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# Photography and Communication Media in the Nineteenth Century

Simone Natale

The increase of interest in media history within the academic world has not yet resulted in a more intensive examination of the relationship between photography and communications media. This article seeks to begin to address this lacuna by examining photography's insertion into the so-called revolution of communication in middle-nineteenth-century America. The first section of the present study links photography to the introduction of telegraphy, the development of the railway and the expansion of the postal system. The second section examines aspects of the reception of photography in nineteenth-century America and argues related to improvements in communication and transportation technologies. The conclusion calls for a broader consideration of the links between the history of photography and the history of media.

**Keywords:** photography and media, media history, history of technology, telegraphy, travel photography, railroad, postal service, photography and space, Oliver Wendell Holmes (1809–1894), stereoscopic photography

In *Media and the American Mind*, a seminal work published in 1982, Daniel J. Czitrom argued that the era of modern communication in the United States of America was inaugurated by the introduction of the telegraph in 1844.<sup>1</sup> In an attempt to explore 'how media of communications have altered the American environment over the past century and a half', he focused on the advent of telegraphic technology, on the rise of the motion picture at the turn of the twentieth century and on the development of American radio from wireless through broadcasting.<sup>2</sup> For a book whose

time frame is from 1844 to 1940, it is curious that almost no reference was made to photography. As a commentator put it in a recent forum dedicated to *Media and the American Mind*, 'Czitrom's map still works' for today's media historians.<sup>3</sup> As a reading of recent scholarship confirms, photography remains a marginal subject for scholars in this field, secondary to telegraphy, wireless, sound recording, film and television and other visual media.<sup>4</sup>

If the revolution of communication technologies has been so influential in the cultural and social development of the United States since the nineteenth century, is it possible that photography was untouched by such a dramatic change? This article argues that the revolution in communications in the United States influenced how photography was conceived and used and proposes that photography participated in the annihilation of space initiated by the new media of communication and transportation. First, I argue that photography is related in several ways to telegraphy, railroads and postal services some of the new technologies that revolutionized communication in the mid-nineteenth century. Acknowledging these connections may provide a fresh perspective on the early history of photographic technologies. Secondly, the emergence of photography was informed, as was telegraphy, by a dream of going beyond previous boundaries of space and distance. Photography was conceived as a medium that put images in movement, allowing pictures taken from reality to be carried, marketed and transported. Its ease of circulation was one of the factors that facilitated its commercial and cultural success and is a key to interpreting Oliver Wendell Holmes's famous comparison between a photograph and a banknote.<sup>5</sup>

#### The Telegraph of Art: Photography and Media in the Nineteenth Century

In 1853, the celebrated trance-writer and prophet of the American spiritualist movement Andrew Jackson Davis compared spirit communication to a kind of telegraphic channelling. In explaining how such spiritual telegraphy could work between a mother and her son, he mentioned another 'new' technology that had spread in the United States during the previous decade: photography. In Davis's words, 'the actual condition of the son is daguerreotyped upon the mother's brain – telegraphed, so to speak, or impressed, as perfectly as any object can be painted on the physical organ of sight'.<sup>6</sup>

As scholars such as Jeffrey Sconce and John Durham Peters have shown, nineteenthcentury spiritualism and psychical research were extraordinarily receptive to the innovations of modern technology.<sup>7</sup> Although the context of appearance of this citation may seem unusual, Davis's prophetic intuition encourages us to look into the connections between the history of photography and modern communication media. In this section, I will point to relations between photography and three technological shifts that revolutionized human communications in nineteenth-century America: the introduction of the telegraph; the development of a national railroad system; the transformation of postal exchange from an apparatus that was used by a limited number of individuals to a network employed by masses of ordinary Americans.

Despite a striking coincidence of dates – the first public demonstration of telegraphy was in 1838, just one year before Daguerre's invention; the first telegraphic line was officially opened in 1844 – correlations between the cultural reception of photography and the telegraph are largely disregarded. A partial exception can be found in essays by Geoffrey Batchen and William Uricchio. While Batchen reported some circumstances common to the history of photography and telegraphy,<sup>8</sup> Uricchio argued that photographic technologies contributed, like communication media, to stimulating a new experience of time, space and event, based on the sharing of 'spatial and temporal dimensions that exceed those normally available to human subjects'.<sup>9</sup>

As Susan S. Williams noted, from the 1840s the daguerreotype was often mentioned in the same breath as the telegraph as the supreme examples of the American progress.<sup>10</sup> Popular publications which gave accounts of the major inventions of the nineteenth century often positioned photography and telegraphy together as protagonists of technological revolution of the nineteenth century.<sup>11</sup> In 1856, for instance, the *Harper's New Monthly Magazine* listed among 'the most notable gifts of the United States to the world' the electric telegraph, the art of photography and the discovery of the properties of sulphuric ether when inhaled.<sup>12</sup>

Electricity, on whose power the telegraph was based and which was often presented during the nineteenth century as an omnipotent, quasi-magical force,<sup>13</sup> was also related to the functioning of photographic technologies. In an early history of the electric telegraph, published in New York in 1852, the author reasoned that electricity was also to be found 'in the sun's rays, and on the surface of Daguerreotype plates, delineating the human features'.<sup>14</sup> According to Batchen, the attempt to transform electricity into visual form symbolically unified the emergence of photography and telegraphy in the mid-nineteenth century. In July 1838, the Englishman Edward Davy granted a patent for a telegraphic system, in which a current being received was passed through a moving paper tape soaked in potassium iodide, leaving a coloured mark: 'electricity was thereby turned into a legible image, a kind of image produced very much like a photograph (automatically, as a chemical reaction to received energy)'.<sup>15</sup>

Hopes and fears that emerged in connection with the new technologies of telegraphy and photography often overlapped. The innovative nature of photography was sometimes underlined by mentioning its relations to communication and transportation technologies: for instance, the

*Philadelphia Photographer* in 1866 labelled photography 'the railway and telegraph of art', observing that it too was also able to 'carry us to points afar'.<sup>16</sup> Common associations between the daguerreotype and telegraphy also concerned the risks connected with abuses of these technologies. Thus, in an article that expressed concern for the production of duplicates of works of art, the London magazine *The Athenaeum* observed that the daguerreotype was 'almost equally active in the forgery of property [as] the telegraph in the forgery of news'. In this age of fakery and forgery, the art collector required a constant watchfulness and accurate knowledge, 'as it requires a large intelligence to interpret the wayward and fantastic communications of the electric telegraph'.<sup>17</sup>

Another point of contact in the early development of telegraphy and photography is to be found in the acquaintance with photographic technologies of Samuel F. B. Morse, the main contributor to the introduction of the telegraph in the United States. Morse, who may have fantasized about inventing a photographic system as early as 1821,<sup>18</sup> met Daguerre in Paris in 1839. At this meeting, Daguerre and Morse agreed to demonstrate to each other the wonders of their respective inventions. Morse was also the author of the first recorded reaction to Daguerre's invention by an American, publishing a letter in the New York *Observer* for 20 April 1839.<sup>19</sup>

The influence of the railroad on nineteenth-century photography and visual culture has been discussed by several authors, most famously the German cultural historian Wolfgang Schivelbusch, who argued that railway journeys stimulated the emergence of a new kind of visual perception: the spectacle of the landscape in movement allowed passengers of trains to experience a form of 'panoramic travel'.<sup>20</sup> But the relationship between the railroad and photography was not limited to the representation of landscape and movement. The first two decades after Daguerre's invention were characterized by improvements in both photographic and transportation technologies. In several cases, the railroad and the daguerreotype came to be strategically allied. Reportedly, for instance, the opening of the railroad in Belgian town of Courtrai was to be greeted through a curious application of the daguerreotype:

The camera obscura is to be placed on an eminence commanding the royal pavilion,-the locomotive engine, the train of wagons, and the major part of the *cortège*, and is to be brought into action exactly at the time of the delivery of the inauguration speech. A discharge of cannon is to be the signal for a general immobility, which is to last the seven minutes necessary for obtaining a good representation of all the personages present. The plate is afterwards to be enclosed in lead and deposited under the first stone of the foundation of the station at Courtrai.<sup>21</sup>

Both railway and photography 'were new technologies that lent themselves to the projects of media governance and nation-building'.<sup>22</sup> In nineteenth-century America, photography and the railway became symbolic protagonists of the conquest of the Western frontier. As Anne M. Lyden has pointed out, 'nowhere else on earth did railroads and photography advance so completely side by side, mutually reinforcing each other'.<sup>23</sup> The first of the four surveys of continental lands planned in the late 1860s by the American Department of War, led by geologist Clarence King and including professional photographers of the calibre of Timothy H. O'Sullivan and Carleton Watkins, was conceived as part of a programme of economic expansion alongside the transcontinental railroad system.<sup>24</sup> Not only the federal government, but also railroad companies contributed to the connection between photography and the train, commissioning photographers to document the natural attractions and the towns springing up along the new routes. In this context, photographic images were seen as an opportunity to attract financial support and to tempt passengers to travel to the destinations now accessible by train.<sup>25</sup> Furthermore, the railroad was among the favourite subjects of nineteenth-century American landscape photographers. In an essay about the artistic representation of the railway, Leo Marx has argued that the representation of the railroad expressed 'a heightened sense of change itself – its accelerating pace and its potentially all-encompassing scope'.<sup>26</sup> In this sense, no other means of representation could represent the railway better than the new mechanical imaging of photography.

The emergence of photography has also something to share with the increase in postal exchange that followed the introduction of cheap postage in nineteenth-century America. Although mail delivery was much older than the telegraph, it was only in the middle of the nineteenth century that ordinary Americans began participating in a regular network of long-distance communication. Through substantial reductions in the cost of postage, the American Congress stimulated during this period 'a communications revolution that was as profound in its consequences for American public life as the subsequent revolutions that have come to be associated with the telegraph, the telephone, and the computer'.<sup>27</sup> Between 1840 and 1860, the number of letters carried annually by the US post office increased from about 27 million to about 161 million, leading to the emergence of a new perception of access to postal services, which started to be described as one of the fundamental conditions of modern life.<sup>28</sup>

Historians have largely ignored the connections between photography and postal services. However, as David M. Henkin noted, 'the roughly contemporaneous emergence of daguerreotype portraiture and cheap postage is striking, especially given the affinity between these two forms of representation'.<sup>29</sup> After the 1845 reform of American postal services, the cost of adding a daguerreotype to a letter was reduced to nothing, and photographic portraits could travel free throughout the United States. Dead letter inventories of the time demonstrate that daguerreotypes and later photographs on paper had become a staple item of postal exchange as early as at the end of the 1840s.

Sent by post, the daguerreotype or the calotype was, like the autograph letter, a mode of representing absent persons. The symbolic relevance of sending one's portrait to relatives and friends has probably been underestimated in the historical examination of photography's early cultural reception. Photography made everyone's image easily transportable, allowing masses of Americans to enjoy an imaginary contact with distant others. The circulation of photographic portraits by post was further increased by events such as the Civil War and the California gold rush, which took hundreds of thousands of Americans away from their homes for long periods of time. Postal communication was their primary link with their disconnected families. Photography also played a role in strengthening such contacts. I fact, as David Henkin has suggested, in cases such as that of a Iowan J. H. Williams receiving the photography of a son could be such a powerful form of symbolic contact that it came to be considered 'as good as a short visit'.<sup>30</sup>

## Communicating the Image: Photography and the Annihilation of Space

In 1861 Oliver Wendell Holmes published a second essay on photography in the *Atlantic Monthly*. After discussing photography's innovative character, Holmes invited his readers to 'a brief stereographic trip, – describing, not from places, but from the photographic pictures of them which we have in our own collection'.<sup>31</sup> From the Niagara Falls to Broadway, from Temple Bar to the abbey of Westminster, from Paris to Italy, from the Dead Sea to the pyramids, the reader was carried in an imaginary journey around the world, realised by means of stereoscopic photography. Recalling another common narrative of his time, that pointing to the annihilation of space realized by transportation technologies, such as the railroad and the steamboat, and by the new electrical communication media, such as the telegraph, Holmes framed photography in a world where traditional boundaries of distance were becoming increasingly out-to-date.

Despite the fascination of his imaginary journey with the stereoscope, however, the most frequently mentioned of Holmes's essays on photography is not that describing the 'photographic trip' but rather his first one, published in the *Atlantic Monthly* in 1859, where he famously termed photography 'the mirror with memory'.<sup>32</sup> This metaphor is usually invoked as evidence of photography's capacity to deceive time, memorizing on the plate's surface a vision that would

appear only momentarily on a mirror. Few have noted, however, that in his 1859 essay Holmes also referred to photography's power to defeat space.

A few pages after his reference to the 'mirror with memory', Holmes depicted stereoscopic photography as 'a universal currency of these banknotes, or promises to pay in solid substance, which the sun has engraved for the great Bank of Nature'.<sup>33</sup> A photograph, according to Holmes, stands in relation to its referent in the same way as banknotes stand to the monetary value inscribed on them. Interpretations of this argument have been various. Alan Trachtenberg considered this to refer to the uncertain status of money, and hence of representation, in antebellum America.<sup>34</sup> Nancy M. West, on the other hand, claimed that Holmes intended to hint at the status of capitalism production.<sup>35</sup> In this section, I suggest a different interpretation: what banknotes and photographs had in common was their capacity to transform matter into a paper notes that were easily exchanged and moved.

The primary aim of money is to circulate within the market, to become a universal form of exchange that can be readily carried and transferred. <sup>36</sup> Like banknotes, photographs allowed viewers to make images circulate. In this sense, photography has in common with the new communication media the fact that it went beyond existing barriers of distance. 'By making a sheet of paper reflect images like a mirror and hold them as a picture', <sup>37</sup> photography transformed reality into an easy-to-handle commodity that could be carried, marketed and sent to distant locations. The relationship between photography and the circulation of commodities is recalled, for instance, in an article that appeared in the magazine *Household Words* in 1854. The author of this piece enthusiastically mentioned the possible applications of photography to aid travelling salesmen in promoting their wares: instead of travelling to an open market to buy goods, a travelling salesman could now bring a picture of those goods to one's own home.<sup>38</sup>

Stereoscopic photography, to which Holmes's essay was dedicated, was one of the first forms of photography to be produced and commercialised as an industrial commodity. The stereoscope, originally an optical device designed to illustrate a theory on vision, was transformed into a popular amusement in the 1850s, when it was applied to photography to give a three-dimensional effect. With a production that allowed the stereographic industry to publish, from the mid-nineteenth century to the 1930s, between three to six million different images,<sup>39</sup> stereoscopic photographs can be considered the first mass visual medium.<sup>40</sup> The stereoscope became the dominant visual mode in which images of distant places and journeys were recollected or imagined. The circulation of images reproducing the most famous sights of the world, converted

into spectacle by the photographer, could now be purchased and viewed by Americans and Europeans in the comfort of their houses.<sup>41</sup>

The exchange of daguerreotypes and other photographic images in the rising postal system of nineteenth-century America, discussed at the end of the previous section, also supports this interpretation of Holmes's comparison between photography and banknotes. David M. Henkin observed that photographs and money were among the most popular items of postal exchange in the mid-nineteenth century.<sup>42</sup> Money and photographs were the most common objects to be mentioned in dead letter inventories, too.<sup>43</sup> This is easily explainable by recalling the fact that both items could be conveniently attached to a letter, allowing a form of payment or economical support at distance in one case, a visual connection between distant persons in the other.

Another context in which photography's capacity to circulate is evident is photographic jewellery. Lockets and other objects that incorporated photographs were extremely common during the nineteenth century. In this context, photography was transformed through the inclusion to part of the wearer's body. As Geoffrey Batchen noted in an essay dedicated to vernacular photography, 'this is photography literally put in motion, sharing the folds, volumes, and movements of the wearer'.<sup>44</sup> Another interesting example of the inclusion of photography in a commercial commodity of wide circulation is provided by cigarette cards, which were used as a marketing item by numerous tobacco companies. The Ogden tobacco company, for instance, introduced in the late nineteenth century a brand of cigarette cards featuring 8,000 picture cards which collectively offered a 'panorama of the world at large'.<sup>45</sup>

Photography's challenge to the boundaries of space and distance in the nineteenth century is also testified by its immediate application to travel. Travel and tourism were part of the arguments in favour not only of the railway but also of photography.<sup>46</sup> As early as 1839, the French magazine *L'Artiste* reasoned that 'draughtsmen, painters and above all travellers – and we know of more than one who has delayed his voyage to distant countries – await impatiently the demonstration of the Daguerreotype'.<sup>47</sup> The dream of travelling to the most distant and exotic destinations in the world by means of photographs or stereoscopic cards was evoked by many commentators of the time. An article in *The Photographic Journal*, for instance, suggested that photography 'brings to us in *the cheapest and most portable form*, not only the picture, but the model, in a tangible shape, of all that exist in the various countries of the globe [...]. By our fireside we have the advantage of examining them, without being exposed to the fatigue, privation, and risks of the daring and enterprising artists who, for our gratification and instruction, have traversed lands and seas'.<sup>48</sup>

The practical and symbolic relevance of circulation, exchange and travelling in the acceptance and practical use of photography, suggests that photography contributed in the nineteenth century not only to a shift in the techniques of representations, but in a certain extent also to the development of modern communication media. By rendering the image easily transportable or, in other words, by transforming the real into banknotes, photography demanded its room in that annihilation of previous boundaries of space that is usually connected to the development of telegraphy, railroads and modern postal services in nineteenth-century America. Among the first to articulate this was the writer Henry James. In 'The Aspern Papers,' for instance, James has his narrator link photography to media such as the telegraph and the press, noting that 'when Americans went abroad in 1820 there was something romantic, even heroic in it, as compared with the perpetual ferrying of the present hour, the hour at which photography and other conveniences have annihilated surprise'.<sup>49</sup> The era of modern communication, identified by authors such as Daniel Czitrom with the emergence of telegraphy in 1844, was also the era of photography. To paraphrase Holmes's words, the new photographic medium was not only a mirror with memory, but also, and perhaps especially, a mirror with wings.

## Conclusion

Media history has had in recent years a progressive increase in influence, publications and sphere of activity. Fields of interest to media historians include technologies as different as telegraphy, telephony, radio, television, film, sound recording and the typewriter. As I have suggested in the introduction, however, photography has been until now mostly disregarded. The reason is probably that photography is still considered a matter for art history, rather than for a history of media. These two disciplines, however, can interact much more than they have done up to now. By arguing for the inclusion of photography in the revolution of communications that the rise of electrical media stimulated in the nineteenth century, this article is built upon the assumption that a history of media that includes fully and programmatically photography into its field of interest can make a substantial contribution to discussion about the history of this technology. The evidence and reflections collected here call for further examinations of photography's insertion into nineteenth-century media culture, as well as for a consideration of its links with media such as wireless, television, or digital media, which, unlike film, are rarely addressed in connection to photography.<sup>50</sup>

1– Daniel J. Czitrom, *Media and the American Mind: From Morse to Mcluhan*, Chapel Hill: University of North Carolina Press 1982.

2 – Ibid., xi.

3 – Sue Curry Jansen, 'History Matters', Critical Studies in Media Communication, 24:5 (2007), 463-65.

4 – See, for instance, Janet M. Cramer, *Media/History/Society: Cultural and Intellectual Traditions of U.S. Media*, Malden, MA: Wiley-Blackwell 2009; Lisa Gitelman, *Always Already New: Media, History and the Data of Culture*, Cambridge, Mass.: MIT Press 2006.

5 – Oliver Wendell Holmes, 'The Stereoscope and Stereograph', *The Atlantic Monthly*, 3:20 (1859), 738–49.

6 – Andrew Jackson Davis, *The Present Age and Inner Life*, Hartford: Charles Partridge 1853, 194.

7 – Jeffrey Sconce, *Haunted Media: Electronic Presence from Telegraphy to Television*, Durham: Duke University Press 2000; John Durham Peters, *Speaking into the Air: A History of the Idea of Communication*, Chicago, Ill.: University of Chicago Press 1999.

8 – Geoffrey Batchen, 'Electricity Made Visible', in *New Media, Old Media: A History and Theory Reader*, edited by Wendy Hui Kyong Chun and Thomas Keenan, New York: Routledge 2006, 13-25.

 9 – William Uricchio, 'Ways of Seeing: The New Vision of Early Nonfiction Film', in Uncharted Territory: Essays on Early Nonfiction Film, edited by Daan Hertogs and Nico De Klerk, Amsterdam: Stichting Nederlands Filmmuseum 1997, 119-31.

10 Susan S. Williams, 'The Inconstant Daguerreotype: The Narrative of Early Photography', Narrative, 4:2 (1996), 161-74.

11 – See, for instance, George Iles, *Flame, Electricity and the Camera: Man's Progress from the First Kindling of Fire to the Wireless Telegraph and the Photography of Color*, New York: Doubleday & McClure 1900.

12 'Editor's Table', Harper's New Monthly Magazine, 13:75 (1856), 408-12. According to the author of this article, Daguerre had never succeeded in copying landscapes or taking likenesses, and the first successful daguerreotype portraits had been made at New York University in 1840.

13 Iwan Rhys Morus, *Frankenstein's Children: Electricity, Exhibition, and Experiment in Early-Nineteenth-Century London*, Princeton: Princeton University Press 1998.

14 Alexander Jones, *Historical Sketch of the Electric Telegraph*, New York: George P. Putnam 1852, v.

15 Batchen, 'Electricity Made Visible'.

16 Quoted in Anne M. Lyden, *Railroad Vision: Photography, Travel, and Perception*, Los Angeles: The J. Paul Getty Museum 2003, 4.

17 'Our Weekly Gossip', The Athenaeum:1376 (1854), 311-12.

18 Batchen, 'Electricity Made Visible'.

19 Alan Trachtenberg, *Reading American Photographs: Images as History, Mathew Brady to Walker Evans*, New York, N.Y.: Hill and Wang 1989, 15.

20 Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Time and Space in the 19th Century*, Berkeley, Calif.: University of California Press 1986.

21 'The Daguerreotype', *Journal of the Franklyn Institute of the State of Pennsylvania*, 25 (April 1840), 285.

22 Jeremy Foster, 'Capturing and Losing the 'Lie of the Land': Railway Photography and Colonial Nationalism in Early Twentieth Century South Africa', in *Picturing Place: Photography and the Geographical Imagination*, edited by Joan M. Schwartz and James R. Ryan, London: I.B. Tauris 2003, 140-61.

23 Lyden, Railroad Vision: Photography, Travel, and Perception, xii.

24 Trachtenberg, Reading American Photographs, 123-24.

25 Lyden, Railroad Vision: Photography, Travel, and Perception, 4.

26 Leo Marx, 'The Railroad-in-the-Landscape: An Iconological Reading of a Theme in American Art', in *The Railroad in American Art: Representations of Technological Change*, edited by Susan Danly and Leo Marx, Cambridge, Mass.: MIT Press 1988, 185-96.

27 Richard R. John, *Spreading the News: The American Postal System from Franklin to Morse*, Cambridge, Mass.: Harvard University Press 1995, vii.

28 David M. Henkin, *The Postal Age: The Emergence of Modern Communications in Nineteenth-Century America*, Chicago, Ill.: University Of Chicago Press 2006, 2.

29 Ibid., 59.

30 Ibid., 57.

31 Oliver Wendell Holmes, 'Sun-Painting and Sun-Sculpture', The Atlantic Monthly, 8:45 (1861), 13-30.

32 Oliver Wendell Holmes, 'The Stereoscope and Stereograph', The Atlantic Monthly, 3:20 (1859), 738-49.

33 Ibid., 747.

34 Trachtenberg, Reading American Photographs, 19.

35 Nancy Martha West, 'Fantasy, Photography, and the Marketplace: Oliver Wendell Holmes and the Stereoscope', Nineteenth-Century Contexts, 19:3 (1996), 231 - 58.

36 On the relationship between money and artistic representation, see Marc Shell, Art & Money,

Chicago, Ill.: University of Chicago Press 1995.

37 Holmes, 'The Stereoscope and Stereograph'.

38 George Dodd, 'Busy With the Photograph', Household Words 9:214 (April 29, 1854)

39 Judith Babbitts, 'Stereographs and the Construction of a Visual Culture in the United States', in *Memory Bytes: History, Technology, and Digital Culture*, edited by Lauren Rabinovitz and Abraham Geil, Durham: Duke University Press 2004, 126-49.

40 This turn toward industrialization and commerce was acknowledged by several testimonies of that time. Oliver Wendell Holmes himself dedicated the third and last of his articles on the subject of photography, titled 'Doings the Sunbeam', to this subject. Noting that 'few of those who seek a photographer's establishment to have their portraits taken know at all into what a vast branch of commerce this business of sun-picturing has grown', Holmes related his visit to a New York firm, the E. & H. T. Anthony Company, that was producing stereoscopic prints with manufacturing methods. His description of the organisation of production and subdivision of labour, so that 'a young person who mounts photographs on cards all day long confessed to having never, or almost never, seen a negative developed' is still regarded as one of the most compelling documents on the industrialization of photography in the nineteenth century. Oliver Wendell Holmes, 'Doings of the Sunbeam', The Atlantic Monthly, 12:69 (1863), 1-16.

41 Ellen Strain, 'Exotic Bodies, Distant Landscapes: Touristic Viewing and Popularized

Anthropology in the Nineteenth Century ', Wide Angle, 18:2 (1996), 70-100.

42 Henkin, *The Postal Age: The Emergence of Modern Communications in Nineteenth-Century America*, 9.

43 Ibid., 52-60.

44 Geoffrey Batchen, *Each Wild Idea: Writing, Photography, History*, Cambridge: Mit Press 2001, 66.

45 Strain, 'Exotic Bodies, Distant Landscapes: Touristic Viewing and Popularized Anthropology in the Nineteenth Century '.

46 See, among others, Joan M. Schwartz and James R. Ryan, *Picturing Place : Photography and the Geographical Imagination*, London ; New York: I.B. Tauris 2003., and Steven Hoelscher, 'The Photographic Construction of Tourist Space in Victorian America', Geographical Review, 88:4 (1998), 548-70.

47 Quoted in Joan M. Schwartz, 'The Geography Lesson: Photographs and the Construction of Imaginative Geographies', Journal of Historical Geography, 22:1 (1996), 16-45.

48 Antoine Claudet, 'Photography in Its Relation to the Fine Arts', 6 (1860), 259-67. Emphasis mine.

49 Quoted from Graham Smith, 'Light That Dances in the Mind': Photographs and Memory in the Writings of E.M. Forster and His Contemporaries, Bern: Peter Lang 2007, 123.

50 See, for instance: Damian Sutton, *Photography, Cinema, Memory: The Crystal Image of Time*, Minneapolis: University of Minnesota Press 2009; David Campany, *Photography and Cinema*, London: Reaktion 2008; *Stillmoving: Between Cinema and Photography*, ed. Karen Beckman and Jean Ma, Durham: Duke University Press 2008.