most mortal enemy.” This he attributed to “the stupidity of the multitude which is its natural ally.”

English artist, scientist, poet, philosopher, and pre-eminent art critic John Ruskin (1819–1900) asserted, like Baudelaire, that art required “design or evidence of active intellect in choice and arrangement” which, he asserted, was “replaceable by no mechanism.”⁸⁹ Initially Ruskin embraced the daguerreotype enthusiastically as an aid to draughtsmanship, declaring it “a most blessed invention,” “the most marvellous invention of the century,” and “one antidote ... amongst all the mechanical poison that this terrible nineteenth century has poured upon men.”⁹⁰ Ruskin employed the camera in his study of Venetian architecture “as a means to record comprehensively and accurately ..., virtually as an extension of the art of drawing ...,” but as Julie Lawson points out, he “did not regard his own drawings as ‘art’ – he made no such claims for them. They were, in their making, aids to looking and were, subsequently, aids for memory.”⁹¹ His zeal for the daguerreotype focused on its ability to capture detail with mechanical precision and impartiality. Of some daguerreotypes he acquired on his sketching trip to Italy in 1845, Ruskin wrote:

I have been lucky enough to get from a poor Frenchm[an] here, said to be in distress, some most beautiful, though small, Daguerreotypes of the palaces I have been trying to draw – and certainly Daguerreotypes taken by this vivid sunlight are glorious things. It is very nearly the same thing as carrying off the palace itself – every chip and stone and stain is there – and of course, there is no mistake about *proportions*. I am very much delighted with these and am going to have some more made of pet bits. It is a noble invention, say what they will of it, and anyone who has worked and blundered and stammered as I have for four days, then sees the thing he has been trying to do so long in vain, *done* perfectly and faultlessly in half a minute, won’t abuse it afterwards.⁹²

Photography, despite its ability to render the chiaroscuro of landscape with “absolute truth and unapproachable subtilty [sic],” did not supersede the study of landscape or the use of sketching. For Ruskin, the distinction between mechanism and design constituted the essential difference between photography and art.⁹³

89 John Ruskin, from his “Lectures on Art” (1870), in Goldberg, *Photography in Print*, p. 153.

90 Ruskin, from letters dated 1845–46, in Goldberg, *Photography in Print*, p. 152.

91 Julie Lawson, *The Stones of Venice: Ruskin’s Venice in Photographs* (Edinburgh, 1992), p. 13.

92 Ruskin, letter dated 7 October 1845, quoted in Stephen Bann, *The Clothing of Clío: A Study of the Representation of History in Nineteenth-Century Britain and France* (Cambridge, 1984), p. 132.

93 Ruskin, “Lectures on Art,” in Goldberg, *Photography in Print*, p. 153.

Yet, while both Baudelaire and Ruskin clearly rejected the photograph as artistic, they recognized it as truthful. According to Baudelaire, photography's "true duty" was to be the humble servant of the sciences and arts, "like printing or shorthand, which have neither created nor supplemented literature":

Let it hasten to enrich the tourist's album and restore to his eye the precision which his memory may lack; let it adorn the naturalist's library, and enlarge microscopic animals; let it even provide information to corroborate the astronomer's hypotheses; in short, let it be the secretary and clerk of whoever needs an absolute factual exactitude in his profession – up to that point nothing could be better. Let it rescue from oblivion those trembling ruins, those books, prints and manuscripts which time is devouring, precious things whose form is dissolving and which demand a place in the archives of our memory – it will be thanked and applauded.⁹⁴

Art, for Baudelaire, belonged in "the domain of the impalpable and the imaginary." This concern for the relative value of exactitude and imagination in photography and painting were restated succinctly and pointedly by Ruskin, who, by 1874, had become disillusioned with photography as an aid to art:

Anything more beautiful than the photographs of the Valley of Chamouni, now in your print-sellers' windows, cannot be conceived. For geographical and geological purposes, they are worth anything; for art purposes, worth – a good deal less than zero.⁹⁵

Ruskin would surely have agreed with Lady Eastlake's observation that "the success with which all accidental blurs and blotches have been overcome, and the sharp perfection of the object ... is exactly as detrimental to art as it is complimentary to science."⁹⁶

English essayist, translator, and art critic Lady Elizabeth Eastlake (1809–1893) believed that there was an important distinction between two types of visual images. "The field of delineation, having two distinct spheres, requires two distinct labourers; but though hitherto the freewoman has done the work of the bondwoman, there is no fear that the position should be in future reversed."⁹⁷ She went on to suggest that:

the whole question of success and failure resolves itself into an investigation of the capacities of the machine, and well may we be satisfied with the rich gifts it bestows,

94 Baudelaire, "The Salon of 1859," *Ibid.*, p. 125.

95 Ruskin, "The Eagle's Nest," in *Ibid.*, p. 153.

96 [Lady Eastlake], "Photography," in Newhall, *Photography: Essays and Images*, p. 92.

97 [Lady Eastlake], "Photography," in Newhall, *Photography: Essays and Images*, pp. 93–94.

without straining it into a competition with art. For everything which Art, so-called, has hitherto been the means but not the end, photography is the allotted agent – for all that requires mere manual correctness, and mere manual slavery, without any employment of artistic feeling, she is the proper and therefore the perfect medium.

In effect, photography served to “relieve the artist of a burden rather than supplant him in an office.” Its best attributes were “correctness of drawing, truth of detail, and absence of convention.” Thus, having dismissed photographs as works of Art, Lady Eastlake championed them as “records of simple truth and precision.” She declared:

[Photography] is made for the present age, in which the desire for art resides in a small minority, but the craving, or rather necessity for cheap, prompt, and correct facts in the public at large. Photography is the purveyor of such knowledge to the world. She is the sworn witness of everything presented to her view. What are her unerring records in the service of mechanics, engineering, geology, and natural history, but facts of the most sterling and stubborn kind ... facts which are neither the province of art nor of description, but of that new form of communication between man and man – neither letter, message, nor picture – which now happily fills up the space between them?

For Eastlake, the business of every photograph was “to give evidence of facts, as minutely and as impartially as, to our shame, only an unreasoning machine can give.” Clearly, photography’s weakness as a mode of artistic expression constituted its strength as a purveyor of factual information.

Facts in a New Form of Communication

If there was ongoing disagreement between art critics and art photographers over the status of the photograph as art, there was general consensus on the nature of the photograph as fact, and the uses to which the new medium could profitably be put. Even critics who ranked photographs as a “Fine Art” or argued that they were not the result of a purely mechanical operation agreed that photography excelled as a vehicle for communicating facts.⁹⁸

As “facts of the age and of the hour,”⁹⁹ photographs were ideally suited to empiricism and the nineteenth-century passion for collecting and classifying

98 For example, Marcus Aurelius Root began *The Camera and the Pencil* by stating his conviction that photography was “entitled to rank with the so-named Fine Arts.” Root, *The Camera and the Pencil*, p. 19. Ernest Lacan argued, “Nous ne prétendons pas que la photographie doive être placée au rang des arts d’inspiration, comme la peinture, la sculpture, la musique; mais nous voudrions que ses oeuvres ne fussent point considérées comme les résultats d’opérations purement mécaniques.” Lacan, *Esquisses Photographiques*, pp. 78–79.

99 [Lady Eastlake], “Photography,” in Newhall, *Photography: Essays and Images*, p. 94.

facts in pursuit of comprehensive knowledge. Prevailing ideas about collecting facts, easily transferred to the collecting of photographic facts, were an extension of the enthusiasm for collecting natural and artificial objects as a way of interrogating Nature and accumulating knowledge, which emerged in the sixteenth and seventeenth centuries in Europe, an activity based on the premise that “through the possession of objects, one physically acquired knowledge.”¹⁰⁰ Distant pasts could be known by their remnants; distant places could be known by their artifacts. The idea of collecting as a key to understanding the world was fueled by voyages of discovery and European curiosity about distant places and peoples, and was sustained by improved travel and communication. Museums and libraries were founded by family, church, and later the state as repositories of knowledge and places of scholarship for the powerful, the wealthy, and the educated. The *Wunderkammer* of the late Renaissance “attempted an articulation of universal knowledge through the possession and identification of objects.”¹⁰¹ In the seventeenth, eighteenth, and early-nineteenth centuries, learned institutions and societies established museums to house objects for the study of geology, natural history, classical antiquity, and ethnography.¹⁰² The valorization in the Enlightenment of empirical knowledge and scientific progress encouraged an empiricist approach to amassing not only artifacts, but also facts. By the mid-nineteenth century, facts occupied a central place alongside artifacts in the Victorian project of obtaining and then controlling comprehensive knowledge.¹⁰³

As visual facts, photographs took their place in this project as a means to know the world through possession of its images. Even the earliest expectations for the daguerreotype were very much grounded in these concerns for collecting and classifying information in the pursuit of knowledge. As early as the summer of 1839, the daguerreotype was envisaged as a quick, accurate, and enduring method of reproducing objects and “forming collections of sketches and drawings,” and as a tool in “the study of species and of their organization.”¹⁰⁴

This idea of acquiring knowledge about the world through the accumulation

100 Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley and Los Angeles, 1994), p. 3.

101 Kevin Walsh, *The Representation of the Past: Museums and Heritage in the Post-Modern World* (London and New York, 1992), p. 20.

102 In the 1790s, for example, Alexandre Lenoir transformed the largest of the Paris depots for plundered works of art into a Museum of French Monuments where architectural fragments of pre-revolutionary France were assembled, ordered, and displayed.

103 Thomas Richards describes the British imperial obsession with collecting in *The Imperial Archive*. The theoretical implications of accumulating information are discussed in Bruno Latour, “Visualization and Cognition.”

104 [Duchâtel], “The particulars and motives of a bill,” p. 2; Gay-Lussac, “The Report,” p. 35.

of photographic images was expressly articulated in 1859 by noted American physician, man of letters, and amateur photographer, Oliver Wendell Holmes (1809–1894) who declared that through photography and, in particular, stereoscopic photography, “*Form is henceforth divorced from matter*. In fact, matter as a visible object is of no great use any longer,” for:

Matter in large masses must always be fixed and dear; form is cheap and transportable. ... The consequence of this will soon be such an enormous collection of forms that they will have to be classified and arranged in vast libraries, as books are now. The time will come when a man who wishes to see any object, natural or artificial, will go to the Imperial, National, or City Stereographic Library and call for its skin or form, as he would for a book at any common library.¹⁰⁵

Holmes’s separation of photographic form from physical matter embodied the foundational notion, expressed by Joseph Ellis in 1847, that, “The object which, photographically pictured, meets our eyes, we have indeed *seen!*”¹⁰⁶ As an act of representation, photography was transparent, invisible; the photograph, by extension was neutral, objective, unmediated. Seeing a photograph was effectively the experiential equivalent of observing the object directly.

This desire for unmediated representation had, in fact, been expressed some eighty years before Daguerre’s announcement.¹⁰⁷ In the fictional work, *Giphantie*, published in 1760 in French and in English translation the following year, Charles François Tiphaigne de la Roche described a viscous substance which, through the action of light, could act upon the fugitive image produced by light reflected off objects onto a mirrored surface and fix them permanently. This substance, when coated on a piece of canvas, resulted in a painting produced by the sure and never-erring hand of nature. Particularly interesting is de la Roche’s conclusion that “de telles images valent les choses” – that is, such images are equivalent to the things themselves.¹⁰⁸ When in 1839, alchemy and science fiction gave way to photography and scientific explanation, this equivalence, in which the act of mediation disappears, governed thinking about the photo-chemically fixed images of the *camera obscura*.

105 Holmes, “The Stereoscope and the Stereograph,” in Newhall, *Photography: Essays and Images*, p. 60.

106 [Ellis], *Photography: A Popular Treatise*, p. 45.

107 For an extended examination of origins of photography as a history of “the desire to photograph,” see Geoffrey Batchen, *Burning with Desire: The Conception of Photography* (Cambridge, MA, 1997).

108 Charles François Tiphaigne de la Roche, *Giphantie: Première Partie* (A Babylone, M.DCC.LX [1760]), p. 136. It was subsequently published in English translation as *Giphantie: or, a view of what has passed, what is now passing, and during the present century, what will pass in the world* (London, 1761). An excerpt from the English edition is reprinted in Newhall, *Photography: Essays and Images*, pp. 13–14.

The new medium of photography offered a means of observing, describing, studying, ordering, classifying, and, thereby, knowing the world. There seems to have been little that was not susceptible to photographic delineation, and the most commonly cited subjects – among them portraits, landscapes, architecture, and public works – are indeed those which we find most frequently in collections of archival photographs. William Lake Price, the British photographer and critic, argued that photography “has already added, and will increasingly tend to contribute, to the knowledge and happiness of mankind,” and insisted that even the “most indifferent” of photographs was “not without its value in the diffusion of knowledge....”¹⁰⁹ This ability of the photograph to transmit, across space and across time, what were believed to be objective, whole, and self-evident facts in visual form allowed the photograph to act as a new form of communication. In this role, photography constituted a powerful new technology of information transfer which offered a more realistic, more objective, and more truthful path to knowledge through unmediated representation.

The concept of “virtual witnessing” – which I have here recast as “photographic witnessing” – has strong archival resonances. Shapin and Schaffer explain that, in writing up his scientific research, Robert Boyle sought to be “a reliable purveyor of experimental testimony” so that the readers of his reports “could take on trust that these things happened.” Boyle’s literary descriptions, dense with detail, were intended to produce in the reader’s mind a sense of having been present at the proceedings. Intended to “mimic the immediacy and simultaneity of experience afforded by pictorial representations,” Boyle’s accounts served as “undistorted mirrors of complex experimental outcomes.” His literary and visual mimetic devices, Shapin and Schaffer conclude, “allayed distrust and facilitated virtual witnessing.”¹¹⁰

The process of “picturing” of course – whether in words or images – was, inevitably, a subjective one, and stress placed on the realism of the photographic image and objectivity of the photographic process effectively masked the human decision making embedded in the elements of meaning making – authorial intention, subject matter, physical format, purpose, transmission, and target audience – and veiled the communicative capacities of the photograph to reflect and inform. The facts offered by photographs were believed to be accurate, complete, and capable of producing reliable knowledge of the world. Photographs were also assumed to capture the feelings of association, the spirit of place, and the character of people, echoing prevailing enthusiasm for phrenology and other manifestations of the belief in the legibility of appearances. Repeated reference to photography as an instrument of morality and

109 Price, *A Manual of Photographic Manipulation*, pp. 1–2.

110 Shapin and Schaffer, *Leviathan and the Air-Pump*, pp. 55–65.

self-improvement flowed from assumptions that its ability to function in these ways derived from qualities that were intrinsic rather than assigned. In the refusal to acknowledge the selectivity, subjectivity, and situatedness of photograph production, circulation, and consumption, there was an illusion of transparency and neutrality, and collusion in naturalizing the choice of what was deemed to be correct, ideal, or historically valuable.

Shared Vocabularies of Modernity

The developments in archival classification and photographic technology in the years 1839–1841 can be situated in the tradition of Enlightenment Encyclopaedists seeking to bring order and comprehensive knowledge to an understanding of the world. Emerging from late eighteenth-century and early nineteenth-century zeal for inventory and taxonomy, and paralleling the natural sciences' obsession with collecting and classifying specimens, archives and photography shared a vocabulary of modernity. Their operations hinged on the meaning, applications, and implications of key words: evidence, permanence, natural order. Photographic records, like archival records, were assumed to be accurate, reliable, authentic, objective, neutral, unmediated. They also trafficked in permanence. Photography “fixed” a moment in time, “fixed” the image of the *camera obscura*, “fixed” the chemical development of the exposed plate or paper. Archives also “fixed” a moment in time, fixed the actions and transactions of state and church, corporate and private interests, “fixed” recorded information in its administrative, legal, and fiscal context. As well, photographs and archives shared metaphors of mirror and memory.¹¹¹ At a time when a “mirror image” signified a realistic, unmediated representation,¹¹² the daguerreotype was dubbed “the mirror with a memory,” and the photographic image became a metaphor for memory. However, the growing literature on the nature and locus of memory has undermined single, stable notions of the past, and mirrors have also been associated with magic, illusion, and sleight of hand. Archives and photography, promised possession and control of knowledge through possession and control of recorded information.

Key to the achievement of control was classification. Beginning in the late eighteenth century and continuing well into the nineteenth, classification was embraced as tool for ordering and, thereby, knowing nature. This is evident in the work of Cuvelier in zoology, Linnaeus in botany, Berzelius in chemistry, and Lyell in geology, but “specimens” were also collected, labelled, and

111 The National Archives of Canada, for example, has been variously described as a “mirror of Canada past” and the “memory of the nation.”

112 Sabine Melchoir-Bonnet, *The Mirror: A History* (London, 2001).

classified in the pursuit of historical understanding as much as in the exploration of the natural sciences. Lenoir's museum of architectural fragments and the architectural photography of the *Mission Héliographique* were conceived as vehicles for preserving and shaping collective memory and national identity in post-revolutionary France.¹¹³ The Obelisk of Luxor in Place de la Concorde in Paris, Cleopatra's Needle on the banks of the Thames, and the Elgin Marbles in the British Museum were part of a prevailing preservation mentality. So was the widespread collection, especially by European imperial powers, of cultural artifacts to fill the new museums of human history which were gaining popularity at the same time that national archives were beginning to flourish in the metropolitan capitals. To this intellectual toolkit for ordering the world in space and time, the *fonds* was added as yet another instrument of classification.

In his *Circulaire* of 24 April 1841, Duchâtel warned that "...classification must not be subordinated [as had previously been prescribed] ... to divisions based on political periods," and urged that "one must above all seek to arrange them in an order drawn not from the times but from the very nature of the documents and the actual sequences of affairs." Just as archives were thus considered "a natural product of the agency which created them,"¹¹⁴ photography was promoted, not as a tool for copying Nature, but rather as a chemical and physical process by which Nature reproduced herself or a process which, through the agency of light, objects painted themselves with "inimitable fidelity." The photographic plate was thus analogically marked with, and objectively captured, material traces of the world's concrete and "real" existence. This carries certain parallels with a Jenkinsonian view of archives in which records are natural byproducts and organic emanations, capable of speaking for themselves. Thus, the "natural" relationship between archives and administration, as well as the "natural" relationship between present and past which is preserved through archives, like the "natural" relationship between photographic image and photographic subject, was presumed to be organic and unmediated. Classification by *fonds* was the instrument by which this natural and organic relationship between document and event could be preserved.

In an age of taxonomies, inventories, and physiologies, catalogues, registers,

113 Joan M. Schwartz, "The *Mission Héliographique*: Architectural Monuments, Archival Photographs, and National Identity in Mid-Nineteenth-Century France," commentary presented at the Sawyer Seminar of the Advanced Study Center at the University of Michigan, Ann Arbor, MI, 7 March 2001. For an extended treatment of the *Mission Héliographique*, see M. Christine Boyer, "La *Mission Héliographique*: Architectural Photography, Collective Memory, and the Patrimony of France, 1851," in Joan M. Schwartz and James R. Ryan eds., *Picturing Place: Photography and the Geographical Imagination* (forthcoming).

114 Michel Duchein, "Theoretical Principles and Practical Problems of *Respect des fonds* in Archival Science," *Archivaria* 16 (Summer 1983), p. 65.

and indexes, “photography was understood to be the agent par excellence for listing, knowing, and possessing, as it were, the things of the world.”¹¹⁵ If “listing, knowing, and possessing” were the intellectual means by which one came to know the world and situate oneself in space, then archival classification was a mode of “listing, knowing, and possessing” by which the French government expected to grasp its past and position the nation in time. Both photography and classification carried the promise of control over one’s world – control at a time when industrialization, urbanization, and mechanization quickened the pace of life, control at a time when it seemed that the world was spinning out of control. As Janet Buerger has observed, “The nineteenth-century man, facing the increasing knowledge of his time and, more particularly, an overwhelming sense of the elusiveness of truth was fully aware that he was entrapped in a complex world of partial realities.”¹¹⁶ In this world, photography and archival classification seemed to offer objective means of discovering “truth that transcends time” and controlling knowledge through the accumulation and ordering of “partial realities.” They were also employed by the great colonial powers to impose intellectual order and gain administrative control of their increasingly complex empires.

Paradigm Lost: The Postmodern Destabilization of Truth

From their first appearance, photographs were assumed to be truthful representations, reliable facts, authentic evidence of some external reality. These assumptions, which came to surround the photograph, were precisely what the diplomatists and such archival pioneers as the Dutch trio and Jenkinson assumed about all archival documents. Thus, in reading the rhetoric that underpinned photographic practices in the mid-nineteenth century, important parallels can be drawn between the impartiality of photographs and archives as evidence of reality, between the invisibility of photographers and archivists as mediators in the representation of that reality, and between early photographic history and classic archival mythology. It is, therefore, not just the photographic imagination, but the archival imagination at stake here. If, as it is now increasingly recognized, archival principles are not fixed but “reflect the spirit of their times,”¹¹⁷ then little wonder that Jenkinson’s emphasis on truth derived from the same fact-based empiricism which had, since the mid-nineteenth century, heartily embraced the photograph as a truthful, neutral, unmediated record.

115 Abigail Solomon-Godeau, *Photography at the Dock: Essays on Photographic History, Institutions, and Practices* (Minneapolis, 1991), p. 155.

116 Janet E. Buerger, “The Genius of Photography,” in John Wood, ed., *The Daguerreotype: A Sesquicentennial Celebration* (Iowa City, 1989), p. 53.

117 Cook, “What is Past is Prologue,” p. 26.

In the 160 years since Duchâtel issued his *Circulaire* of 24 April 1841, the burgeoning volume of modern paper records, the advent of electronic records, and the increasing complexity and diversity of forms of communication, organizational structures, and records creation have resulted in an archival world “spinning out of control,” wondering how to cope with the challenges of quantity, instability, and immateriality. In order to confront the problems of the postcustodial era and the information age, some archivists have returned, with renewed fervour, to the vocabularies of truth, natural order, and control. But, the archival world cannot ignore the lessons of postmodern thinking about photographs – about the relationship between facts and meaning, between reality and representation – any more than it can deny similar relationships and parallel lessons in all other archival media. These lessons compel us to recognize that neither archival records nor archival practices are theory-free or value-free. Whereas the advent of electronic imaging in the world of photography has drawn attention to issues of selection and distortion, the appearance of electronic records in the realm of archives has sparked a search for ways to return to the key concepts underpinning modernity.

In the face of neo-Jenkinsonian initiatives, postmodern critics within the archival profession, notably *Archivaria* authors Brien Brothman, Richard Brown, Terry Cook, Bernadine Dodge, Verne Harris, Eric Ketelaar, Lilly Koltun, Preben Mortensen, Tom Nesmith, and Theresa Rowat have confronted fact-based, truth-oriented notions of objectivity and neutrality, and challenged positivist assumptions which, now naturalized, form the foundation of accepted archival theory and practice. To an even greater extent, historians Pierre Nora, Jacques LeGoff, Michael Kammen, David Lowenthal, Patrick Hutton, Patrick Geary, John Gillis, and John Bodnar, among others, have problematised positivist, nineteenth-century views of knowable reality, although their writings on history and memory, commemoration and the past have tended to perpetuate the invisibility of archives. In philosophy and cultural studies, external critics following in the footsteps of Michel Foucault and Jacques Derrida have discovered “the archive” as a problematic site of contested power. While the treatment of archives in current scholarly inquiry into collective memory and public commemoration has tended to be more metaphorical than institutional, this literature nevertheless offers rich opportunities for destabilizing prevailing assumptions about the nature and role of archives.¹¹⁸

118 As Terry Cook has urged, “archivists need to explore the field of ‘memory scholarship’ [– as well as the history of their own profession, institutions, and media –] more carefully, for it puts into context many unquestioned assumptions underpinning archival theory and conceptualization, even if the authors ... rarely explicitly address archives.” Cook, “What is Past is Prologue,” p. 50, note 3. For other references to this postmodern literature, see Richard J. Cox, “The Concept of Public Memory and Its Impact on Archival Public Programming,” *Archivaria* 36 (Autumn 1993), pp. 122–35 ; Joan M. Schwartz, “‘We make our

Recent challenges to the interpretation and application of the principle of *respect des fonds* suggest that the principle is not, in fact, a “natural law” which all documents obey. In particular, the work of Canadian and Australian theorists has identified weaknesses or inconsistencies in the *fonds* concept.¹¹⁹ In addition, American scholar Lara Moore has argued that “post-revolutionary archival and library policies are inseparable from post-revolutionary French politics.” She claims that “as the political dilemmas confronting the French state changed, so too did the configuration of archives and libraries,” and that, “each regime tried to ‘restore order’ in its own way.” As Moore goes on to point out, where earlier regimes “saw libraries and archives as crucial to their political legitimacy,” it was only around 1840 that “the government suddenly began to focus its efforts on classification.”¹²⁰ Thus, the French archival classification system of 1841 had ideological origins, origins which have since been naturalized, but now need to be examined and unpacked.

This reading of responses to the first appearance and early applications of photographic technologies suggests a theoretical significance beyond the history of photography *per se*. More specifically, what emerges from this overview of early ideas about the nature and role of photography are interesting parallels with nineteenth- and early twentieth-century pronouncements on the essential nature and role of archives. As Sir Hilary Jenkinson repeatedly claimed, “The good Archivist is perhaps the most selfless devotee of Truth the modern world produces.” His notion that archives furnished evidence that was untainted, unmediated, impartial, innocent, and authentic, echoed the conviction of a host of nineteenth-century photographers and art critics who assigned to photographs a comparable role in both “the archives of our memory” and in “the business of life.” But, as Terry Cook has pointed out, particularly in terms of the volume of modern records and the complexity of electronic records, “Jenkinson’s views on appraisal are no longer valid for modern records or for modern society’s expectations of what archives should do, nor is his perspective on the stable nature of administrations or the fixed order of record arrangement useful for modern descriptive problems.”¹²¹

tools and our tools made us’: Lessons from Photographs for the Practice, Politics, and Poetics of Diplomats,” *Archivaria* 40 (Fall 1995), p. 73, note 122; see also Barbara L. Craig, “An Overview of Selected Themes in Writing on Memory and Some Suggestions of their Pertinence to Archives,” *American Archivist*, 65, no. 2 (forthcoming).

119 The two most prominent Canadian critiques of the *fonds* concept are Terry Cook, “The Concept of the Archival Fonds in the Post-Custodial Era: Theory, Problems, and Solutions,” *Archivaria* 35 (Spring 1993), pp. 24–37; and Bob Krawczyk, “Cross Reference Heaven: The Abandonment of the Fonds as the Primary Level of Arrangement for Ontario Government Records,” *Archivaria* 48 (Fall 1999), pp. 131–53.

120 Moore, “Putting French History in Order,” p. 1.

121 Cook, “What is Past is Prologue,” p. 25.

Neither are assumptions about photographs, rooted in the same positivist paradigm, now lost.

There is another reason why the discursive origins of photography are important to a re-evaluation of current archival thinking and practice. Just as the vocabularies of photography and archives were rooted in the shared epistemological assumptions of nineteenth-century empiricism, so some proponents of photography and archives have adopted common strategies of professional validation. In her account of commercial photography in Second Empire France, Anne McCauley points out that nineteenth-century manuals and histories of photography were “normally written by members of the profession who had a vested interest in glorifying their calling by likening it to scientific research.”¹²² The parallel with writing by some members of the archival profession is palpable. Efforts to confer upon archives the imprimatur of science are particularly revealing given the postmodern unmasking of science as a privileged mode of inquiry. Acknowledging the rhetorical appeal or special cachet of calling archival practice “scientific” rather than simply “systematic,” Preben Mortensen has suggested that, “if science is thought of necessity to be independent of historical and other contexts, an archival science is not possible.”¹²³ Or, as Candace Loewen pointed out a decade ago, neither archivists nor scientists belong to a “value-free” profession. Citing the work of feminist historian of science, Ruth Hubbard, Loewen questions basic assumptions about the authority and objectivity of archival appraisal and scientific methodology:

Having recognized some of the roots of the prevailing western world-view, we now understand more clearly how ‘we view and interpret the world through cultural categories and frameworks of belief. ... Scientists are not disembodied minds uncontaminated by ideology and unaffected by wider social interests,’ nor are archivists.¹²⁴

Recent postmodern writing on archival theory has further undermined the credibility of archival “science” – perhaps nowhere more forcefully than by Terry Cook in a new journal entitled, ironically enough, *Archival Science*.¹²⁵

Ultimately, photographs and archives are the product of social practices

122 Elizabeth Anne McCauley, *Industrial Madness: Commercial Photography in Paris, 1848–1871* (New Haven, 1994), p. 13.

123 Preben Mortensen, “The Place of Theory in Archival Practice,” *Archivaria* 47 (Spring 1999), p. 18.

124 Candace Loewen, “From Human Neglect to Planetary Survival: New Approaches to the Appraisal of Environmental Records,” *Archivaria* 33 (Winter 1991–92), pp. 97–98.

125 Terry Cook, “Archival Science and Postmodernism: New Formulations for Old Concepts,” *Archival Science* 1, no. 1 (2000).

which, through the containment and ordering of facts, offer the promise of knowledge and control. The way archives appraise, acquire, arrange, describe, and make accessible photographic records depends upon our understanding of the role of photographs in the business of life and, indeed, in the life of business – personal business, group business, corporate business, government business. It demands that archivists understand how and what and when photographs communicate information across space and time. This exploration of early critical writing reveals that, throughout the nineteenth century, photographs were valued as “records of simple truth and precision” and accepted as reliable and authentic evidence of some external reality. In adopting a postmodern perspective on photography as a technology of information transfer, it presents an historically grounded and theoretically informed argument which calls for serious reconsideration of lingering traces of the positivist, empiricist, totalizing paradigm which buttressed mid-nineteenth century European views of the nature of photographic technology and photographic practice, and equally of archival “science” and archival practice. It suggests that the photographic imagination and the archival imagination are inextricably linked, and can be traced to the same social origins and intellectual climate, the same desire for comprehensive knowledge and unmediated representation, which gave rise to the “daguerreotypomania” depicted by Maurisset.

This essay thus provides a perspective from which to reflect upon photographic history and archival history, and to muse on their common paradigmatic origins in fact-based empiricism of the mid-nineteenth century. It proposes that the destabilization of the notion of photographic truth by postmodernist perspectives carries unsettling implications for the continued unproblematical application of the concept of the *fonds* and for attendant efforts to maintain the notion that archives are unmediated, objective, and organic. Finally, it suggests that, by parallel and by analogy, the impact of photography – as medium, document, and evidence – in the nineteenth century reflects, mirrors, and probably deeply influenced early archival theorists’ views of the properties of all documents as archives.