

INTERSECTIONS:
ARCHITECTURE AND PHOTOGRAPHY IN
VICTORIAN BRITAIN

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ABSTRACT

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Architecture and photography have always closely interacted with each other since the invention of the photography in the late 1830s. While architecture has been captured as one of the main subjects of photography, photography has served architecture as a valuable tool of representation. Focusing on the frame defined by Victorian Britain, this study tries to capture intersecting histories between photography and architecture. Accordingly, three intersections are defined: the first intersection corresponds to the simultaneous development of photography and architectural photography; the second to the interaction between architectural photography and architectural theory/practice; and the third to the relation between architectural photography and architectural historiography.

Keywords: History of photography, Architectural photography, History of architecture, Britain, Victorian Period, Architectural historiography

ÖZ

KESİŞİMLER: VİKTORYA DÖNEMİ İNGİLTERE’SİNDE MİMARLIK VE FOTOĞRAF

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Mimarlık ve fotoğraf, ondokuzuncu yüzyılın sonlarında fotoğrafın icat edilmesinden bu yana yakın bir etkileşim içinde olmuşlardır. Mimarlık, fotoğrafın başlıca konularından biri olarak sıklıkla fotoğraflanırken, fotoğraf da güvenilir, gerçeğine uygun görsel temsiller ve bu temsilleri hızlı ve kolaylıkla üreten faydalı bir teknik olarak mimarlığa hizmet etmiştir. Bu çalışma, mimari fotoğraf ve mimarlık tarihinin, Viktorya Dönemi İngiltere’inde kesişimlerini araştırırken mimarlık ve fotoğrafın neden bu kadar yakın bir etkileşim içine girdiği sorusuna cevap aramaktadır. Birinci kesişim fotoğraf ve mimari fotoğrafın ortaya çıkışının eşzamanlılığına odaklanmakta, ikinci kesişim, dönemin mimarlık teorileri ve pratikleri ile fotoğrafın karşılıklı etkileşimlerinin izini sürmekte, üçüncü kesişim ise mimari fotoğraflarla mimarlık tarihi yazımının ilişkisini irdelemektedir.

Anahtar Kelimeler: Fotoğraf tarihi, Mimari fotoğraf, Mimarlık tarihi, Viktorya Dönemi, Britanya, Mimarlık tarihi yazımı

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CHAPTER 1

INTRODUCTION

Architecture and photography have always closely interacted with each other since the invention of the photography in the late 1830s. While architecture has been captured as one of the main subjects of photography, photography has served architecture as a valuable tool of representation. Mainly because of its three main advantages, photography was immediately appreciated as a new tool of architectural representation: firstly, it could produce pictures with accuracy that human eye could not attain; secondly, anyone could produce pictures easily without any previous training; and thirdly, any picture produced by human hand could not be as 'truthful' as the one produced by the 'pencil of nature.' Therefore, soon after its invention, photography paved the way for the use of various, detailed, easily producible, reproducible, portable and transmittable images of architecture. Besides, at the same time, the travel fostered by railways and steamships made remote lands accessible and fastened the transmission of photographs. Hence, almost within a decade after its invention, photography became a new medium to communicate architectural images to wider audience. By the second half the nineteenth century, a variety of architectural images became available and easily accessible to architects by means of photography.

Meanwhile, the nineteenth century was the time characterized by romanticism which revealed itself in a growing interest in history and remote cultures. Accordingly, the photographs showing old medieval castles, ruined abbeys, ancient country houses and ruined antique cities and exotic places were widely produced and easily consumed. Furthermore, historical revivalism which dominated the nineteenth century architecture created a demand for architectural photography as a reliable source of

data.¹ Besides, photography was used to document historical buildings, transformations of cities, building process of new edifices, and technological accomplishments. The emergence of architectural history as an academic discipline coincided with the time when a wide variety of architectural photographs became available to scholars. Undoubtedly, photographs did not create the discipline but without the aid of photography scholars would not have developed sophisticated research by using only drawings and traditional prints. Therefore, architectural photographs emerged as a source of knowledge about buildings which were not accessible at first hand.²

Since the emergence of modern profession of architecture with a number of supporting institutions coincided with that of architectural history as an academic discipline and of architectural photography as a profession in the second half of the nineteenth century, this study focuses on the close interactions between photography, architectural photography, architectural theory and practice, and architectural historiography within the frame of Victorian Britain. Tracing these interactions, the research is based on the examination of secondary sources on photography, architectural photography, architecture and architectural historiography, and also of the related primary sources, reached in the British Library and the RIBA Library, and also on the internet.³ Furthermore, this research covers the investigation of digital copies of the nineteenth century photographs on the internet.⁴

¹ James S. Ackerman, "On the Origins of Architectural Photography," in *This is not Architecture*, ed. Kester Rattenbury (New York: Routledge, 2002), 26.

² Ackerman, "On the Origins of Architectural Photography," 34.

³ www.archive.com and www.books.google.com are the main internet sites searched in this study.

⁴ The internet sites of Victoria and Albert Museum, Science Museum, RIBA, National Galleries, BBC, Metropolitan Museum, English Heritages Images, Photo London Organization and the Getty Museum are the ones searched in this study.

Regarding the existing literature on the history of architectural photography, there is a vast array of publications, including survey books of history of architectural photography, books of history of photography, some exhibition books, books and articles investigating some architectural photographs in relation to certain themes, some others about the use of architectural photographs in general, and a few articles considering the use of photography in relation to historiography. However, none of them presents a sufficient answer to the question of “why photography and architecture were so closely interrelated and/or interacted,” accordingly, a comprehensive framework for the whole picture of interactions between photography, architectural photography, architectural theory and practice, and architectural historiography in the nineteenth century.

So, elaborating on the question of “why photography and architecture were so closely interrelated and/or interacted,” this study deals with a series of related questions as well, such as: how did photography emerge through technological development? How did this technological development affect the progression of photography, representative capacity and usage? What kind of usage was possible and for how long? What were these photographs? By whom were these photographs produced? What was photographed, and how? Where were they produced and why did they represent what they represented or did not represent? To whom were they addressed? How did these photographs affect architectural theory, and how did architectural theory affect them? For what purposes were these photographs used? Did they also affect architectural practice? When and with the help of which technology did they appear in books? What was the reason of their usage in the books? Why were they preferred or not preferred to previous architectural techniques and/or media? Did they have any similarities to the previous representational techniques, or not? What was the reason for preferring drawings or photographs? Were they used together, if so, why?

How did the use of photography affect architectural historiography? How did architectural photography affect the emergency of architectural history survey books? What kind of a role did architectural photographs or the availability of visual information on architecture through photographs play in the publication of books, intended to cover the architecture of all the times and the whole world?

Accordingly, this study discusses the possible answers to these questions in the form of three intersections. As will be discussed later, the first intersection corresponds to the simultaneous development of photography and architectural photography; the second to the interaction between architectural photography and architectural theory/practice; and the third to the relation between architectural photography and architectural historiography. While doing that, this study focuses on the frame defined by Victorian Britain.

It was in Britain that the negative-positive photography technique, which was suitable for multiplication, was invented and it was the Victorian period that formed the cultural, social, political, and economic context of this technological development.

The Victorian period was an age of transition.⁵ As the British philosopher John Stuart Mill wrote in 1833: “The first of the leading peculiarities of the present age is that it is an age of transition. Mankind has outgrown old institutions and old doctrines and has not acquired new ones.”⁶ Industrialization, urbanization, revival of religion, nationalism and romanticism were some of the leading themes that transformed the ideas and the Victorian environment.

⁵ The Victorian Age began in 1837 when Victoria became queen and ended with her death in 1901.

⁶ John Stuart Mill, “The Spirit of the Age” in *The Spirit of the Age. Victorian Essays*, ed. Getrude Himmelfarb (New Haven and London: Yale University Press, 2007), 53.

For centuries, Britain's economy had been dominated by agriculture. Industries were small and based on handcraft skills and human power. However, by the 1830s, machinery work and factory system became widespread and replaced craftsmanship.⁷ Many families facing starvation started to immigrate to industrialized towns. Moreover, the 1840s witnessed the Irish famine. Not only Ireland but also entire kingdom suffered from the famine and food prices raised extremely. As a result of famine, in 1846, the Corn Law supplying protection to land owners could be repealed and from that time on Britain imported food and exported manufactured goods. It was the turning point; the repeal of Corn Law was regarded as a victory of the classes who were not the owner of lands over the old aristocracy. The consequences of the repeal of the law were significant; the economic and equally political power shifted from land owner aristocracy to the entrepreneurs and industrialists.⁸

As a consequence of industrialism, during the first half of the nineteenth century, population of newly industrialized towns increased in relation to the arrival of a very large number of poverty stricken immigrants. By the 1850s, more people started to live in towns and cities than in the countryside. For instance, the population of London was tripled between 1801 and 1851. The population growth caused the expansion of the cities. While the new-comers who were working class immigrants settled in central areas, middle class moved to less crowded residential suburbs.⁹ Mainly because of the immediately increasing population in industrialized cities, old neighborhoods turned into slum areas. Due to the

⁷ Christopher Harriss and H.C.G. Mathew, *Nineteenth Century Britain* (New York: Oxford University Press, 2000), 9-17 and Roger Taylor, *Impressed by Light* (New York: The Metropolitan Museum of Art, 2007), 5, 6.

⁸ James Stevenson Curl, *Victorian Architecture* (Newton Abbot: David & Charles, 1990), 20.

⁹ Eve Blau, "Patterns of Fact: Photography and the transformation of Early Industrial City" in *Architecture and Its Image: Four Centuries of Architectural Representation: Works from the Collection of the Canadian Centre for Architecture* eds. Eve Blau and Edward Kaufman (Montreal: Centre Canadien d'Architecture/Canadian Centre for Architecture, 1989) (Cambridge, MA: MIT Press, 1989), 36.

congestion and the poor sanitary conditions, epidemics threatened the public health and the suffering of urban poor became unbearable. Thus, immediate precautions were needed and the cities started to be transformed.¹⁰

Meanwhile, the Victorian Britain was shaped not only by the forces of industrial revolution, increase in population and violent political forces of the time, but also by the revival of religion and nationalism. There was already an Evangelical impact on the nineteenth century society before Victoria's reign. The Evangelical movement paved the way for philanthropy, carried out a campaign against drunkenness, encouraged the virtues of sobriety and self discipline among the working class, and altered the many aspects of urban life.¹¹ So, although they exalted religious values, secular interferences in ecclesiastical matters corroded their theology and in the 1830s a new spirituality developed.¹² 'Tractarianism' or the 'Oxford Movement' was a conservative, intellectual plea to Anglican tradition. 'Oxford movement' strengthened the spirit of Anglicanism through its authority on religious education and architecture.¹³ Thus, it paved the way for Gothic Revivalism.

As another theme of the period, nationalism was a modern term which emerged and spread after the end of Napoleonic Wars. It was related to the issue that Britain and France were in a state of war during the period between 1796 and 1815. The expanding ideas of liberty and justice throughout Europe were the outcomes of the decades of war.¹⁴ Moreover, the economic rivalry with France served Britain to

¹⁰ Harvie and Mathew, *Nineteenth Century Britain*, 41-43; 77-85.

¹¹ John M Mackenzie, ed., *The Victorian Vision. Inventing New Britain* (London: V&A Publications, 2001), 129.

¹² Mackenzie, *The Victorian Vision. Inventing New Britain*, 129 and Harvie and Mathew, *Nineteenth Century Britain*, 41-43.

¹³ Harvie and Mathew, *Nineteenth Century Britain*, 46.

¹⁴ Francis D. K. Ching, Mark M. Jarzombek, and Vikramaditya Prakash, *A Global History of Architecture* (New Jersey: John Wiley & Sons, 2007), 608.

define its identity. Accordingly, a new sense of British nationalism and patriotism came into being.¹⁵

Romanticism, the last phase of the romantic movement, having originated in Britain, was also one of the themes of the period which affected the conventions and the subjects of the Victorian literature, art and architecture. It denoted the appreciation of sentiment against reason, of nature against artificiality, of simplicity against display, and of faith against skepticism.¹⁶ In other words, romanticism was an escape from the hard reality of the present into the dream world of a remote time or space. So, the nineteenth century romanticism was a revolt not only against aristocracy and academic traditions but also against the cruelty and ugliness of the whole urban industrial and commercial system. As a result of this romantic reaction against the present reality, the past and nature were idealized.¹⁷

The architectural environment of the Victorian period was mainly shaped by these themes. Similarly, architectural photography, which was the new technique of architectural representation also governed by the same themes.

Although photography was invented at the beginning of the Victorian period, both the idea of photography and the leading conventions of photography had a longer history. The invention of photography was nothing but the combination of two scientific principles; one of them was an optical principle that light, passing through a small hole on a wall of a dark room or camera obscura, projects an image on the opposite wall; and the other was a principle of chemistry that certain

¹⁵ Barry Bergdoll, *European Architecture. 1750-1890* (Oxford, New York: Oxford University Press, 2000), 152.

¹⁶ Nickholaus Pevsner, *An Outline of European Architecture* (Harmondsworth: Penguin, 1961), 587.

¹⁷ Robert Furneaux Jordan, *Victorian Architecture* (London: Penguin, 1966), 42, 43.

chemicals turn dark when exposed to the light.¹⁸ Although the idea of photography had persisted since the ancient times and these two scientific principles of photography had been already known for quite some time, photography was not invented until the time when the capitalist culture, looking out for cheap mechanical means for reproduction of printed materials, expanded.¹⁹ The pictorial roots of photography, in both technical and the artistic terms, had extended to the first half of the fifteenth century, or in other words, to the early Renaissance.²⁰ It was in 1435 that the treatise, *De Pictura (On Painting)*, containing a discussion of the perspective system, was written by Leon Batista Alberti. It was the first treatise explaining the transformation of a three dimensional space into the plane of a two dimensional representation.²¹ By using the window metaphor, Alberti stated that if exactly established and observed with one eye from the top of the imaginary pyramid, a perspective picture would be similar to a view seen through a window.²² The Albertian window proposed that the surface of a picture was transparent. The picture frame, similar to a window frame, was limited in choices but the view appeared as an exact re-presentation of the things on the other side of the window. A window pane separated the observer from the outside reality, yet at the same time, the transparency of the glass was not an obstacle for the vision. In this sense, the window metaphor was proposed as a

¹⁸ Peter Galassi, *Before Photography Painting and the Invention of Photography* (New York: Museum of Modern Art, 1981), 11.

¹⁹ Mary Warner Marien, *Photography and Its Critics. A Cultural History. 1839-1900* (Cambridge: Cambridge University Press, 1997), 4 and Joel Snyder, "Enabling Confusion," *History of Photography* 26 (Summer 2002), 154-160; Joel Snyder "Picturing Vision," *Critical Inquiry* 6 (Spring 1980), 499-526.

²⁰ Alberto Perez-Gomez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, Massachusetts: MIT Press, 2000), 18.

²¹ Anne Friedberg, *The Virtual Window. From Alberti to Microsoft* (Cambridge, Massachusetts: MIT Press, 2009), 1; Leon Battista Alberti, *On Painting*, trans. John R. Spencer (New Haven, Yale University Press, 1966), 43-57.

²² Galassi, *Before Photography Painting and the Invention of Photography*, 16.

perfect replication of truth.²³ *Perspectiva*, meaning in Latin “seeing through,” was inherited by photography. A perspective picture was a representation of its subject as it would be viewed from a particular point of view at a particular moment.

Therefore, photography, as a means of producing pictures mechanically in perfect perspective, was a continuation of this western pictorial tradition.

The camera obscura, meaning in Latin “dark room,” had been used as a drawing aid since the Renaissance as well. Initially, it was a totally enclosed real dark room with a small hole at the center of one of its walls which diffracted the light passing through it and created an inverted image of the outside scene onto the opposite wall. The optical knowledge of camera obscura had been known since Aristotle.²⁴ However, for a long time, it was not a practical device which could be used as an aid to accurate drawing. In 1558, Giovanni Battista Della Porta published *Magiae Naturalis* in which the complete and best description of camera obscura was presented.²⁵ In 1646, Athanasius Kircher illustrated and expressed a portable camera [Fig. 1.1] which was light enough to be carried by two men. In 1657, Kaspar Scott discovered that it was sufficient for an artist to look through a small hole on camera’s side rather than entering in it. In 1676, the earliest reflex camera was described and illustrated by Johann Christoph Sturm. The camera had a plane mirror reflecting the image on an oiled paper, stretched across the opening at the top of the camera [Fig. 1.2]. Towards the end of seventeenth century, camera obscura became small enough to be taken everywhere [Fig. 1.3]. By the eighteenth

²³ Steve Edwards, *Photography. A Very Short Introduction* (New York: Oxford University Press, 2006), 93.

²⁴ Helmut Gersheim and Alison Gersheim, *A Concise History of Photography* (New York: Grosset and Dunlop, 1965), 10.

²⁵ Helmut and Allison Gersheim state that Leonardo Da Vinci had also written two descriptions of camera obscura in his notebooks, which, however, were not published until 1797. Gersheim and Gersheim, *A Concise History of Photography*, 10.

century, camera obscura was well known among the educated people and various descriptions and information about the apparatus were available in many books.²⁶

It had also been known for a long time that some chemical substances reacted to light. Especially, photosensitivity of silver salts had been known since the thirteenth century. However, serious experimentation about this phenomenon was not made until the eighteenth century. In 1725, Johann Heinrich Schulze observed that silver salts darkened when they were exposed to light but they were not affected from sun's heat.²⁷ Carl Wilhelm Scheele worked on Schulze's discovery and proved that silver chloride darkened rapidly when exposed to violet rays.

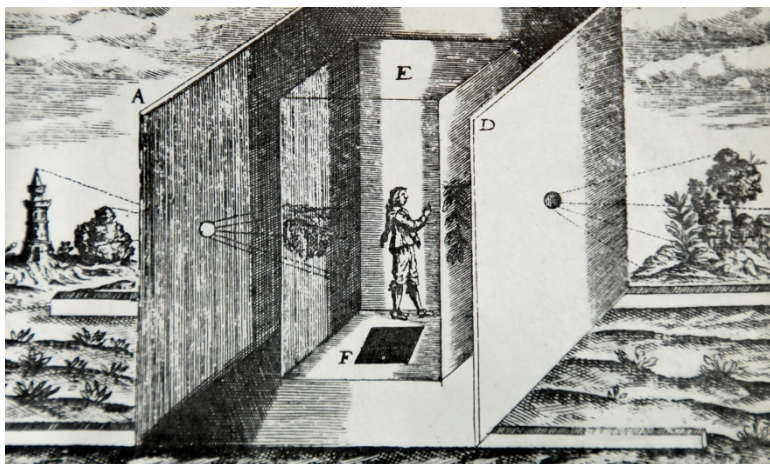


Figure 1.1 Engraving of the large camera obscura invented by Kircher in Rome, 1646, with top and front cut away

Source: Helmut Gersheim and Alison Gersheim, *A Concise History of Photography* (New York: Grosset and Dunlop, 1965), 13

²⁶ Gersheim and Gersheim, *A Concise History of Photography*, 9-15. See also, Michel Frizot, "Light Machines. On the Threshold of Invention," in *A New History of Photography*, ed. Michel Frizot (Köln: Könemann, 1998), 18; Beaumont Newhall, *Photography: A Short Critical History* (New York: The Museum of Modern Art, 1938), 11; and Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day* (New York: H. N. Abrams 1969), 18-21.

²⁷ Gersheim and Gersheim, *A Concise History of Photography*, 16.

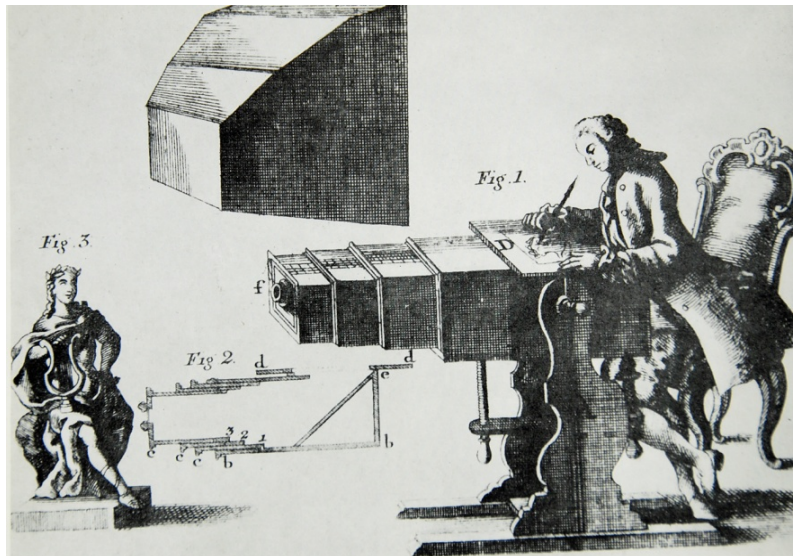


Figure 1.2 Table camera obscura used in France, 1769

Source: Helmut Gersheim and Alison Gersheim, *A Concise History of Photography* (New York: Grosset and Dunlop, 1965), 15

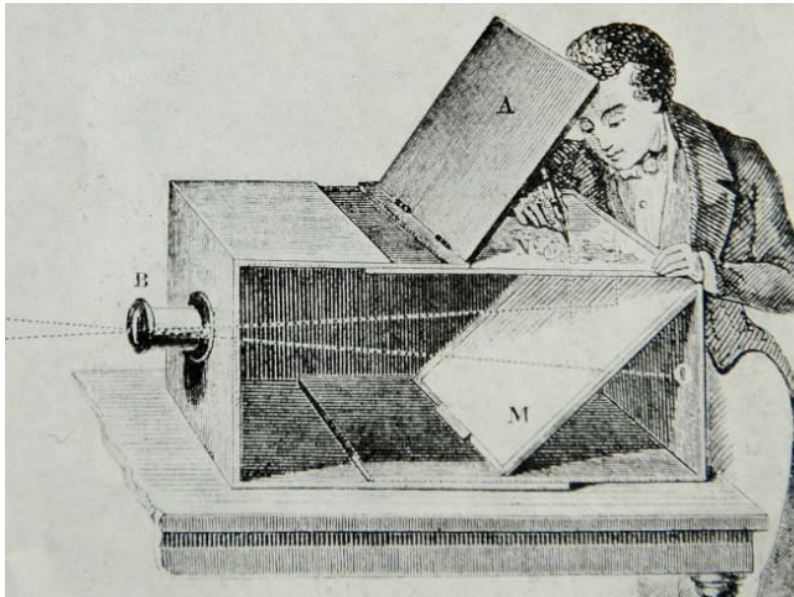


Figure 1.3 An early nineteenth century portable camera obscura

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams 1969), 25

Moreover, in 1777, he found that silver chloride acted on by light and became insoluble in ammonia. Jean Senebier carried further Scheele's investigations and, in 1782, showed that silver chloride darkened with different speeds depending on the color spectrum of light.²⁸ Thomas Wedgwood was the first man who made experiments to obtain pictures by using photosensitivity of silver salts. In 1802, he announced that he had succeeded in getting an image of a leaf that was laid on a piece of paper, treated with nitrate of silver and sun. The parts of the paper turned dark in proportion to the amount of light that went through it.²⁹ Sir Humprey Davy Thomas who was a friend of Wedgwood's also managed many times to copy silhouettes or drawings on glass by placing them onto a paper or a pale colored leather, soaked into silver nitrate or silver chloride. However, these copies had to be conserved in the dark since the silver nitrate continued darkening in the light. Although Senebier had already discovered that silver chloride acted on by light and became insoluble in ammonia, Davy did not use this knowledge to fix the image, for he did not try to wash exposed material with ammonia. Therefore his experiment failed to obtain permanent images.³⁰ Besides, by exposing his sensitized paper to light in a camera obscura, Wedgwood also experimented to get images but he did not succeed. Because his chemicals were very slow in their reaction to the light, coming through the lens of his camera.³¹ Wedgwood was too close to be the inventor of photography but he died early.

The late eighteenth century and the early nineteenth century witnessed the expansion of capitalist culture. The rise of the bourgeoisie created a demand for

²⁸ Gernsheim and Gersheim, *A Concise History of Photography*, 16.

²⁹ William Mills Ivins, *Prints and Visual Communication* (Cambridge: MIT Press, 1969), 117.

³⁰ Gernsheim and Gersheim, *A Concise History of Photography*, 17; Frizot, "Light Machines," 18.

³¹ Ivins, *Prints and Visual Communication*, 93.

pictures and visual documents.³² Not only older process but also new ones were used in order to produce pictures for all classes of society and various purposes. Wood engraving was revived, and lithography was invented as one of the two methods of reproducing pictures in great quantities.³³ Besides, new and cheaper ways of making portraits were developed to answer the demand of the middle class.³⁴

As a result of that scientific progression and that cultural atmosphere, photography was invented simultaneously both in England and in France. Photography started to be widely used immediately after Louis-Jacques-Mande Daguerre's and William Henry Fox Talbot's public announcement of the photographic processes in 1839 which were two different techniques for producing a permanent positive image. In these early years of photography, architecture was the ideal subject since buildings could be standstill during the required long exposure time.

Within this framework, this study examines the intersecting histories of photography and architecture in Victorian Britain in three chapters. The second chapter, 'Intersections I: Photography and Architectural Photography,' focuses on the simultaneous development of photography and architectural photography in two sections, under the titles of 'On the Doorstep of the Age of Mechanical Reproduction' and 'Architecture in Focus.' While the first part gives information about the new techniques paving the way for the development of architectural photography, the second investigates documentary and representative characteristics of architectural photography.

³² It was estimated that the number of printed pictures produced between 1800 and 1901 was probably considerably greater than the total number of printed pictures, produced before 1801. Ivins, *Prints and Visual Communication*, 33.

³³ Ibid.

³⁴ Newhall, *Photography: A Short Critical History*, 13.

The third chapter, 'Intersections II: Architectural Photography and Architectural Theory and Practice,' deals with the topic in two sections, under the titles of 'Capturing the Past' and 'Capturing the Present and Transforming the Past.' While the first section focuses on the connection between the architectural theory of Gothic revival and photography, the second discusses the relationship between architectural practice and photography in terms of 'battle of styles,' urban transformation and the use of new building materials.

The fourth chapter, 'Intersections III: Architectural Photography and Architectural Historiography,' explores the topic by revolving around the issue of travel. Accordingly, it consists of four sections, under the titles of 'Architect the Traveler: Travel and Architectural Historiography,' 'Travel and Architectural Photography,' 'Virtual Travel', and 'Photography and the Survey Books.' While the first and second sections discuss the relationship between architectural travel and architectural photography, the third and fourth sections look at this relationship by focusing on architectural travel books, and architectural history as travelling, respectively.

CHAPTER 2

INTERSECTIONS I:

PHOTOGRAPHY AND ARCHITECTURAL PHOTOGRAPHY

2.1 ON THE DOORSTEP OF THE AGE OF MECHANICAL PRODUCTION

2.1.1 INVENTION OF PHOTOGRAPHY

The art of *Photography* or *Photogeny* as it has been called is indeed as great a step in the fine arts, as the steam-engine was in the mechanical arts; and we have no doubt that when its materials have become more sensitive, and its process more certain, it will take the highest rank among the inventions of present age.

The Edinburg View. January 1843¹

The invention of photography was not the result of a bright idea of individual determination or of an accident but an outcome of long traditions and the insight that pictures could be produced by the aid of light. According to Mary Warner Marien, from ancient times on, there persisted what might be called the idea of photography before the fact of photography.²

It is remarkable that photography was invented almost simultaneously by different people who were not communicated with each other. At the beginning of the nineteenth century, not only the author of the first surviving photograph, Nicephore Niepce and his collaborator Jacques Mande Daguerre, but also Henry

¹ Cited in Vicki Goldberg, ed., *Photography in Print* (Albuquerque: University of New Mexico Press, 1988), 49.

² Mary Warner Marien, *Photography and Its Critics. A Cultural History. 1839-1900* (Cambridge: Cambridge University Press, 1997), 4.

Fox Talbot arrived at the scene as the inventor of photography. Furthermore, soon after the announcement of the invention of photography, some people from different parts of Europe appeared claiming that they had also invented similar techniques.

2.1.1.1 Nicéphore Niépce: “Unofficial” Inventor

Nicéphore Niépce was known as the first man in history to record the camera image “spontaneously by the action of light.”³ The earliest existing photograph was taken in 1827 by Niépce.⁴ Earlier experimenters had already succeeded in producing images yet none of them could make them permanent. Niépce was trained not as a scientist but as a self-thought enthusiastic experimenter and he got his knowledge from books and journals. By 1813, Niépce started his photochemical experiments.⁵ He had mainly two research objectives: to be able to obtain direct images from camera obscura and to copy already existing engravings.

In April 1816, he succeeded in taking pictures of his courtyard with his home-made camera and what he obtained was a paper negative. It is thought that he produced the first photographs with a camera. Except one of them, these photographs were not extant. However, Niépce’s letters and accounts about these photographs prove that between 1816 and 1829 he succeeded in fixing the camera’s image many times.⁶ It is understood from one of his letters, written on 5 May 1816 that Niépce had produced a negative image:

³ Beaumont Newhall, *Latent Image. The Discovery of Photography* (New York: George Eastman House, 1967), 23.

⁴ Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day* (New York: Harry N. Abrams, 1969), 33, 39. Michel Frizot explains that it is the view from a window at the estate of Le Gras, near Chalon-sur-Saone which Niépce left to his British spokesman, Bauer, and also that the photograph was lost until 1952. See Michel Frizot, “Light Machines. On the Threshold of Invention” in *A New History of Photography*, ed. Michel Frizot (Köln: Könemann, 1998), 20.

⁵ Helmut Gersheim and Alison Gersheim, *A Concise History of Photography* (New York: Grosset and Dunlop, 1965), 18.

⁶ Beaumont Newhall, *Photography: A Short Critical History* (New York: The Museum of Modern Art, 1938), 15.

I placed the apparatus in the room where I work, facing the bird-house, and the open casement. I made the experiment according to the process which you know, my dear friend, and I saw on the white paper all that part of the bird-house which is seen from the window and a faint image of the casement which was less illuminated than the exterior objects. . . . The background of the picture is black, and the objects white, that is lighter than background.⁷

In the letter, Niepce gave exact description of a negative photograph, where the brightest areas were recorded as dark tones and the deepest shadows as the lightest. Having thought what could be done with this picture, he continued as:

I believe that this manner of painting has been used and I have seen engravings of this kind. Besides, it would not perhaps be impossible to change this arrangement of colors; also I have some information on it which I am curious to verify.⁸

Being upset about inversion of light and shade and unaware that he could produce positive prints from his negative, Niepce began to search for a substance that light would bleach, not darken.⁹ He experimented with various material but his trials were unsuccessful until he found a certain type of bitumen or asphalt, normally soluble in lavender oil. Yet, on exposure to light it became insoluble in that liquid. At first, rather than attempting to fix a camera image, he tried to fix the black and white tones of an engraving. At the beginning, he used glass and stone for his 'plate' then copper, and finally, pewter in 1826. Initially, he coated his plate with bitumen similar to every etcher but now the bitumen was light sensitive. Then instead of drawing a picture by hand, he took an already existing picture which was a lithograph or engraving and made it transparent by means of varnish or oil. He put the existing varnished picture in contact with the coated stone then exposed them together to light. Bitumen beneath inked lines of picture was preserved but the bitumen beneath the bare paper became insoluble. After being bathed by lavender oil, the unexposed

⁷ V. Fouque, "The Truth Concerning the Invention of Photography: Nicephore Niepce, His Life and Works" in *Photography in Print*, ed. Vicki Goldberg (Albuquerque: University of New Mexico Press, 1988), 26.

⁸ Fouque, "The Truth Concerning the Invention of Photography," 26.

⁹ Newhall, *Photography: A Short Critical History*, 23.

bitumen on the plate which was representing each line of the picture he copied was dissolved. Now the plate was ready for classical printing procedure for biting the plate, inking it, and printing it. So, what Niepce invented was photogravure. Making possible the reproduction of pictures on a printing press, photogravure was Nicéphore's greatest contribution to the history of photography.¹⁰

Having accomplished one of his research objectives, Nicéphore continued his research. This time, he focused on obtaining direct images from camera obscura. He coated a sheet of glass with his bitumen and exposed it for hours in a camera obscura. Then he bathed the plate with his oil. So, he obtained not only black and whites but also middle tones. Niepce kept this process secret and unfortunately none of the pictures, which he made, survived, except for 'the view from the window,' dated 1827 [Fig. 2.1]. The photograph was produced by using bitumen of Judea on a pewter plate.¹¹ He called his invention as 'heliography,' meaning sun drawing. Heliography, as Niepce described it in 1829, was actually two different methods: one was to copy existing images or engravings by the action of the light, and the other was to obtain images directly from nature in a camera obscura.¹² In December 1829, "for the purpose of perfecting heliographic process," Nicéphore Niepce signed a partnership agreement with Louis Jacques Mande Daguerre.¹³

¹⁰ See Newhall, *Latent Image*, 25-27; Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day* (New York: H. N. Abrams, 1969), 33; and Frizot, "Light Machines," 20. Among Niepce's photogravures the best is a portrait of Cardinal d'Amboise made in 1826 and printed by the Parisian engraver Lemaitre. During Niepce's lifetime, no commercial use was made with photogravure. After his death, his nephew Claude Abel Niepce de Saint Victor revived and developed it and called it heliogravure in 1853. Despite the importance of the method which was used for decades, the name of Niepce is almost forgotten today. See Newhall, *Latent Image*, 26.

¹¹ Frizot, "Light Machines," 20.

¹² *Ibid.*, 19.

¹³ Michel Frizot, "1839-1840. Photographic Developments" in *A New History of Photography*, ed. Michel Frizot (Köln: Könemann, 1998), 24; Gernsheim and Gernsheim, *A Concise History of Photography*, 21; and Fouque, "The Truth Concerning the Invention of Photography," 25.



Figure 2.1 The earliest photograph by Nicéphore Niépce, 1827

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams 1969), 39

2.1.1.2 Jacques Mande Daguerre: “Official” Inventor

Jacques Mande Daguerre was a Parisian set painter and creator of dioramas. He had achieved certain fame since 1822 with his dioramas.¹⁴ He was familiar with camera obscura and made sketches from nature to create illusion of reality. He was such an accomplished painter that the visitors of his dioramas believed that they were in real three dimensional world. Moreover, he used various lighting effects to increase the illusion. He was a man in show business and used his promotional skill to catch and keep public interest and to market his method of photography. As Peter Pollack points out “Daguerre did not invent photography, but he made it work, he made it popular, and made it his own.”¹⁵

¹⁴ See R. Derek Wood, “The Diorama in Great Britain in the 1820s” in *History of Photography* 17, no. 3 (1993): 141-153.

¹⁵ Pollack, *The Picture History of Photography*, 42.

The objective of Niepce's and Daguerre's collaboration was to perfect heliographic process. Daguerre contributed to the partnership through his talent and an improved model of camera obscura. In their cooperative research, Niepce's opinion was that the best sensitive substance was bitumen of Judea, however Daguerre found it too slow. Daguerre was right; exposures were taken several hours with Judea. In 1831, Daguerre started to experiment with iodine. After that time, it seems that he progressed through a more individual path. By using iodine as a sensitizing agent for silver, Daguerre succeeded in reducing exposure time to minutes instead of hours. Until 1833, both of them carried on their own personal research, communicating mainly by letter.¹⁶

Following Niepce's death in 1833, Niepce's heir, Isidore Niepce, became the partner of Daguerre. After that time, Daguerre tracked two parallel courses, the research initiated by Niepce, and his own personal experiments. In 1835, Daguerre made his second discovery which was 'mercurializing,' a kind of development of the exposed silver iodide with mercury vapor. However, the developed plates had to be fixed. He continued his research with iodine but he did not share it with Isidore Niepce. In 1835, Daguerre proposed to add an additional article to the contract, giving the priority in the discovery to Daguerre himself. In 1837, Daguerre perfected his process by finding the way to fix pictures which was a common salt bath to get rid of the light sensitive iodine. Accordingly, Daguerre baptized his process as 'daguerreotype.'¹⁷

To produce a photograph, Daguerre followed these steps: initially, he took a highly polished, silver plated sheet of copper. In order to make it light sensitive, he treated it with fumes from heated crystals of iodine. When the plate was exposed in camera obscura, the invisible image was formed on the plate. To make this image visible, he treated the plate with fumes from heated mercury. In other words, he developed the

¹⁶ Frizot, "1839-1840. Photographic Developments," 24.

¹⁷ Frizot, "1839-1840. Photographic Developments," 25; Pollack, *The Picture History of Photography*, 44; Newhall, *Latent Image*, 44-49; and Gersheim and Gersheim, *A Concise History of Photography*, 22-23.

image with mercury vapor. That development created a positive image on the plate. Then, he bathed the plate in hyposulfite of soda in order to make the image permanent. Finally, he washed the plate in water.¹⁸

Daguerre demonstrated his process to Dominique François Arago, who was an influential academic, the secretary of the French Academy of Sciences, and the director of the Paris observatory. He shared the secret of his process with Arago who even made some photographs himself. However, it was almost impossible to protect a patent on the invention. Arago suggested that the French Government which was known for its support of scientific developments had to buy the invention and grant it to the public.¹⁹ He immediately began to campaign to pension both Daguerre and Isidore Niepce and to give photography to the world as a gift of the French nation.²⁰ On 6 January 1839 it was announced in *Gazette de France* that an important discovery had been made by Monseur Daguerre:

M. Daguerre has discovered a method to fix the images which are represented at the back of the camera obscura; so that these images are not the temporary reflection of objects, which may be removed from the presence of these objects like a picture or engravings.

It was also announced that his invention had been so important that it had been investigated by three members of Academy of Sciences: the astronomer Francis Arago, the physicist Jean Baptiste Biot and the naturalist Alexander Von Humboldt.²¹ On 7 January 1839 it was proposed by the Academy of Sciences that the French government had to purchase the full rights after the value of the process had been proven thorough investigation. The commission of the Academy of Sciences, headed

¹⁸Martin Sandler, *Photography: An illustrated History* (New York: Oxford University Press, 2002), 8.

¹⁹“Bill Presented to the Chamber of Deputies, France June 15, 1839” in *Photography in Print*, ed. Goldberg, 31.

²⁰According to Marien and Pollack, most probably, Daguerre initiated the rumors that Russia and England offered to buy Daguerreotype and so that he accelerated the French government’s granting him a pension. See Marien, *Photography and Its Critics*, 17 and Pollack, *The Picture History of Photography*, 43.

²¹ Gernsheim and Gersheim, *A Concise History of Photography*, 2.

by Arago, worked with Daguerre in great secrecy for six months.²² A measure was proposed and accepted in 1839. The Minister of the Interior, who introduced the proposal to the Chamber of Deputies in the sitting on 15 June 1839, announced that with photography “the most unskillful may make drawings with the same dexterity as the cleverest artist.” Then he continued with the explanation why the government had to buy and give it to the public:

The process will, therefore, either become the property of everybody, or forever remain a secret were remain impenetrable to the public, if it were to be lost, and die as it were, in the hands of its inventors.²³

On 3 July 1839 a similar report, offering the same national reward and having nationalistic sentiments, was presented by Baron Guy Lussac to the Chamber of Peers:

. . . we say, the process of M. Daguerre is a noble discovery. It is the origin of a new art in the middle of the old civilization; an art which will constitute an era, and be preserved as a title of glory.²⁴

Accordingly, in July 1839, the French government purchased daguerrotype “for the benefit of all nations,” not exclusively for the French nation but for whole world. However, it is interesting to note that five days before the details of Daguerre’s process were explained freely to the public, Daguerre took out a patent in England.²⁵

After examples of daguerreotype were seen at the Chamber of Deputies, rumors spread and public were extremely interested in investigations. The news reached in other countries in Europe as well. Speculations ran high. But the method was kept as a secret until Arago made a public announcement, explaining the method of producing pictures from nature, on 19 August 1839. In that occasion, not only the

²² Newhall, *Photography: A Short Critical History*, 21.

²³ “Bill Presented to the Chamber of Deputies, France, June 15, 1839” cited in *Photography in Print*, ed. Goldberg, 33-35.

²⁴ “An Excerpt, The Edinburg Review, January 1843” cited in *Photography in Print*, ed. Goldberg, 59.

²⁵ Gernsheim and Gersheim, *A Concise History of Photography*, 22.

members of Academy of Science but also the members of Academy of Fine Arts and eminent intellectuals of France and Europe were present. However, as Peter Pollack points out, Arago described the history of photography by making some historical mistakes, such as attributing the invention of camera obscura to Della Porta and minimizing the contribution of Niepce to that history.²⁶ Moreover, Arago mentioned Niepce so slightly that the newspapers did not pick up Niepce's name on their reports.²⁷ Despite this omission, Arago's presentation was successful. He explained clearly the details of the process and its future importance. Being unaware of Daguerre's patent in England, he closed his speech by saying that "France has adopted this discovery and from the first has shown her pride in being able to donate it generously to the whole world."²⁸

In addition to the patent of daguerreotype, Daguerre also patented an improved box size camera obscura for taking daguerreotypes and Alphonse Giroux Daguerre's brother in law was the producer of the official Daguerre cameras [Fig. 2.2]. The day after the official announcement, Alphonse Giroux, Daguerre's brother in law,²⁹ published Daguerre's seventy-nine page manual. The enthusiasm went so high that Daguerreotype created a new market of photographic materials; carrying cases, mercury bath, lenses, plates, plate holders and cameras. Not only manuals but also all the cameras Giroux had on hand were sold out in a few days. The brochure was translated into many languages and was printed in many European capitals before the year 1839 went out [Fig. 2.3].³⁰

²⁶ Pollack, *The Picture History of Photography*, 43.

²⁷ Marien, *Photography and Its Critics*, 33.

²⁸ Pollack, *The Picture History of Photography*, 43.

²⁹ Sandler, *Photography: An illustrated History*, 9 and Pollack, *The Picture History of Photography*, 45-58.

³⁰ Pollack, *The Picture History of Photography*, 44.

As mentioned previously, photography was invented simultaneously by different people who were not communicated with each other. It seems that it was such a ripe time for the invention that any intellectual man could invent photography. For instance, after hearing that Daguerre and Henry Fox Talbot had made such a thing, within a week, Sir John Frederick William Herchel accomplished to solve the secret of photography, independently. Accordingly, soon after the announcement about Daguerre's invention on 7 January 1839 several people claiming that they had also invented to draw pictures by the action of light appeared. However, as William Mills Ivins explains, "many of those workers kept their discoveries secret, others did not bother to give them adequate publicity, and many of the discoveries were made almost simultaneously," and therefore their stories have remained rather unknown.³¹ Moreover, the exposure time of their process was too long and their negatives were not appropriate for producing positive images.³² Thus, the only process competing with daguerreotype was Talbot's calotype.

2.1.1.3 Henry Fox Talbot: The British Inventor

While Daguerre was developing his method in Paris, a man being unaware of Daguerre's research had been carrying out the same research since 1833, in London. He was William Henry Fox Talbot, an English mathematician, scientist and linguist. He succeeded in producing direct copies of objects by placing them on light sensitized papers and exposing them to the sun. He also accomplished to produce a paper negative showing the window of the library at Lacock Abbey, by his camera obscura, in 1835.³³ It was a 1 inch square negative. If it is compared with the Niepce's 8 x 6,5 inches view taken nine years earlier, Talbot's 1 inch square negative was rather poor. Talbot's pictures taken in the camera were too slow, too small,

³¹ William Mills Ivins. *Prints and Visual Communication* (Cambridge: M.I.T.Pr., 1969), 123. For a discussion of some of these rather unknown names, see the appendix, 'Unnamed Inventors.'

³² Gersheim and Gersheim, *A Concise History of Photography*, 28.

³³ Goldberg, *Photography in Print*, 36. See also Newhall, *Photography: A Short Critical History*, 32 and Pollack, *The Picture History of Photography*, 88, 89; and Gersheim and Gersheim, *A Concise History of Photography*, 29.

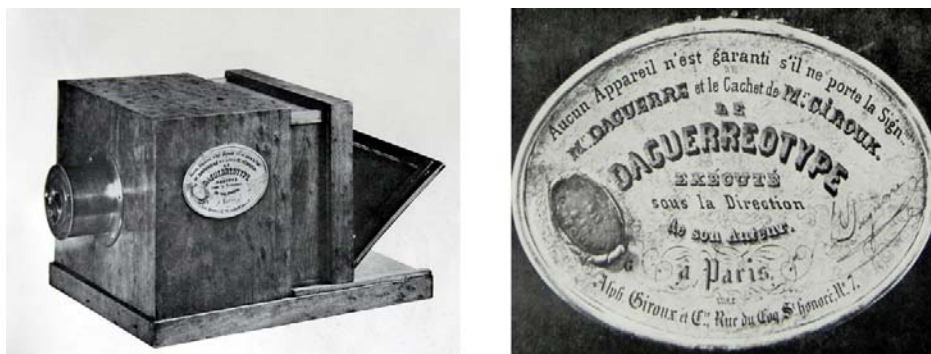


Figure 2.2 The official Daguerre camera produced by Daguerre's brother in law Alphonse Giroux and the label of the official Daguerre camera; 'No apparatus guaranteed if it does not bear the signature of M. Daguerre and seal of M. Giroux. The Daguerreotype made under the direction of inventor in Paris by Alphonse Giroux et Cie. Rue de Coq St. Honoré No: 7'

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams 1969), 55

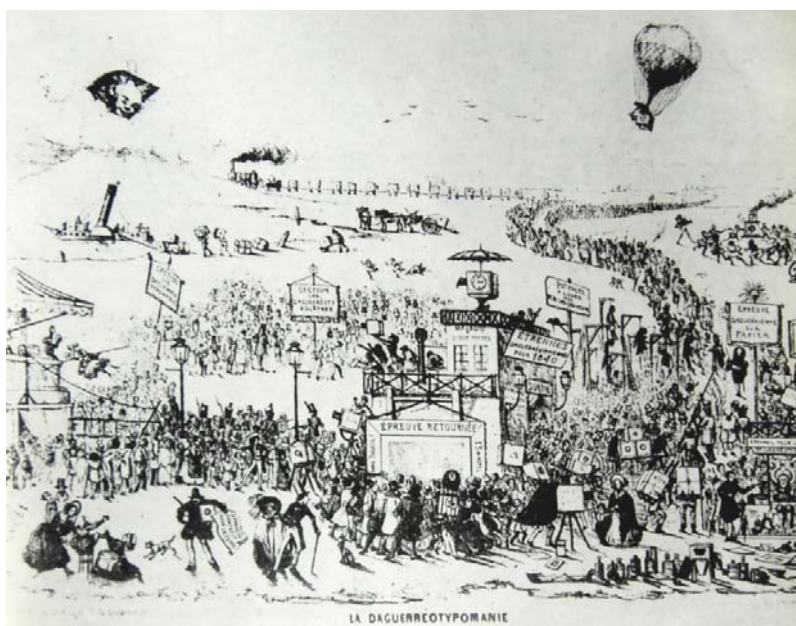


Figure 2.3 The Daguerreotype craze by A. Maurisset for New Year's Day, lithograph, 1840

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams 1969), 69

and could not be rival of the brilliant detailing of Daguerreotype. On 29 January 1839 Talbot heard about Daguerre's secret process and thought that what Daguerre had found, was similar to his process and he hastily presented a paper on his work to Royal Society in London on 31 January, under the title of "Some Account of the Art of Photogenic Drawing, or the Process by which Natural Objects may be made to delineate themselves without the Aid of the Artist's Pencil." Moreover, on 21 February a paper giving a description of his technique and proving that unlike Wedgwood's and Davy's his process was relatively permanent was read at the Royal Society.³⁴ Talbot's process was simple. Initially, a good quality of writing paper having smooth surface was taken, immersed into a weak solution of common salt and wiped then let to dry. As a second step, a solution of nitrate of silver was applied on one surface and dried at the fire. By this treatment, silver chloride was precipitated on the surface of the paper.³⁵ After exposing this light sensitive paper to fix the image, Talbot bathed the exposed paper in strong solution of sodium chloride, or alternatively, in potassium iodide. This was not a permanent fixing method, but by keeping his negatives stable in some time, the fixing bath allowed him enough time to print positives from them by contact.³⁶

In 1840, Talbot discovered the process which developed a latent image by bathing the paper in gallic acid. This process shortened the exposure time and enabled him to take a picture in minutes. Then he used hot solution of hypo to fix the image. At last, he washed the paper with water and let it dry. This was his paper negative. By oiling the negative, he made it transparent and then printed the negative by

³⁴ See Newhall, *Photography: A Short Critical History*, 33; Newhall, *Latent Image*, 51; and Gernsheim and Gersheim, *A Concise History of Photography*, 29.

³⁵ This discovery was nothing but $\text{NaCl} + \text{AgNO}_3 = \text{AgCl} \downarrow + \text{NaNO}_3$ which was unknown to science. See, Newhall, *Latent Image*, 52.

³⁶ Newhall, *Latent Image*, 56.

sunlight on a silver chloride paper. Firstly, he called his negatives ‘calotypes,’ meaning in Greek ‘beautiful pictures,’ then they were also named as ‘talbotypes.’³⁷

The French government had rewarded Daguerre with a life pension. Moreover, Daguerre would obtain a substantial income and royalties from sale of apparatus and an extra income for his English patent. However, in England, Talbot received unenthusiastic response and a little recognition and unlike Daguerre, he got no pension or any public honour. All he got was the Royal Society’s Rumford Medal in 1842. Probably, since Talbot either took offense or hoped to profit, he took calotype patents. However, the conditions forced on licences were restrictive for professional use of the process.³⁸ During the next decade, Talbot’s patent would impede the development of photography in Britain. Throughout the 1840s, he strove to popularize and market his process. He sold *Sun Pictures* of English and Irish scenery and copies of works of art through printsellers and stationaries. Besides, Talbot produced several publications, illustrated with actual calotypes to demonstrate the main advantage of his process over daguerreotype, which was not an appropriate method for multiplication and publication.³⁹ Yet, he did not receive significant success. In order to overcome the resistance to calotype, Talbot printed the first photographically illustrated book in the world, *The Pencil of Nature*, which was issued to subscribers in six fascicles between 1844 and 1846, each containing three to seven photographs. The majority of the subjects of the book was architectural.⁴⁰ Because of the irregular appearance of the issues, the small numbers of pictures they contained and their high prices, the book failed to prove how photography could be useful for the purposes of book illustration. However, the book accomplished to show various applications of Talbot’s process, except

³⁷ Pollack, *The Picture History of Photography*, 89.

³⁸ Gernsheim, *The Origins of photography*, 181.

³⁹ *Ibid.*, 196.

⁴⁰ Pare, *Photography and Architecture*, 14.

portraiture. The complete work included twenty four plates which were architectural views, landscapes, photographs of sculpture, still-lives, reproduction of engravings, and photogenic drawings of botanical specimens and lace. His second photographic publication, containing twenty-three photographs, *Sun Pictures in Scotland*, appeared in July 1845 and between the fifth and sixth issues of *The Pencil of Nature*. Since massive number of photographs were required for these publications Talbot needed a printing establishment. In 1843, he charged his former valet and assistant in experiments of photography, Nicholaas Henneman, with printing. Henneman set his printing establishment in a building which was a former schoolhouse with a little backyard in Reading.⁴¹ The house had a large room which was always kept locked. Henneman started to make prints in there. Mysterious deliveries of papers and chemicals led to a rumour that Henneman, a Dutch with broken English, was engaged in forging banknotes or some illegal business. In the early 1844, Talbot built a facility with a glasshouse in the garden and recruited several assistants. He made Henneman head of the photographic printing business known as Talbot's Reading Establishment [Fig. 2.4] and [Fig. 2.5]. However, the printing establishment did not get the financial success and was closed in 1847 after printing 1675 calotypes for Sir William Stirling's *Annals of the Artists of Spain*, published in 1848.⁴²

In the autumn of 1847, the Calotype Club was formed in London. The club had about twelve members. The members of the club met once or twice a month to compare the results of their experiments and talk about new ideas and prints.⁴³ Roger Fenton who had been a pupil of Paul Delaroche in Paris with Gustave Le Gray was one of the members of the Calotype Club. In October 1851, Fenton went again to Paris in order to study the organization of the Société Héliographique,

⁴¹ Roger Taylor, *Impressed by Light* (New York: The Metropolitan Museum of Art, 2007), 19.

⁴² Gernsheim, *The Origins of Photography*, 199.

⁴³ *Ibid.*, 210.

consisting of photographers, most of whom were calotypists, scientists, critics, and intellectuals.⁴⁴ Among its founding members were the photographers Édouard Baldus, Hippolyte Bayard, Eugène Durieu, Baron Gros, Gustave Le Gray, Henri Le Secq, Auguste Mestral, Emile Peccarère, Victor Regnault, Viscount Joseph Vigier; the opticians Charles Chevalier and Noël-Marie-Paymal Lerebours; the painter Eugène Delacroix; and art critic Francis Wey.⁴⁵ The objective of the society was to bring together men working in isolation, to exchange information and ideas among its members and to accelerate the perfection of photography. The journal *La Lumière* served as its official organ by announcing meetings, publishing articles about the works of the members, reviews of photography and art exhibitions, essays on aesthetics, technical discussions, and photography news from other parts of the world.⁴⁶ In February 1852, *the Chemist*, a journal, published Fenton's detailed report about the activities of the Société Héliographique. In the following month, Fenton published in the same journal a proposal for the formation of a photographic society in Britain. The proposal was also sent to many photographers. However, Fenton's attempt was blocked because no agreement could be achieved with Talbot on the matter of patent rights. Fenton and some other members of the Calotype Club tried to persuade Talbot to abandon his monopolistic attitude because his insistence on his patent rights was the main obstacle not only to the formation of the society but also to the improvement of calotype itself. Nevertheless, Talbot was too determined not to abandon his rights. He gave a free license to the members of the society to practice art for their own amusement meanwhile he imposed some other conditions which were unacceptable.⁴⁷

⁴⁴ Gernsheim, *The Origins of Photography*, 221.

⁴⁵ Frizot, "Automated Drawing. The Truthfulness of the Calotype," in *A New History of Photography*, ed. Michel Frizot (Köln: Könemann, 1998), 70.

⁴⁶ Ibid.

⁴⁷ Gernsheim, *The Origins of Photography*, 221.

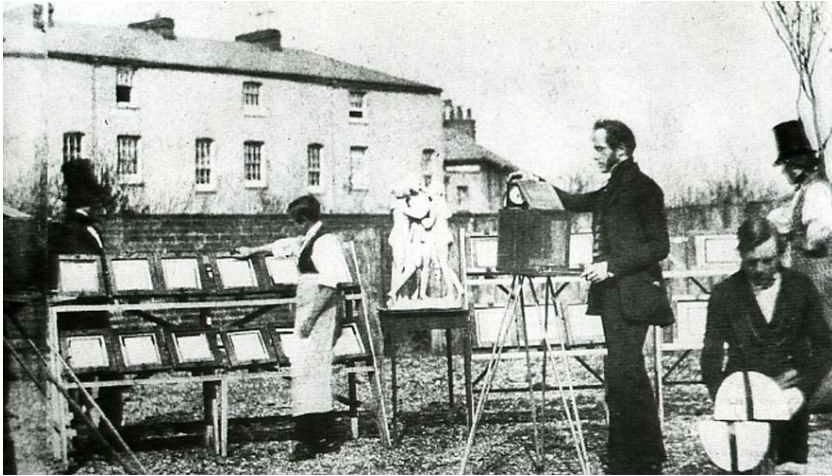


Figure 2.4 Fox Talbot's calotype establishment at Reading, around 1845. One of his assistants is printing with sunlight and another man is photographing a sculpture. What the man kneeling on the right is doing is not known.

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams, 1969), 98



Figure 2.5 Fox Talbot's calotype establishment at Reading, around 1845. On the left, one of his assistants is taking copy from a painting, on the right another man is taking a portrait.

Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York: H. N. Abrams, 1969), 99

Talbot secured many patents, even though some methods were already in existence but been patented, such as the development method of gallic acid which had been used by Reverend Joseph Bancroft Reade since 1837. Besides, Talbot added to his patent list hyposulphite of soda as a fixing agent which had been invented and suggested to him by Herchel. He also patented an enlarging process and books illustrated with photographs. Talbot was reprimanded and criticized, but he insisted on keeping his patent rights.⁴⁸ His patent became the main obstacle to the development of photography in Britain. During the first years of the 1850s, Talbot was exposed to a series of court cases in order to protect his patent rights. Finally, the president of the Royal Academy sent a letter asking him to abandon his stifling control:

It is very desirable that we should not be left behind by the nations of the continent in the improvement and development of a purely British invention; and as you are the possessor of a patent right in this invention, which will continue for some years, and which may, perhaps, be renewed, we beg to call your attention to the subject, and to inquire whether it may not be possible for you, by making some alteration in the exercise of your patent rights, to obviate most of the difficulties which now appear to hinder the progress of art in England.
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In the summer of 1852, he let artists, scientists and amateurs use the process free, but kept the right to licence professional portrait photographers. After a major case in 1854, Talbot relinquished all rights on the process.⁵⁰

The French process, daguerreotype was the technique of recording the object on a small silver-plated metal ground. Although the sizes of daguerreotypes were small,

⁴⁸ Pollack, *The Picture History of Photography*, 91.

⁴⁹ Gernsheim, *The Origins of Photography*, 223.

⁵⁰ Newhall, *The History of Photography*, 41-43; Gernsheim, *The Origins of Photography*, 212, 223; Bloore, Caroline in *The Golden Age of British Photography, 1839-1930*, ed. Mark Haworth Booth (New York: Aperture in association with Millerton 1984), 33; and Pollack, *The Picture History of Photography*, 91.

they had accurate details. The smallest details of architecture or landscape could be examined with the aid of a magnifying glass.⁵¹ Nonetheless, daguerreotype was not a proper method to produce multiple copies. It was like the modern polaroid in the sense that only one image could be produced as an outcome of the process. So, the only way to duplicate was to take a new picture from the old one, a process that was as costly and laborious as the first one, and furthermore that the outcome was not accurate as much as the original.⁵² It was “cul-de-sac in photography.”⁵³

William Henry Fox Talbot’s invention, the calotype, was a very extremely different technique from that of Daguerre; what was produced in Talbot’s camera was a paper negative. Accordingly, his photographic process was the technique used to produce on production of a paper negative from which any number of positive prints could be produced. However, Talbot’s positive prints did not have details as accurate as Daguerreotypes. Thus, at least at the beginning, because of its precision in details, Daguerreotype was regarded as superior to calotype. Talbot’s prints were found rough and unpleasant. So, the profound advantage of Talbot’s technique was multiple prints that could be produced from single exposure. However, the idea that the possibility of producing an infinite number of prints from one negative did not get excited Talbot’s contemporaries. Publishing photographs in books or magazines was not the motivation of photography. In January 1839, when Talbot first showed his photogenic drawings and positive copies of engravings, they were seen as produced by some form of watercolour washing or some modification of lithography. However, because of their clarity in details, daguerreotypes were seen as miraculous revelation of the world itself and during the first decade of the photography it held the market. Furthermore, the

⁵¹ Daguerreotypes were so small and fragile that they were sold in small, closed cases as a jewel. See Szarkowski, *Photography Until Now*, 40 and Sandler, *Photography: An illustrated History*, 9.

⁵² Szarkowski, *Photography Until Now*, 37.

⁵³ Gernsheim, *The Rise of Photography 1850-1880*, 31.

conditions forced on licences were restrictive for the professional use of calotype. In Britain, Talbot's patent was the main reason for the lack of popularity of the process. Nevertheless, daguerreotype was free from patent restrictions and the cheap brochures explaining details were available, and accordingly daguerreotype rapidly became popular.⁵⁴

The main technical problem in calotype was the image resolution. It was impossible to get rid of the appearance of fibrous texture of paper negative used for calotype. To be able to overcome the problem, different surfaces and solutions were experimented. As a result of these experiments, different photographic techniques were developed. Among these photographic techniques, the combination of wet plate negatives and albumen prints renovated the negative/positive photography.⁵⁵

2.1.2 PHOTOGRAPHY IN INK

Photography appeared not only as the method of "copying observable reality exactly" but also "as a means of making multiple copies."⁵⁶ So, photography "first eliminated the draughtsman, and then it eliminated the engraver from the making of exactly repeatable pictorial statements" and after that the development of photomechanical processes made possible to repeat "such statements in unlimited quantities."⁵⁷ Therefore, they were no longer confined to the life of a single printing surface.⁵⁸

⁵⁴ Gernsheim, *The Origins of Photography*, 181.

⁵⁵ Benson, *Printed Picture*, 108. The technical development of photography between 1850 and 1880 and a variety of printing techniques are explained in the appendix.

⁵⁶ Marien, *Photography and Its Critics*, 2.

⁵⁷ Ivins, *Prints and Visual Communication*, 93.

⁵⁸ Ibid.

In the second half of the nineteenth century, three ink-printing techniques, intaglio, planographic, and relief printing, were adapted to photographic images. Firstly, intaglio printing was adopted by the invention of photogravure. Secondly, planographic printing was used in the form of collotype. And finally, half tone was invented as an adaptation of relief printing which was the oldest mode of ink printing.⁵⁹

Wood-cut photographs were relief printed photographs cut by hand in wood. The method of wood engraving was used in order to paste the photographs into the books. The sequence was followed as: first the negative was printed on a wood block which was coated with a light sensitive substance then a carver engraved the block by hand by using a burin. Accordingly, a finished block was locked up in a chase and mounted on the cylinder of rotary printing press. The peculiarity of the method was that the laborious work carried out by hand was still an important part of the process to transmit the photograph into a printable form. The cooperation between photography and engraving continued for a half century until the 1890s.⁶⁰

Collotype was the planographic printing from gelatine-coated glass plate. The flat plate photogravure was a kind of modification of the older method of etching. The plates, paper, ink and presses were all in the same surface like stone lithography, and the image achieved by way of the antipathy of grease and water. Collotypes were achieved as early as the 1860s, almost twenty years after the invention of photography. By using collotype techniques, high quality images could be produced: grains were almost invisible and displayed wide range of tonal quality.

⁵⁹ Benson, *Printed Picture*, 210.

⁶⁰ Ibid., 214. See also Sylvie Aubenas, "The Photograph in Print," in *A New History of Photography*, ed. Michel Frizot (Köln: Könemann, 1998), 228; Ivins, *Prints and Visual Communication*, 125; Gerry Beegan, *The Mass Image* (New York: Palgrave Macmillan, 2008), 8.

Collotype method was suitable for producing many kinds of images but it was especially appropriate for reproduction of photographs.⁶¹

In Victorian Britain there was a considerable market for books illustrated by simply pasting photographs into books. Among these Frederic George Stephens' *Normandy and Its Gothic Architecture* of 1865 containing twenty five small photographs, and William and Mary Howitt's *Ruined Abbey and Castles of Great Britain* of 1864 were the best examples. However, these books were expensive and limited editions because of their slow rate of production and costs of photographs.⁶² Moreover, starting with J. W. Gotch's *Architecture of Renaissance in England* published between 1891 and 1894, a number of architectural books, illustrated with collotype plates, were published. On 16 April 1881 the first photograph which was the photograph of a neo-Celtic cross recently erected at Fence Houses near Durham was published in a British architectural periodical, *The Architect*, by using the 'Ink-Photo' process which was a modification of collotype.⁶³

The 1890s witnessed the introduction of the half-tone block which enabled both photographs and letters to be printed together in a single operation on the same paper. It was a process including inverse aquatints, which were plates being capable of holding ink. These plates were made in such a way that they could be printed as relief blocks locked up in the printer with type.⁶⁴ At last photographs could be published economically and easily.

⁶¹ Crawford, "In Praise of Collotype: Architectural Illustration at the Turn of the Century," *Architectural History*, 25 (1982), 56-64:58 [Journal on-line] available in <http://www.jstor.org/stable/1568411>; Internet; accessed 22 May 2008; and Benson, *Printed Picture*, 244.

⁶² Elwall, *Building with Light*, 86.

⁶³ Crawford, "In Praise of Collotype," 56 and Elwall, *Building with Light*, 86.

⁶⁴ Ivins, *Prints and Visual Communication*, 126 and Beegan, *The Mass Image*, 160.

2.2 ARCHITECTURE IN FOCUS

From the very beginnings of photography, architecture and photography were tightly intertwined. The first surviving view of an architectural subject is Niepce's 'the view from the window' of 1827. It shows the view across the rooftops of his property at the estate of Le Grass, near Chalon-sur-Saone. It is recorded that the exposure took about eight hours. It means that he had to be sure that the chosen object was not to move.⁶⁵ Similar to that of Niepce, the earliest surviving photograph by Talbot was an architectural subject, *Latticed Window* which was the image of a window taken in the summer of 1835 as Britain's first architectural photograph.⁶⁶

Photography became widely used immediately after the public announcement of Daguerre's and Talbot's photographic processes, as two different techniques for producing a permanent positive image, was made in 1839. Architecture was the ideal subject in the early years of photography since the buildings could be standstill during the required long exposure time. As will be discussed in the third chapter of this study, the nineteenth century was the age when there was a growing interest in romanticism and historical revivalism. So, historical revivalism, which dominated the nineteenth century architecture and the debates about the perfect style, was triggered by such critics and theorists as A.W.N. Pugin and John Ruskin, created a demand for architectural photography as a reliable source of data.

The early years of photography from 1839 to 1851 was the time for technical and artistic experimentation and the photographers were wealthy enthusiastic amateurs rather than professionals. Around 1851, conditions let the way to a new profession.

⁶⁵ Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), 13.

⁶⁶ Joyce Micheal and others, "Architecture: The Camera's First Focus" *Cornerstone* 26, no. 4 (2005): 34; and Geoffrey Batchen, *William Henry Fox Talbot* (New York: Phaidon, 2008), plate 2.

In addition to technical developments which paved the way for the high resolution of prints, some other factors, such as the assignment of some keen photographers to document national monuments, the new demand for architectural photography as a result of the formation of modern profession of architecture, the massive display of photographs at the Great Exhibition of 1851 in London, and the public demand for touristic imagery, let the way to make architectural photography a respectable profession rather than an amateur experimentation.⁶⁷

The second quarter of the nineteenth century was also the time when modern profession of architecture emerged with a number of supporting institutions. In 1833, the first public museum displaying architectural drawings and projects was established in London by Sir John Soane in his house. Royal Institute of British Architects which was the first professional organization for architects since medieval guilds was founded in London in 1834, with a library of books on architecture and drawing. *The Builder*, which was the prominent architectural journal, illustrated with engravings and addressed not only architects but a wider public, founded in 1842. Institutions of architecture and public enthusiasm of architecture created an increasing demand for architectural photography.⁶⁸

The Great Exposition of 1851 in London, provided the framework for the first massive publication of architectural photographs. Light and the lens were the central symbols dominating the exhibition. Photography was presented as one of the glories of the invention age by fulfilling the four necessities of the age, spontaneity, precision, permanence and the capability of mass production, and met with a great number of national and international audiences. Moreover, similar to the early photographic studios, called ‘glass houses,’ and often installed with very large windows or glass roofs to take the full advantage of natural light, the Crystal

⁶⁷ Cervin and Herschman, *Architecture Transformed*, 2.

⁶⁸ *Ibid.*, 3.

Palace, where the first massive publication of photographs were displayed, was also a 'glass house' of colossal proportions.⁶⁹

It was in the 1860s that the first firms, such as Bedford Lemere and Co. in London, specializing in the recording of contemporary architecture, began to emerge in Britain. These professionals responded to the commercial demands of their clients. They produced photographs with technical precision by avoiding pictorial compositions and dramatic effects of light and shade. Moreover, in the 1870s, *RIBA* started to add photographs of executed works to its archive. In the *Catalogues of the Drawings, Prints and Photographs in the Library of the Royal Institute of British Architects, complete to end of the session 1870-1871*, it was announced on the first page:

In addition to the printed catalogues of the books in the Library of the Royal Institute of British Architects, the Council have now the pleasure of presenting to the Members a Catalogue of the Architectural Drawings, Engravings and Photographs, of executed works. . . the collection includes Photographs and Prints from the designs and buildings executed by many numbers of Institute. It is hoped that other members will contribute similar illustrations, so that in course of time the series may become a complete and interesting record of their professional exertions.⁷⁰

As a result of the appearance of commercial firms addressing a vast variety of audience, architectural photographs became more available and cheaper. Architectural designers appreciated photography as a reference to historical styles. Photographs not only expanded the designer's knowledge of familiar historical traditions but also extended the scope of his knowledge to a wide spectrum of

⁶⁹ Haworth-Booth, *The Golden Age of British Photography*, 9.

⁷⁰ *Catalogues of the Drawings, Prints and Photographs in the Library of the Royal Institute of British Architects, complete to end of the session 1870-1871, i.* [Book on-line] (London: RIBA, 1871); available from <http://www.archive.org/details/cataloguesofdraw00royauoft>; internet; accessed 1 May 2009.

historical styles less accessible at first hand, especially those of Egypt, Byzantium, and the Middle East.⁷¹

2.2.1 OBJECTIVE RETINA: PHOTOGRAPHY AND ARCHITECTURAL DOCUMENTATION

When my lens broken, I could not use my camera. I put an
'artificial eye' in Isidore's jewel case, ...
Nicephore Niepce, 1816⁷²

In 1816, Niepce referred to the camera he was building as an artificial retina. Accordingly, being a product of a machine with an artificial eye, a photograph was thought as ideal human vision. Then, for the first time, “an image [was] formed automatically without the creative intervention of man” by “the instrumentality of a non living agent.”⁷³ As Lady Eastlake wrote in the *London Quarterly Review* in 1857, “her business is to give evidence of facts, as minutely and as impartially as, to our shame, only an unreasoning machine can give.”⁷⁴ So, she commented that the best artistic characteristics of photography were “correctness of drawing, truth of detail, and absence of convention.” Thus, the nineteenth century idea of ‘truthfulness’ perceived photography as a medium offering an innocent, dispassionate way of seeing and appreciated it as a new means of representation, free from omissions, distortion, style, subjectivity, or any interference.⁷⁵ Similarly, John Ruskin appreciated the veracity of photography in his letter written in 1845:

⁷¹ Robinson and Herschman, *Architecture Transformed*, 19.

⁷² V. Fouque, “The Truth Concerning the Invention of Photography: Nicephore Niepce, His Life and Works,” 25.

⁷³ Andre Basin, “The Ontology of the Photographic Image” Hugh Gray, translator, *Film Quarterly*, Vol. 13, no. 4 (Summer 1960), 4-9:7 .

⁷⁴ Goldberg, *Photography in Print*, 97.

⁷⁵ Marien, *Photography and Its Critics*, 7.

“It is such a happy thing to be able to depend on everything- to be sure not only that the painter is perfectly honest, but that he can’t make a mistake.”⁷⁶

The Victorians were engaged with the idea of ‘truth’ deeply. The name of the books or of book chapters such as *True Principles of Gothic Architecture* by Pugin of 1841 or Ruskin's ‘Lamp of Truth’ in his *The Seven Lamps of Architecture* of 1849 were suggestive in terms of showing the Victorian emphasis on the ‘truth.’ The debates on the issues of style or the importance of function, and restoration were carried on by underlying the concept of ‘truthfulness.’⁷⁷ Representation of ‘reality’ was a requirement for copies, but drawings and engravings were subjected to interpretation, for they were inevitably affected by the choices and prejudices of the engravers and of their time.⁷⁸ Therefore, it was believed that photographs provided more precise and more accurate representations which reflected the ‘truth’ more than engravings could do.⁷⁹

One of the prominent critics of the time, John Ruskin, who was the advocate of the concept of ‘truth’ in architecture, was also an advocate of the photography in the beginning. Although during the next thirty years his enthusiasm for the photographic technique faded away he appreciated photography as a valuable tool of architectural record. He had learned to take daguerreotypes immediately after the invention, in 1840 and valued the photography as an aid to architectural study and a tool for documentation. In a letter he wrote to his father from Venice in

⁷⁶ Harold L. Shapiro, ed., *Ruskin in Italy: Letters to his Parents, 1845*, (Oxford: Clarendon Press, 1972), letter nr. 149, 224–225 (Padua, October 15) Quoted in Thordis Arrhenius “John Ruskin’s Daguerreotypes of Venice” [article on-line]; available from www.ep.liu.se/ecp/015/; Internet; accessed 5 August 2009.

⁷⁷ Edward N. Kauffman, “Architectural Representation in Victorian England,” *The Journal of the Society of Architectural Historians*, 46, no. 1 (March 1987), 30-38: 30, [article on-line]; available from <http://www.jstor.org/stable/990143>; Internet; accessed 6 April 2009.

⁷⁸ James S. Ackerman, “On the Origins of Architectural Photography,” in *This is not Architecture*, ed. Kester Rattenbury (New York, 2002), 27-28.

⁷⁹ Robinson and Herschman, *Architecture Transformed*, 4.

1845, Ruskin defined photography as “a noble invention” by adding that “It is nearly the same thing as carrying off the palace itself: every chip of stone and stain is there, and of course there is no mistake about proportions.”⁸⁰

By the time Ruskin went to Venice in 1849, he brought his camera and started to document the buildings with his assistant George Hobbs. During the following years he continued both to produce and to purchase daguerreotypes. He used them as sources for his drawings. It was in the *The Seven Lamps of Architecture*, 1849 that Ruskin first used daguerreotypes and in the preface of the book he informed the readers about the plates as “being either copies of memoranda made upon the spot, or enlarged and adapted from Daguerreotypes, taken under my own superintendence.”⁸¹ He continued to make and commissioned daguerreotypes and for the first time, calotypes when he was in Venice during the period in between 1849 and 1851 [Fig. 2.6]. Ruskin also used these photographs to produce illustrations for his *Stones of Venice* published between 1851 and 1853 and *Architectural Examples of Venice* of 1851.⁸² Furthermore, in 1871, he directed the work of photographers, artists and sculptors collecting examples for his St George's Museum at Sheffield [Fig. 2.7].⁸³ He extensively used architectural photographs to illustrate *The Bible of Amien* which was about Christian history and

⁸⁰ Michael Harvey, “Ruskin and Photography,” *Oxford Art Journal* 7 (1984), 25-33:25 [Journal on-line] available from <http://oaj.oxfordjournals.org/cgi/reprint/7/2/25.pdf>; internet; accessed 7 August 2009.

⁸¹ Ruskin, *The Seven Lamps of Architecture*, x.

⁸² Harvey, “Ruskin and Photography,” 26. See also Karen Burns, “Topographies of Tourism:” “Documentary” Photography and *the Stones of Venice*,” *Assemblage* 32 (1997), 22-44 [Journal on-line] available from <http://www.jstor.org/stable/3171405>; internet; accessed 7 August 2009.

⁸³ See <http://www.museums-sheffield.org.uk/coresite/html/ruskin.asp> accessed 30 August 2009.

architecture associated with various centers and published between 1880 and 1885.⁸⁴

Ruskin appreciated the documentation capacity and speed of photography that let someone produce a drawing faultlessly within a half minute and he made a plea to document medieval architecture:

The greatest service which can at present be rendered to architecture is the careful delineation... by means of photography. I would particularly desire to direct the attention of amateur photographers to this task; earnestly requesting them to bear in mind that while a photograph of a landscape is merely an amusing toy, one of early architecture is a precious historical document; and that this architecture should be taken, not merely when it is present itself under picturesque general forms but by stone to stone, and sculpture to sculpture; seizing every opportunity afforded by scaffolding to approach it closely, and putting the camera in any position that will command the sculpture, wholly without regards to the resultant distortions of the vertical lines; such distortions can always be allowed for, if once the details are completely obtained.⁸⁵

In relation to the documentation of architecture, in Britain and France, many photographers were engaged in producing photographs of national monuments. For instance, in 1851, in order to document the key monuments of the main regions of France, the state funded Commission des Monuments Historiques, launched the Missions Heliographiques and commissioned five pioneer photographers, Édouard Baldus, Henri Le Secq, Hippolyte Bayard, O. Mestral, and Gustave Le Gray, to each of whom was assigned one specific region. These

⁸⁴ He also explained in an appendix to the work that the quatrefoils on the foundation of the West front of Amiens Cathedral had never been engraved or photographed in any form accessible to the public until 1880 when Ruskin commissioned M. Kaltenbacher who had also produced photographs for Viollet le Duc, to document them. See Harvey, "Ruskin and Photography," 27.

⁸⁵ John Ruskin, *The Seven Lamps of Architecture*, 6th ed. [book on-line] (Sunnyside, Orpington, Kent: George Allan, 1889), 218; available from <http://www.archive.org/details/sevenlampsfarch00ruskuoft>; internet; accessed 8 May 2009.



Figure 2.6 North-West Porch of Basilica of St. Mark by Ruskin, 1850-1851

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 27



Figure 2.7 An architectural detail, from St. George's Collection, 1870s

Source: Michael Harvey, "Ruskin and Photography," *Oxford Art Journal*, 7 (1984), 25-33:25 [Journal on-line] available from www.oxfordjournals.org; internet; accessed 7 August 2009

photographers produced photographs, defined as documentary by the nature of their commission.⁸⁶

Photographs were also seen as a valuable support for the restoration and conservation of national buildings. For instance, when Eugene Emmanuel Viollet-le-Luc was commissioned in 1847 to restore the Notre Dame in Paris, he ordered large number of photographs in order to use them to document the existing state of the building, to determine the extent of restoration it needed and then to measure his improvements.⁸⁷

Furthermore, the construction of important structures and transformations of cities were also recorded by using photography as a tool for documentation. For instance, Eduard Baldus photographed the building stages of the new wing of the Louvre. Similarly, the construction of the Paris Opera was documented by Eduard Durandalle. In Britain, an album showing the re-erection of Crystal Palace at Sydenham by Philip Delamotte, published in 1855.⁸⁸ Glasgow City Improvement Trust carried out a photographic survey to preserve an image of the past. Accordingly, the photographs of Glasgow were taken by Thomas Annan and published in 1868-1871.⁸⁹ Society for Photographing the Old Relics of London was founded in 1875 to record the proposed demolition of a sixteenth century

⁸⁶ M. Christine Boyer, "La Mission Heliographic: Architectural Photography, Collective Memory and the Patrimony of France, 1851" in *Picturing Place*, 21-54; Ackerman, *Origins, Imitations, Conventions* (Cambridge, Massachusetts, London: The MIT Press, 2002), 108; Robinson and Herschman, *Architecture Transformed*, 3.

⁸⁷ Ackerman, "On the Origins of Architectural Photography," 28.

⁸⁸ Pare, *Photography and Architecture: 1839-1939*, 20.

⁸⁹ Eve Blau, "Patterns of Fact: Photography and the Transformation of Early Industrial City" in *Architecture and Its Image: Four Centuries of Architectural Representation: Works from the Collection of the Canadian Centre for Architecture*, eds. Eve Blau and Edward Kaufman (Montreal: Canadian Centre for Architecture; Cambridge, MA: MIT Press, 1989), 46.

coaching inn. Henry Dixon and Alfred and John Bool were commissioned to record this building and many others.⁹⁰

Since documentation programs launched to create archives, the photographers were expected to be objective, to restrict personal inclinations and to seize the taste of their time. This requirement was clearly stated by the Architectural Photographic Association founded in Britain in 1857. Its aim was "procuring and supplying to its members photographs of architectural works of all countries," with an eye serving "the architectural profession by obtaining absolutely correct representations of these works, and ... the public, by diffusing a knowledge of the best examples of architecture and thereby promoting an increased interest and love of the art."⁹¹

2.2.2 ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION

As noted previously, the nineteenth century was the heyday of historical revivalism and the debates on perfect style shaped the nineteenth century architecture. One of the main concerns of the period's architects and theorists was the fidelity of an architectural product to its sources. In order to build faithful reproductions of the forms of the past, accurate images of historical architecture were indispensable. Photography was the perfect tool to provide the data needed. Photography could provide the largest array of accurate images of the past forms.⁹²

The inaugural meeting of Architectural Photography Association was held in 1857 at the Royal Institute of British Architects. The association was founded by a group of architects whose initial concerns were to encourage architects to use

⁹⁰ Robinson, and Joel Herschman, *Architecture Transformed*, 26.

⁹¹ Robert Elwall, "The Foe-to- Graphic Art: The Rise and Fall of the Architectural Photographic Association" *Photographic Collector*, 5, 2, (1985), 142-163, 144 and Ackerman, *Origins, Imitations, Conventions*, 108.

⁹² Robinson and Herschman, *Architecture Transformed*, 4.

photography and to decrease the cost of obtaining photographs. Mathew Digby Wyatt who was one of the organizers of the Great Exhibition was among the founder members. To be able to reach its aim of supplying architectural photographs from various countries to its members, the association encouraged architects to bring back photographic records of their trips. Yet, the most important supply of photographs was the professional photographers. By the beginning of 1858, the association obtained many photographs from leading photographers and carried out an exhibition. Seventy hundred fifty subscribers of the association were invited to the exhibition in London. An impressive array of architectural photographs by pioneering photographers of the day including James Robertson's and Feice Beato's Istanbul, Fratelli Alinari's Florence, Charles Clifford's Madrid and Eduard Baldus' Paris, were exhibited.⁹³

In 1860, the Architectural Photographic Association organized a much more comprehensive exhibition. Five hundred ten photographs including seventy seven of France by Baldus, Bisson Freres, Cundall & Downes; seventy four of Jerusalem by Robertson and Beato; thirty of Rome by Robert Macperson; one hundred ten of Northern Italy by Carlo Ponti; twenty-six of Spain by Charles Clifford and two hundred twenty four of England by Roger Fenton and Francis Bedford, were exhibited. Some of them were the photographs of the sculptures of some Gothic structures whose pictures had rarely existed because of their inaccessibility to draughtsman. Architects were impressed by the documentation capacity of the camera and its veracity. However, while picturesque images of buildings sold well, the association came under increasing criticism that the photographs were picturesque. Some architects asked more photographs of architectural details. As a response, the association exhibited the photographs of architectural sculptures by Bedford as a special section of annual exhibition in 1861.⁹⁴

⁹³ Elwall, "The Foe-to-Graphic Art," 144-145.

⁹⁴ Ibid, 148-152.

In that year, the activities of the association reached its climax. Prominent architects lectured on architecture by using photographs. For instance, James Fergusson lectured on the photographs of India taken by Captain Henry Dixon; R. Popplewell Pullan on the thirteenth century French Gothic architecture; Ignatius Bonomi on Frith's photographs of Egypt. Moreover, the place and/or role of photographs in the study and practice of architecture were discussed in those lectures. For instance, E. B. Lamb opposed to render photography in great respect as a substitution of sketching. On the other hand, Pullan appreciated photography as a valuable aid for an architect by suggesting that it would be beneficial if photography was studied as part of architectural education. Pullan proposed to take a picture of an architectural subject instead of losing time with taking measurements and making sketches. However, Lamb proposed that the most perfect way of acquiring the knowledge of forms was to make sketches by pencil. Similarly, William Burges, a prominent and romantic architect argued that to make measured drawings was the only way to understand how and why details had been treated in a particular way. He advised architects to measure a lot, make sketches little and keep their fingers out of chemicals. Despite these remarks, however, it is known that Burges used photographs for documenting his own work.⁹⁵

The exhibition of 1861 weakened Architectural Photographic Association financially. The association was active until the late 1860s. Since photographs became cheaper and widely available at the end of the decade, the association declined and ended.⁹⁶ Despite its short existence, the association made a great contribution to architecture by assigning photography to the service of architects as a new medium for representation and as a tool for documentation.

⁹⁵ Elwall, "The Foe-to-Graphic Art," 152-154.

⁹⁶ Ibid., 154.

From the early photographers' point of view, photographs were all documentary.⁹⁷ For this reason, during the formative years of photography, there was no clear distinction between a documentary photograph and an interpretive photograph. Since their intention was documentation, they used their cameras by following the previous conventions of architectural representation, as if they used their sketch pads.⁹⁸

2.2.3 PHOTOGRAPHY AND ARCHITECTURAL REPRESENTATION

The arrival of photography intersected with the tendency towards archaeological exactitude and the scientific approach of architectural study which demanded more precision of drawings. This tendency revealed itself in the drawings of such architects such as Louis Duc and Leon Vaudoyer and in the sketches which were made by the topographic artists who emphasized the pictorial truth, such as John Britton. Moreover, the evolution of architecture into an organized profession created a demand for photography. Accordingly, photography was conceived to have mainly three advantages over the traditional means of representation: firstly, it could record details which were not easily seen with the naked eye; secondly, it could be produced faster than sketches; and thirdly, it was 'truthful.'⁹⁹

When photography emerged as a new medium of architectural representation in the middle of the nineteenth century, the already established conventions of architectural representation were immediately adapted to architectural photography. A photograph was the result of three essential choices: the arrangement of the subject, the moment at which to represent an existing subject, and the point of view establishing the frame. Early photographers made these

⁹⁷ Ackerman, "On the Origins of Architectural Photography," 28.

⁹⁸ Cervin and Herschman, *Architecture Transformed*, 2.

⁹⁹ Elwall, *Building with Light*, 12.

choices in such a way that their photographs conveyed the habits of existing architectural representation.

2.2.3.1 Elevation and the Perspective

James Ackerman explains convincingly in his *Origins, Imitation and Conventions* that the basic conventions of architectural drawings had already been established in the thirteenth century. Despite the fact that architectural styles showed great diversity until today, conventions of architectural drawing did not change. The plan, the elevation, the transverse section, and the perspective constituted the basic vocabulary of the architectural image.¹⁰⁰ Cervin Robinson and Joel Herschman point out that the years from 1840 to 1880 can be considered as a heyday of architectural drawing. During this period, both elevation and perspective were used. To explain this point, two drawings, one elevation and one perspective drawing, both showing the same building and executed by the same person can be given. The engraving showing the elevation of the design for the proposed Sussex Memorial [Fig. 2.8] was a two dimensional representation of an isolated façade depicted from a strictly frontal point of view. On the other hand, the perspective view of the same façade [Fig. 2.9] depicted by the technique creating three dimensional illusion, placed the building diagonally in space and emphasized depth and texture of the surfaces by using directional lighting. While the perspective drawing included contextual indicators and foreground elements conveying the actual experience of seeing, the elevation drawing deliberately avoided from indicators of context and aimed a diagrammatic representation communicating the essential data of the façade with accurate proportions.

The two approaches, which were elevation and perspective, were quickly implemented by the nineteenth century photographers. In order to produce photographic equivalent of elevation drawing, they climbed to a height as close as

¹⁰⁰ Ackerman, *Origins, Conventions and Imitations*, 96.

the midpoint of the façade. The view point was chosen in such a way that the appearance of the façade was flattened and the depth indicators were avoided. Besides, capturing the time of the photograph was mostly chosen when the sun's position reduced the shadows. Moreover, contextual indicators such as pedestrians or vehicles were eliminated by taking picture at an empty hour or using long exposure. On the other hand, to produce 'perspective' view, the standard practice which was climbing to mid height of the façade was also adapted but this time the viewing point was chosen in such a way that the three dimensional form of the structure was emphasized. Moreover, the perfect angle of the sun, bringing up the texture of the stone, creating shadows, and indicating the depth through architectural carving and reliefs was seized. Since elevation intended to present an objective, informative and undistorted representation of a façade, [Fig. 2.10] it was formal and had exact rules. On the other hand, perspective [Fig. 2.11] aimed to illustrate the actual experience and addressed a broader public as the most popular way of presenting buildings. Thus, it was not so rigorous and strictly identified.¹⁰¹

By the mid nineteenth century, the market for architectural representations had been already established. As a result of the increasing interest in romantic and medieval architecture, mainly multi volume, large scale books on medieval architecture, such as *The Architectural Antiquities of Great Britain* by John Britton, *Examples of Gothic Architecture* by Augustus Pugin and Augustus Welby Pugin, *An Attempt to Discriminate the Styles of Architecture in England* by Thomas Rickman, and *An Architectural Tour in Normandy* by Gally Knight, all of which were illustrated with engravings, were widely available in Britain. Furthermore, the books addressing general audience, such as *London as It Is* by Thomas Shutter Boys and widely illustrated guide and travel books were available. Accordingly, as Robert Elwall emphasizes, "photography had to compete with a

¹⁰¹ Robinson and Herschman, *Architecture Transformed*, 6.



Figure 2.8 Elevation view, the design for Sussex Memorial by Joseph Hansom, engraving from the *Builder*, 1843

Source: Robinson and Herschman, *Architecture Transformed*, 5



Figure 2.9 Perspective view, the proposed design for Sussex Memorial by Joseph Hansom, engraving from the *Builder*, 1843

Source: Robinson and Herschman, *Architecture Transformed*, 5



Figure 2.10 The new Louvre, entry pavilion Paris, by Eduard Baldus, 1855

Source: Robinson and Herschman, *Architecture Transformed*, 12



Figure 2.11 Arch of Septimius Severus, Rome by Carlo Ponti, 1870

Source: Robinson and Herschman, *Architecture Transformed*, 19

highly organized and sophisticated engraving industry.”¹⁰² Moreover, “different types of patronage and contrasting notions of medium’s role – artistic, commercial, utilitarian-” formulated not only “what was photographed but also how it was photographed.”¹⁰³ As a result, although photography had its own visual language as the new means of architectural representation, photographs had to communicate with the same visual language, with the previous forms of the visual media in order to respond the demands of the market. So, throughout the formative years of architectural photography, photographers made their choices to record their subjects accordingly; from the same viewing points with the same angles. They adopted the positions from which to shoot the facades and apsidal ends of churches, the interiors, and the details. Furthermore, photographers produced ‘pictures’ revealing the current taste of ‘picturesque.’

2.2.3.2 Picturesque

The eighteenth century rationalists classified aspects in their surroundings as ‘beautiful’, ‘picturesque’ and ‘sublime.’ The beautiful was an expression of the ideal state of a system of proportions, and the term sublime was an expression of the quality of greatness or vast magnitude. The term picturesque derived from *Pittoresco* meaning ‘in the manner of painters’ was based on the emotional responses rather than the proportional perfection. It was the mediating category between the beautiful and the sublime. The picturesque was more evocative than the smooth character of the beautiful and less overwhelming than the sublime.¹⁰⁴ William Gilpin (1724-1804) who was the author of guidebooks for the landscape tourists was one of the most influential advocator of the picturesque. He formulated the picturesque as to preserve the restraint of the beautiful with variety,

¹⁰² Elwall, *Building with Light*, 12.

¹⁰³ Ibid.

¹⁰⁴ James Ackerman, “The Photographic Picturesque,” *Artibus et Historiae* 24, no. 48 (2003): 79.

roughness and fragmentation of the sublime. The concept of picturesque brought a new emphasis on architecture as part of an environment nurtured by the concept of growth in architecture. The concept of growth also created the idea that the process of alteration of buildings during long periods of time could be read. Accordingly, the new approach to architecture created a kind of fascination of ruins and brought the unprecedented positive evaluation of the characteristics of roughness, irregularity and decay.¹⁰⁵ Thus, the picturesque was related to diversity, fragments, irregularity, gloom, roughness, and asymmetry. On the other hand, everything that appeared smooth, bright, symmetrical, new, whole, and strong was placed in the categories of the beautiful or the sublime.¹⁰⁶ In the meantime, in the writings of Sir Uvadale Price (1747-1829), who was also one of the theorists of the picturesque, the picturesque was defined as the term embracing both qualities of art and nature.¹⁰⁷

Since the Renaissance, the classical theory and the criticism of the arts had been governed by the fixed rules indicating that the value of a work of art was inherent in the object and it could be grasped independently from capacity or education from the observer. However, at the end of the eighteenth century, the new philosophy/psychology suggested by Archibald Alison, a British philosopher, emphasized the interaction between the observer and the object. He proposed that the delight in seeing an object was governed by the education of the thought and the imagination rather than the object itself.¹⁰⁸ Accordingly, if the perception had not changed, the passion for traveling in the countryside to search natural wonders would have not developed in such a degree. For instance, at the beginning of the

¹⁰⁵ James Ackerman, "The Photographic Picturesque," 81.

¹⁰⁶ Kemp Wolfgang and Joyce Rheuban, "Images of Decay: Photography in the Picturesque Tradition," *October* 54, (Autumn, 1990): 103-107, 104.

¹⁰⁷ James Steven Curl, *Victorian Architecture* (London: David & Charles, 1990), 19.

¹⁰⁸ Ackerman, "The Photographic Picturesque," 78, 79.

second half of the 18th century, the guidebooks, which were widely available, indicated not only what was seen but also how it was seen. The books instructed his readers to look on natural wonders as if they were looking at paintings. Travelers were drawn to the sites which were attractive but also they were educated to obey the rules of the seventeenth and eighteenth century pictorial composition. For instance, Gilpin proposed a formula of the picturesque view featuring a major architectural element: a ruin on one side, creating foreground scenes, a descending road providing the perspective, and a plane of water. In the nineteenth century, these compositional devices were imitated by photographers. However, not every illustrator, photographer or tourist was qualified to grasp the picturesque in a view. One had to be familiar with a particular tradition in the history of painting. Thus, picturesque taste was an issue of class.¹⁰⁹

Most of the early photographers were formerly educated as painters, draughts men, architects or intellectual people who were familiar with the conventions of representation. For instance, Daguerre was a diorama painter, Talbot was one of the eminent intellectuals of his time, Fenton was a lawyer who studied painting, Bedford was an architect and also a successful lithographer, Valentine was a portrait painter, etc.

As a result the photographs, similar to previously executed engravings and paintings were frequently produced. For instance, the sketches in Britton's *Architectural Antiquities of Great Britain* of 1814 [Fig. 2.12] and [Fig. 2.14] were similar to the photographs taken by Fenton¹¹⁰ [Fig. 2.13] and [Fig. 2.15]. In the same way, the correspondence between the drawing by Henry Gally Knight [Fig.

¹⁰⁹Ackerman, "The Photographic Picturesque," 80-82.

¹¹⁰ See Sarah Greenough, "'A New Starting Point': Roger Fenton's Life" in *All the Mighty World*, eds. Goldon Baldwin, Malcolm Daniel and Sarah Greenough (New York: The Metropolitan Museum of Art, 2004), 7-9.

2.16] and the Fenton's photograph [Fig. 2.17] were obvious.¹¹¹ Equally, the photograph of Croyland Abbey by W.R. Sedfield pasted in *Ruined Abbeys and Castles of Great Britain and Ireland* written by William Howitt and published in 1864 as one of the early books illustrated by photographs [Fig. 2.19] displayed similarity with Thomas Girtin's painting [Fig. 2.18] showing the Guisborough Priory. Likewise, the painting of Salisbury Cathedral by John Constable, dated 1823, [Fig. 2.20] and the photograph of Ely Cathedral [Fig. 2.21] by Roger Fenton, dated 1850,¹¹² revealed the taste of picturesque. As another example, the similarity between the picture of Westminster Abbey, from *London as It Is* published by Thomas Shutter Boys, 1843 [Fig. 2.22] and the photograph of Westminster Abbey [Fig. 2.23] produced by one of the commercial topographical photographers, George Washington Wilson, was significant.

¹¹¹ Ackerman, "On the Origins of Architectural Photography," 31.

¹¹² Ackerman, *Origins, Imitations, Conventions*, 99-107.

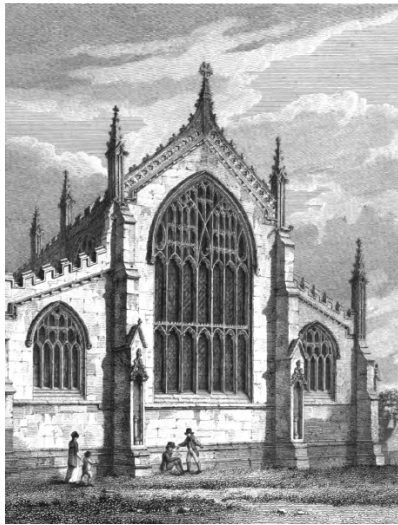


Figure 2.12 Louth Church,
Lincolnshire

Source: John Britton *The Cathedral Antiquities*, vol IV, (London: Longman, 1836), plate 2



Figure 2.13 Ely Cathedral, East end,
by Fenton, 1857

Source: Roger Taylor *All The Mighty World*, (New Haven and London: Yale University Haven Press, 2004), plate 49



Figure 2.14 Builwas Abbey Church

Source: John Britton *The Cathedral Antiquities*, vol IV, (London: Longman, 1836), 60



Figure 2.15 Rivealux Abbey, the transept by
Fenton, 1857

Source: Roger Taylor *All The Mighty World*, (New Haven and London: Yale University Haven Press, 2004), 58



Figure 2.16 Jeumiege Abbey by Knight, 1838

Source: Henry Gally Knight, *An Architectural Tour in Normandy* (London: John Murray, 1836), 12

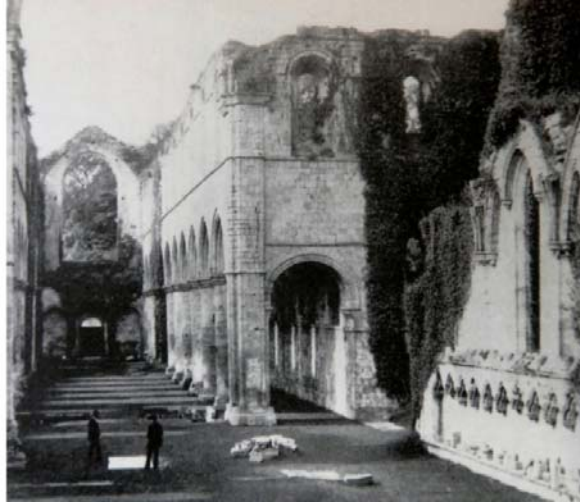


Figure 2.17 Fountains Abbey, nave interior by Fenton, 1854

Source: Roger Taylor, *All The Mighty World*, (New Haven and London: Yale University Press, 2004), plate 8

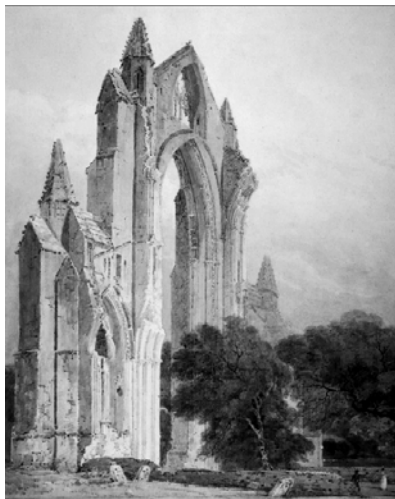


Figure 2.18 Guisborough Priory, watercolor, by T. Girtin, 1801

Source: <http://www.artrenewal.org/asp/database/image.asp?id=28950> accessed on 22 August 2009



Figure 2.19 Croyland Abbey by W.R. and Sedfield, 1864

Source: William Howit, *Ruined Abbeys and Castles* (London: Bennet, 1864), 109



Figure 2.20 Salisbury Cathedral, view Bishop's grounds, by John Constable, 1822-1823

Source: James Ackerman, *Origins, Conventions, Imitations*, (Cambridge, Massachusetts, London: The MIT Press, 2002), 107



Figure 2.21 Ely Cathedral across view across the close by Roger Fenton, late 1850s

Source: Roger Taylor *All The Mighty World* (New Haven and London: Yale University Haven Press, 2004), 58



Figure 2.22 Westminster Abbey, from *London as It Is* by Thomas Shutter Boys, 1843

Source: www.motco.com/series196/Sale/imageone-a.asp?Picno=19602040 accessed on 22 August 2009



Figure 2.23 West front, Westminster Abbey by G. Washington Wilson, circa 1880

Source: www.geh.org/.../htmlsrc/castner_sum00051.html accessed on 22 August 2009

CHAPTER 3

INTERSECTIONS II: ARCHITECTURAL PHOTOGRAPHY AND ARCHITECTURAL THEORY AND PRACTICE

The Victorian age was a period of transition that witnessed great social, intellectual and institutional changes. The arrival of photography met with the nineteenth century's cultural environment, interwoven with themes of historicism, revivalism, urbanization, industrialization, nationalism, religious revival, exploration, romanticism, travel and tourism. Accordingly, both architecture and architectural photography shared the characteristics of that cultural atmosphere.

3.1 CAPTURING THE PAST

The nineteenth century witnessed nationalism, strengthened and nurtured by popularization and re-introduction of all kind of images, associated with nationalism and religious revival.¹ Accordingly, an interest in national history arose. The Victorians' appreciation of Gothic as part of their national history paved the way for Gothic revival.² At the beginning of the nineteenth century, Gothic revival was developed and promoted by a number of publications, some of which classified Gothic architecture as well. John Britton's *The Architectural*

¹ Jens Jager, "Picturing Nations: Landscape Photography and National Identity in Britain and Germany in the Mid-Nineteenth Century" in *Picturing Place. Photography and Geographical Imagination* 2nd ed., Joan M. Schwartz and James R. Ryan, eds. (London: Tauris, 2003; reprint, London Tauris, 2006), 117.

² Gothic revival as an architectural practice will be discussed in Chapter 3.2 Capturing the Present, Transforming the Past.

Antiquities of Great Britain was published between 1807 and 1826. Thomas Rickman established a terminology in his *Attempt to Discriminate the Styles of English Architecture* in 1817.³ Augustus Pugin's *Specimens of the Architectural Antiquities of Normandy* of 1825 brought together many detailed varieties of the Gothic architecture. The first part of his *Examples of Gothic Architecture* was published in 1828. The book was organized according to the places from which the examples were taken. In 1830, another book, written also by Pugin, *A Series of Views, Illustrative of the Examples of Gothic Architecture* appeared.⁴ In the 1830s, *Architectural Notes on German Churches* by William Whewell and *Remarks on the Architecture of Middle Ages* by Robert Willis were published. Throughout the following decades, several publications surveying on Gothic with measured drawings emerged and were offered to the Gothicist practice.⁵

Augustus Welby Pugin, the son of Augustus Pugin, was one of the prominent theorists of Gothic architecture. A. W. Pugin developed a new architectural theory by relating architecture to religion and morality. He believed that Gothic architecture was the enduring part of the Catholic Church. His first book *Contrasts* was published in 1836. In the book, Pugin proposed his fundamental beliefs by comparing medieval architecture with nineteenth century architecture that there was a necessary connection between the religious truth and the architectural truth.⁶

³ Barry Bergdoll, *European Architecture. 1750-1890* (Oxford, New York: Oxford University Press, 2000), 145.

⁴ The book was consisted of twenty-three plates, drawn on stone by Joseph Nash, from original sketches, taken under Pugin's direction, and illustrated with descriptive accounts, by W.H. Leeds. Meanwhile, between 1828 and 1831, Augustus Pugin also published one hundred lithographic plates of Gothic Ornaments which were selected from ancient ecclesiastical and domestic buildings. According to Willson "many of them [were] most curiously designed, and well adapted to the use of modern artists." See Pugin, A., Pugin, A. W. and Willson, E.J. *Examples of Gothic Architecture*. Vol. II [book on-line] (Edinburg: John Grant, 1895), vi-viii; available from <http://www.archive.org/details/examplesofgothic02pugiuoft>; internet; accessed 5 May 2009

⁵ Hanno Walter Krufft, *A History of Architectural Theory* (New York: Princeton University Press, 1994), 327.

⁶ David Watkin, *Morality and Architecture* (Oxford: Oxford University Press, 1977), 17, 18.

He saw pure function as a revelation of the religious truth. Accordingly, he declared that Gothic was not a style but a principle which was eternally valid as the teaching of the Catholic Church.⁷

John Ruskin was the other influential theorist who made an important impact on Victorian architecture. In Ruskin's world, Gothic architecture, God, man, nature, art and imagination were woven together. Ruskin came late in Romantic movement but he had inherited a kind of pantheism and a certain discerning eye from early romantics.⁸ Explaining the national character of Gothic, he said that all good architecture was the expression of national life and character.⁹ According to Ruskin, Gothic architecture had the ability to document and keep alive national traditions, and to unite the individual and the universal. He proposed that Gothic architecture had the moral spirit and historic reality of the age. For him, Gothic buildings were valuable because not only of their display of national history but also of their richness of information contained in their ornaments.¹⁰

Revealing such a theoretical background, Gothic was rendered as a national and religious symbol. Since the process of forming a nation was based on diffusion and acceptance of national symbols, existing national iconographies were emphasized or strengthened and/or new images were built. Accordingly, images of national landscapes and monuments were produced, popularized and redefined as symbols of patriotism and rendered further political or ideological significance.¹¹ So, it was in this context that photographs of picturesque views of cathedrals, abbeys and ruins were widely produced.

⁷ David Watkin, *English Architecture. A Concise History* (New York and Toronto: New York University Press, 1979), 157.

⁸ Robert Furneaux Jordan, *Victorian Architecture* (Harmondsworth: Penguin, 1966), 171, 172.

⁹ David Spurr, "Ruskin and Viollet-le-Duc: Figures of Ruin and Restoration" *Chora*, 5 (2007): 285-308, 298.

¹⁰ *Ibid.*, 299.

¹¹ Jager, "Picturing Nations," 117-119.

Meanwhile, nationalism also created the idea of protection of national heritage. Accordingly, topographies were surveyed in order to investigate what belonged to the national heritage and what did not. In the 1840s, the number of the architectural and historical societies increased and some of them commissioned and published photographs.¹² Through photographs, landscapes and historical buildings became easily accessible for everyone and were opened for collective experience. Since photograph was conceived as equivalent of the represented scene, the viewing of photograph became equal to direct experience of scene.

Gothic cathedrals and medieval architecture were photographed with the aim not only of recording national heritage but also of applying Gothic features to new buildings. So, the use of photography played a significant role in Gothic revival. What should also be noted here is that the conventions for recording architecture had already been established by illustrations in the previous publications on Gothic architecture. Since historical places and monuments had already been depicted by many artists before photographs, the early landscape photographs picturing Gothic edifices were influenced by the works of a group of naturalistic landscape painters and watercolourists, such as Gainsborough, Turner and Constable. Besides, illustrations in travel and guide books or in architectural books, published in Britain from the mid-eighteenth century until the 1840s, constituted a frame for these photographs.¹³ In this regard, to remain faithful to previous visual conventions provided photographers or their patrons, who had to compete with highly rooted and organized engraving industry, to get reception.

The photographs of Gothic buildings appeared immediately after the invention of photography. Daguerreotype, showing the West front of Wells Cathedral [Fig. 3.1], built in the first half of the 13th century, was taken in the 1840s by Richard Beard. Beard was a businessman and through his licensing agent, he became aware of the Daguerreotype

¹² Jager, "Picturing Nations," 124.

¹³ Ackerman, *Origins, Imitations, Conventions*, 76.

patent and obtained it. In 1840, by securing the British monopoly on the Daguerreotype, he opened the first public photographic studio in London.¹⁴ The plate shown here was a 6.7x9.2 cm daguerreotype. It was an elevation view, presenting the full west front of the cathedral.¹⁵

The west front of York Minster completed in the fourteenth century, from Lendal Street [Fig. 3.2] was taken by Henry Fox Talbot around 1845. The photograph was a salt print from a paper negative of 16x20.2 cm, showing the west front from the intersections of two streets. The cathedral was also photographed from the same point by different photographers including Roger Fenton who captured almost an identical view.¹⁶

The photograph of Bell Harry Tower, Canterbury Cathedral and St. Augustine's Abbey [Fig. 3.3] was taken by Benjamin Brecknell Turner in the 1850s. Turner was a businessman and he took his first photographs in 1849. Some of his photographs were displayed at the Great Exhibition in Crystal Palace in 1851. In 1853, his works were exhibited at the Society of Arts and his prints were admired by Prince Albert. During those years, he operated a portrait studio in London. Showing Bell Harry Tower, built in the 1490s, the tallest of the five towers of Canterbury Cathedral with incidental details and as rising behind the Abbeys of St. Peter and St. Paul, the photograph was an albumen print from a waxed-paper negative of 28x38.6 cm.¹⁷

The other photograph of Turner [Fig. 3.4] shows ruins of Whitby Abbey, Yorkshire from the northeast, in the 1850s. It was a 26.6x38.2 cm albumin print from a calotype negative.

¹⁴ Pare, *Photography and Architecture*, 217.

¹⁵ Ibid.

¹⁶ Ibid., 219.

¹⁷ Ibid., 221.

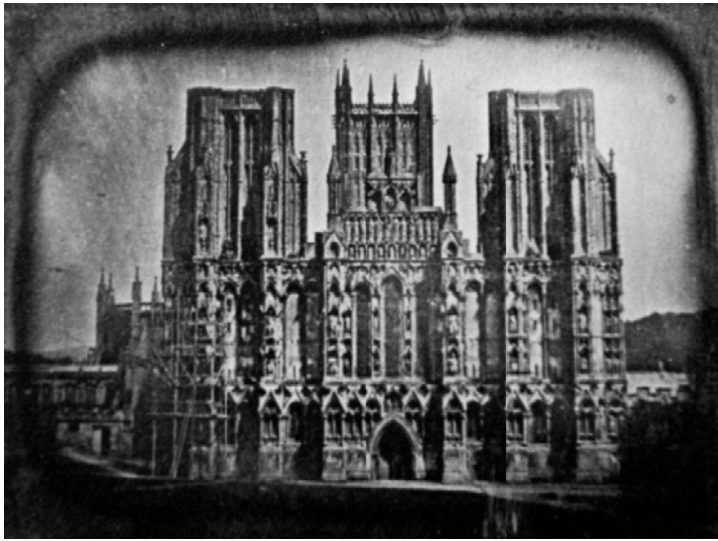


Figure 3.1 West front of the Wells Cathedral, Daguerreotype by Richard Beard, 1840s

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 1



Figure 3.2 West Front, York Minster, from Lendal Street by Henry Fox Talbot, 1845?

Source: Pare, *Photography and Architecture*, plate 3



Figure 3.3 Bell Harry Tower, Canterbury Cathedral and St. Augustine's Abbey by Benjamin Brecknell Turner, 1850s

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 8



Figure 3.4 Whitby Abbey, Yorkshire from the North East, in 1850s by Benjamin Brecknell Turner, 1850s

Source:

<http://www.vam.ac.uk/vastatic/microsites/photography/magnify.php?imageid=im00258>; accessed 7 June 2009

Ely Cathedral, built in the thirteenth century, from the south [Fig.3.5] was taken by Roger Fenton in the 1850s. Fenton photographed landscapes and architecture in Britain in the late 1850s. The photograph, here, was an albumen print taken from a wet collodion glass plate negative of 35.7x44 cm.¹⁸ Fenton was an experienced landscape photographer and therefore his photograph of Ely Cathedral, taken at the early morning hours showed the Cathedral as a part of the landscape, merging with greenery under the soft light and in tranquility.

Another photograph of Roger Fenton from the late 1850s showed Chapter House and the gable of the southwest transept of Cathedral Salisbury from Bishop's garden [Fig. 3.6]. The photograph was an albumen print from a wet collodion glass plate negative of 34.3x44 cm. It was a standard view of the cathedral, similar to his previous photographs. Fenton's photographs were distinguished from contemporary photographs taken in the 1850s, in terms of his minute arrangement of the frames, precise details acquired by glass negatives and his fine quality of prints.¹⁹

Roger Fenton's Rievalux [Fig. 3.7] and Francis Bedford's Rivealux [Fig. 3.8] both taken around the mid 1850s, were standard views of the cathedral and displayed picturesque quality, depicting the architectural remains invaded by nature. Fenton's photograph of the Abbey taken in 1854 was an albumen print from a wet collodion negative of 34.4x28.9 cm and Bedford's photograph was an albumen print as well. Francis Bedford was the son of an architect, Francis Octavius Bedford. He also made some designs and architectural drawings, exhibited in the Royal Academy. He also had a skill in lithography and made one hundred fifty eight coloured lithographs for the publication of James Digby Wyatt's *The Industrial Arts of the Nineteenth Century at the Great Exhibition* (1853). Bedford began to take

¹⁸ Pare, *Photography and Architecture*, 222.

¹⁹ *Ibid.*, 223.



Figure 3.5 Ely Cathedral from the south by Roger Fenton, 1850s

Source: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All the Mighty World* (New York: The Metropolitan Museum of Art, 2006), plate 49

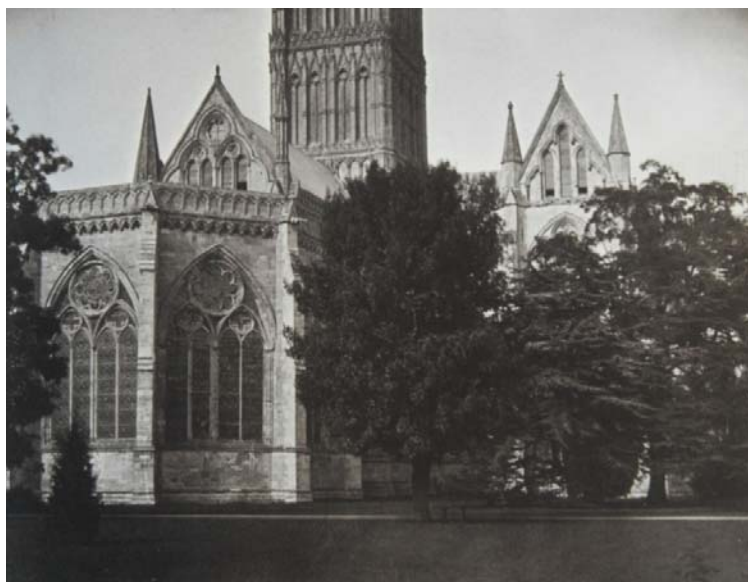


Figure 3.6 Chapter House and Cathedral Salisbury from Bishop's garden by Roger Fenton, 1850s

Source: Baldwin, Daniel, and Greenough, *All the Mighty World*, plate 55

photographs in 1853. In 1857, he became a member of the *Photographic Society* and in the same year, he was commissioned by Prince Albert to take a series of views of Coburg and Bavaria.²⁰ In the 1850s, Bedford travelled throughout Great Britain and produced landscapes.²¹ In 1861, he became the vice president of the Photographic Society. In 1862, he was offered to document the tour that would be made by the Prince of Wales to the East. During the tour, Bedford was allowed to enter and take photographs of holy places where entrance was normally restricted. After the tour, he produced 148 prints which were published in 1863. He was honoured with silver medal for these prints in the Exposition Universelle in Paris in 1867. Bedford also published a series of stereographic²² British landscapes and views of Wales, Tenby, Exeter, Torquay, and Warwickshire.²³ Even though Bedford's architectural photographs showed picturesque approach, his intention was documentary.

²⁰This was not Bedford's first royal commission, he had also got Queen Victoria's commission to take photographs of the objects in Royal collection in 1854. The album that Prince Albert ordered from him in 1857 was a birthday present for the Queen. This royal interest also shows the reception of photography as a valuable documentary media. See Haworth-Booth, *The Golden Age of British Photography*, 83.

²¹ Bedford was a very meticulous photographer. He used three different lenses; one for interiors, another was landscapes and the other as a special lens for architectural views. While the exposure of the sky was a very difficult issue for the other photographers, he managed to solve it either by painting the clouds or by overlying two separate sky negatives. He was also the first photographer to use electric light for print. See Haworth-Booth, *The Golden Age of British Photography*, 83.

²² Stereoscope, an optical instrument reconstituting an illusion of depth, was invented in 1838. It was based on the phenomenon of binocular vision. In 1844, David Brewster who was the inventor of kaleidoscope, who was also in contact of early calotypists such as Talbot, Hill and Adamson, applied the principle of stereoscope to photography and he produced an instrument. Immediately after Brewster's demonstration of his invention to the Queen, stereoscopes became widely popular. Stereoscopic effect was produced by viewing two slightly dissimilar photographs taken from viewpoints 10 to 20 cm apart through a stereoscope. Stereoscopy was adopted to a variety of photographic processes developed between 1850 and 1870. The most special ones were the colored transparencies which were regarded as miniature versions of dioramas. In Britain, London Stereoscopic Society, Negretti and Zambra, J. Elliot and C.E. Elliott, William M. Grundy, George Washington Wilson, Francis Bedford, Francis Frith and Robert Fenton were the most significant producers of these images. See Pierre-Marc Richard, "Life in Three Dimensions. The Charms of Stereoscopy" in *A New History of Photography*, 175-179.

²³ Haworth-Booth, *The Golden age of British Photography*, 83.



Figure 3.7 Rievaulx Abbey by Roger Fenton, 1854

Source: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All the Mighty World* (New York: The Metropolitan Museum of Art, 2006), plate 12



Figure 3.8 Rievaulx Abbey by Francis Bedford, late 1850s

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 34

The photograph of abbey church of St. Alban [Fig. 3.9] was taken by Francis Frith before its restoration in 1877. Frith was another prominent name of the early British photography.²⁴ He started to take photograph in 1856 and was respected as a skilful amateur. In 1859, he founded the photographic firm, Francis Frith & Co. and in 1860, started to produce photographic images of every city, town and village in Britain. These pictures were sold as souvenir photographs, then as picture postcards. What was characteristic of Frith's photographs was that he produced photographs of streets and buildings from similar points over time.²⁵ The photograph, here, was an albumen print.²⁶ It created an allusion of being there, most probably, because Frith aimed to establish the viewer's position on the site more than compositional conventions would have allowed. He was at the ground level and the strong mass of the medieval church was rising in front of the viewer with an impressive presence. Moreover, the corner view contributed to underline the massiveness of the medieval church.²⁷

In 1862, the British publisher Cundall, Downes & Co. published a volume, titled *Wells, Architectural Details of the Cathedral and Close*. Then, the other volume, *Sculpture of the West Front of Wells Cathedral*, which was in the same size and typology, appeared in the same year. The volume was subtitled as "Printed and Photographed for the Architectural Society."²⁸ These albums were actually the response of photographers to Ruskin's early suggestion of documenting architecture stone by stone: "The greatest service which can at present be rendered

²⁴ For a discussion of Francis Frith's works, see also Chapter 4.2 Travel and Architectural Photography.

²⁵ Roger Hunt, "Nation in Focus," *Cornerstone* 26, no. 4 (2005), 33-41: 39.

²⁶ Although there is no information about the negative used for this photograph, Francis Frith was known that he usually used wet collodion glass negatives.

²⁷ Robinson and Herschman, *Architecture Transformed*, 18.

²⁸ *Ibid.*, 33.

to architecture is the careful delineation of its details from the beginning of the twelfth to the close of the fourteenth century, by means of photography.”²⁹ Ruskin further suggested photographers take photographs of small details by using scaffoldings to get closer to those details, rather than full views.³⁰ One of the photographs from *Wells, Architectural Details* showing a part of the nave triforium [Fig. 3.10] was a foliate decoration of spandrel taken by Joseph Cundall. Cundall was both a photographer and a publisher.³¹ He was a member of the Calotype Club and the principal of the publishing firm, Cundal, Downes and Co. The photograph was an albumen silver print.

The photograph from the same album published by Cundall was the stairs of Wells Cathedral [Fig. 3.11]. Cundall’s photograph might have also been inspired from Ruskin’s definition of true Gothic as the perfect combination of different parts.³²

The stairs of Wells Cathedral was also photographed by Frederick Henry Evans in 1903, under the title of ‘Sea of Steps’ [Fig. 3.12]. Frederick Evans was a bookseller. He became interested in photography towards the end of the nineteenth century and began to take architectural photographs focussing especially on Medieval and Renaissance architecture in Britain and France. He produced a comprehensive record of Chapter House at York Minster and his many works published in *Country Life*. He was also commissioned by *Country Life* to record French chateaux in 1905. Evans was a member of the Linked Ring which was “the international Society, dedicated to the promotion of photography as an art form.”³³

²⁹ John Ruskin, *Seven Lamps of Architecture*. 6th ed. [book on-line] (Kent: George Allen, 1889), 218; available from www.archive.org/details/sevenlampsofarch00ruskuoft; internet; accessed 8 May 2009.

³⁰ Louise Pullen, “Flawed Beauty,” *Cornerstone* 26, no. 4 (2005): 33-41, 35.

³¹ Robinson and Herschman, *Architecture Transformed*, 189.

³² *Ibid.*, 34.

³³ Pare, *Photography and Architecture: 1839-1939*, 261.



Figure 3.9 Abbey Church of St. Alban by Francis Frith, before 1877

Source: Cervin Robinson and Joel Herschman, *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present*, (New York, NY: Architectural League of New York; Cambridge, MA: MIT Press, c1987), 20



Figure 3.10 The part of nave triforium by Joseph Cundall, 1862

Source: Robinson and Herschman, *Architecture Transformed*, 34



Figure 3.11 Stairs of Wells Cathedral by Cundall, 1862

Source: Cervin Robinson and Joel Herschman, *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present*, (New York, NY: Architectural League of New York; Cambridge, MA : MIT Press, c1987), 35



Figure 3.12 Sea of Steps by Evans, 1903

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 84

Until the end of the nineteenth century, he followed the conventions of early topographical images, and avoided aberrations, caused by lens, and tried to present correct proportions and correct linear perspective. However, after the turn of the century, he deviated from previous conventions of architectural representation and tried to abstract the subject from immediate physical perception rather than to imitate direct physical experience of space.³⁴

Evans composed his image of the stairs by eliminating both the stonework over the arched doorway and hand rail along the wall. Moreover, by reducing the contrast, a very soft atmosphere was obtained.³⁵ Here, the title of Evan's photograph, "Sea of Steps," can be related to William Lethaby's "cosmic symbolism." Lethaby was an architectural theorist who in his book, *Architecture, Mysticism and Myth* of 1892 proposed a theory of architectural symbolism. Lethaby suggested that "all forms of architecture should be comprehensible as direct imitations of nature" and that "cosmical symbolism" should be revealed by all buildings.³⁶

The last two examples that should be mentioned here were postcards produced around the 1900s. The first one was the view of St Margaret's Church, built between the fifteenth and sixteenth centuries and the north transept of Westminster Abbey, built in the fourteenth century [Fig. 3.13]. It was produced by George Washington Wilson who was one of the significant commercial photographers of the time and producer and publisher of photographs of Britain and abroad.³⁷ The second postcard [Fig. 3.14] was produced by another significant commercial

³⁴ Anne Kelsey Hammond, "Spiritual Harmonies of Architecture" in *British Photography in the Nineteenth Century: the Fine Art Tradition*, Mike Weaver, ed. (Cambridge: Cambridge University Press, 1989), 252-253.

³⁵ Hammond, "Spiritual Harmonies of Architecture," 256, 258.

³⁶ Krufft, *A History of Architectural Theory*, 338, 339.

³⁷ Hannavy, ed. *Encyclopedia of Nineteenth-Century*, 695.



Figure 3.13 St Margaret's Church and the north transept of Westminster Abbey, by George Washington, around 1870s

Source: www.ribapix.com/image.php?i=20626&r=1&t=4&x=1&ref=RIBA13553; accessed 8 June 2009



Figure 3.14 Lord Leycester Hospital, West Gate, High Street in Warwick by James Valentine and Sons of Dundee, around 1870s

Source: www.ribapix.com/image.php?i=21878&r=1&t=4&x=1&ref=RIBA7272; accessed 8 June 2009

photographer, James Valentine around the 1870s. James Valentine and Sons of Dundee was also a photo-publishing firm which mainly produced and sold landscape photographs and postcards. Valentine was trained as a portrait painter in Edinburgh. His son William Dobson Valentine had a degree in chemistry and he was also trained at Reigate Studios of Frith and Francis Frith. He convinced his father to expand their business to produce photographic views similar to those of George Washington Wilson. In 1867, James Valentine got his royal commission from Queen Victoria to produce a series of Scottish landscapes and was appointed as a photographer to the Queen. By the 1870s, the Valentines photographed almost the whole Britain and their photographs were sold either as single postcards or in finely bounded albums.³⁸ The postcard, here, representing Lord Leycester Hospital, West Gate, High Street in Warwick, built in the sixteenth century in Tudor style, reflected careful composition and meticulous work of James Valentine.

3.2. CAPTURING THE PRESENT, TRANSFORMING THE PAST

In the first half of the nineteenth century, architectural environment was dominated by historical revivalism. As Augustus Welby Northmore Pugin said, it was the time of “architectural carnival.”³⁹ The Classical, Gothic, Italian Renaissance and old English styles were all practiced as a result of increasing knowledge of historical styles. Moreover, the possibility of getting acquainted with exotic styles in relation to the accessibility of exotic cultures through voyages and colonization paved the way for the appearance of richer choices while favourites changed with

³⁸ Hannavy, ed., *Encyclopedia of Nineteenth Century*, 1433. The prices of these albums indicate that these albums were addressed to middle and upper class audience.

³⁹ “This may, indeed, be appropriately termed the carnival of architecture: its professors appear tricked out in the guises of all centuries and all nations; the Turk and the Christian, the Egyptian and the Greek, the Swiss and the Hindoo, march side by side, and mingle together; and some of these gentlemen, not satisfied with perpetrating one character, appear in two or three costumes in the same.” See A. Welby Pugin, *An Apology for the Revival of the Architecture in England* [book on-line] (London: John Weale, 1843), 2; available from [http://www.archive.org/details/apologyforreviva00pugiouoft;internet;accessed 5 May 2009](http://www.archive.org/details/apologyforreviva00pugiouoft;internet;accessed%205%20May%202009)

fashion.⁴⁰ Photography arrived in the mid of that “battle of styles”⁴¹ and witnessed the changing faces of buildings.

Gothic Revival was the most significant characteristic of Victorian architecture.⁴² In the middle of the eighteenth century, the revival of medieval forms had been found architectural expression in a number of houses owned by wealthy and politically influential antiquarians. These romantic castellated houses displayed the sentimental attraction of Gothic associations.⁴³

As a style of public buildings, the Gothic first appeared in church design in the first decades of the nineteenth century. But the Gothic was associated not only with religion but also with patriotism. In this context, the rebuilding of Westminster Palace in 1835, after the devastating fire in 1834, was a crucial event for the Gothic revival. The Parliamentary Committee demanded ‘Gothic’ or ‘Elizabethan’ style for the new building and Charles Barry’s Gothic design was accepted. Since Barry was not a Gothicism, he collaborated with Augustus Welby Northmore Pugin who was the most significant Gothicism of the time.⁴⁴ The plan of the building was developed by Barry and Pugin was responsible for the ornamentation and interior design. Barry designed the overall appearance of

⁴⁰ Nikolaus Pevsner, *An Outline of European Architecture* (Baltimore: Penquin Books, 1960), 622.

⁴¹ In 1860, Robert Kerr, who was a significant architect and one of the founders of Architectural Association, gave a lecture entitled “Battle of the Styles” at an architectural exhibition. Although the lecture was not published, the notes taken by listeners were published in *Builder*. In the lecture, he recounted the stylistic revivals in Britain as “English Palladianism”, “Eighteenth Century Gothicism”, “New Italian Scholl”, “Ecclesiology”, “Latitudinarianism” (Ruskin) and “Eclecticism”. Then he concluded by proposing sarcastically that a stylistic compromise “the battle of styles seemed thus to be approaching near the end of all honourable and creditable conflict, namely, alliance” See, Harry F. Mallgrave, ed. *Architectural Theory*. vol I. (Oxford: Blackwell, 2006) (2004), 500.

⁴² For further reading, see Curl *Victorian Architecture*, 73-148.

⁴³ Bergdoll, *European Architecture*, 143.

⁴⁴ *Ibid.*, 158.

buildings within the city context by considering the towers of Westminster Abbey and the viewpoints of a walking pedestrian. In this sense, the overall composition of buildings followed the picturesque tradition.⁴⁵ The photograph of the Houses of Parliament [Fig. 3.15] was produced by Roger Fenton in 1858. It was a perspective view displaying the building and the towers of Westminster Abbey as if they were extensions of the Houses of Parliament and presented a picturesque taste. Fenton's photograph was an albumen print from a wet collodion glass negative.

In the second half of the nineteenth century, the ideas of John Ruskin influenced Gothic revivalism. For him architectural truth corresponded to the display of reality or character of the material of a building. Massiveness was one of the features that Ruskin emphasized. He demanded the use not only of mass of stone but of broad masses of light and shade as well.⁴⁶ As Sir Walter James, who was a friend of Ruskin's said "Pugin has most influenced us in structure, John Ruskin in ornament."⁴⁷ Ruskin put emphasis on strong construction, appropriateness for purpose and nobility of sculpture and decoration.⁴⁸ He was associated with 'Ruskinian Gothic' which was the term, implying structural polychromy.⁴⁹ Examples of Ruskinian Gothic or in other words, massive and polychrome buildings were built in the 1850s and the 1860s. However, reaction to the

⁴⁵Bergdoll, *European Architecture*, 162.

⁴⁶ Brooks, *John Ruskin and Victorian Architecture*, 80.

⁴⁷ *Ibid.*, 78.

⁴⁸ Ruskin insisted that ornaments could be useless. To him, the architect did not have to exhibit structure while he was decorating his building. Ornament could be simply ornamental. As a critic, Ruskin had a high moral tone which sometimes sounded strange. He declared that a bad architecture suggested original sin. Ruskin demanded color. His demand was the use of natural colors of stones and suggested to strengthen brick walls by using horizontal bands or zigzag pattern of stone. So, Ruskin played a major role in the Victorian interest in polychromy. See Curl, *Victorian Architecture*, 55.

⁴⁹ Curl, *Victorian Architecture*, 49.



Figure 3.15 Houses of Parliament by Roger Fenton, circa 1858

Source: Baldwin, Daniel, and Greenough, *All the Mighty World* plate 59



Figure 3.16 St Pancras Station

Source:

www.scienceandsociety.co.uk/results.asp?image=10318845&wwwflag=2&imagepos=154; accessed 23 July 2009

'Ruskinian Gothic' arose in the 1860s. Then, again, purer and more primitive forms of the Gothic began to be preferred.⁵⁰ Illustrating the characteristics of Ruskinian Gothic, the photograph showing the interior view of St. Pancras Station [Fig. 3.16] designed by George Gilbert Scott between 1868 and 1874,⁵¹ depicted that the construction of the station was almost completed. In terms of shafts of lights, shining through the Venetian Gothic windows with slightly pointed arches of colored stone both the building and the photograph represented the Ruskinian influence.

Even though the Gothic style largely dominated British architecture during the century, Greek style was also considerably used, particularly, in the first decades of the century. Classicism had been revived since the second half of the seventeenth century and archaeological publications such as Stuart and Revett's *Antiquities of Athens* and *Ionian Antiquities* and William Wilkin's *Antiquities of Magna Gracia* affected the spread and reception of Greek Style.⁵² A significant example of Greek-Revival building was Sir Robert Smirke's British Museum, completed in the early years of Victorian era, in the terms of a Greek temple with its Ionic columns and pediment.⁵³ It was photographed in 1857 [Fig. 3.17] by

⁵⁰ Curl, *Victorian Architecture*, 49, 60, 62.

⁵¹ *Ibid.*, 69, 70.

⁵² Spiro Kostof, *A History of Architecture* (New York: Oxford University Press, 1995), 571. The success of Revett and Stuart's publications inspired British architects, some of whom would occupy prominent positions in the British architectural profession, to visit Greece. Thus, the increasing interest in Greece revived the Greek style. Thomas Hope, whose publications were among the serious architectural sources of the time, was one of the influential architects of the British Greek revival. Hope acquired knowledge of Greek architecture through his extensive Grand Tour of Europe including Spain, Italy, France, Germany, Egypt, Syria, Turkey and Greece. See Mallgrave, *Architectural Theory*, vol I, 474-476 and Kruff, *A History of Architectural Theory*, 323.

⁵³ For further reading Curl, *Victorian Architecture*, 73-148.



Figure 3.17 British Museum by Roger Fenton, 1857

Source: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All the Mighty World* (New York: The Metropolitan Museum of Art, 2006), plate 40

Roger Fenton, who was the British Museum's first official photographer.⁵⁴ Produced as an albumen print, the photograph was taken most probably in the early hours of the day as soft light coming from the right side revealed the texture of the stone and emphasized the reliefs on the pediment.

While debates were carried on in individual buildings, the city appeared as the arena of the 'battle of styles.' Throughout the nineteenth century not only the styles, but also the city itself changed perpetually.

3.2.1 CAPTURING THE CITY IN TRANSFORMATION

During the first half of the nineteenth century, the cities of industrializing nations experienced both unexpected growth and crowd. When major cities became congested, their narrow streets and old districts underwent transformation as part

⁵⁴ Ellwal, *Building with Light*, 33.

of urban renewal processes.⁵⁵ As a result, while old views of cities were disappearing, transformations of cities presented unprecedented views and visual relationship between old and new. Accordingly, photographers immediately responded to this change by producing city views.

Urban landscapes, construction of new buildings, demolition of old buildings and old places before and after the demolition immediately became the subjects of photographers. In most cases, the documentation of transformation was carried out by official commission or under the patronage of some societies. As an outcome, serials of photographs produced. These photographs were mostly fragmental images, intended to construct a meaning as a whole.

For the first time in photography, not only places or buildings but also period became a subject for photographers. Photographers were always engaged with time in terms of the relation between old and new. The picturesque compositions focusing on decay and ruins suggested the conception of time by tracing the past in the present. However, photographers' engagement with time as period or as successive fragments or as progression was a new idea.

The urban photographs of transformation appeared in two categories. They were single photographs depicting transformation in one frame or they were part of a serial. While the photographs of the first category were mostly produced by amateurs or private entrepreneurs, the photographs of the second category were mostly produced by commissioned professionals. Furthermore, photographic serials were produced as either documents of places or documents of progression.

⁵⁵ See, Leonardo Benevolo, *The History of the City* (Cambridge, Massachusetts: The MIT Press, 1981), 733-764.

The earliest urban views of London were produced by Talbot in the beginning of the 1840s.⁵⁶ In one of them [Fig. 3.18],⁵⁷ Talbot showed Nelson column, the monument to Admiral Lord Nelson completed in 1843, under construction. It was a view taken from an elevated point.

Around the 1850s, Fenton produced some city scapes, having a different meaning and different visual language from those of Talbot's. Fenton's photographs were meticulously arranged picturesque views such as the photograph of the Houses of Parliament under construction [Fig. 3.19]. It was an albumen print produced from a wet collodion glass negative and dated 1858.⁵⁸ The photograph showed the changing silhouette of London. As usual for Fenton, he tightly arranged his frame with the keen eye of a painter. In this frame, the Houses of Parliament were seen behind Hungerford suspension bridge. Even though the subjects of the photograph were not ruins but new edifices appearing in the silhouette of the city the photograph had a taste of picturesque. Furthermore, the water, the sky, the dim light, the Gothic silhouette in distance, massive dark foos and the sharp line of the bridge and the flue dark stain on the water were created as a kind of sublime sensation.

Another example was a view of Westminster Abbey looking towards the Houses of Parliament under construction [Fig. 3.20] produced by Fenton in 1857. Again, Fenton minutely arranged the frame, composed by lines and geometric shapes. By putting a distance between the frame and the viewer, he did not seem to be

⁵⁶ During my research I could not reach any photograph of London taken 1840s, except for those of Talbot's. It might be because of the restrictions of Talbot's patent.

⁵⁷ I have not found any technical information about the photograph, but considering that it was an early example and produced by Talbot, most probably it was a salt print from a calotype paper negative.

⁵⁸ Pare, *Photography and Architecture: 1839-1939*, 223.



Figure 3.18 Trafalgar Square, Nelson Column by Talbot, 1843

Source: Geoffrey Batchen, *William Henry Fox Talbot* (New York: Phaidon, 2008), plate 36



Figure 3.19 Houses of Parliament under construction by Roger Fenton, 1858

Source: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All the Mighty World* (New York: The Metropolitan Museum of Art, 2006), plate 60

concerned about the city, rather he showed a distant land creating a sensation of picturesque landscape.

In Britain, the earliest example of photographic survey to document the transformation of the city was Thomas Annan's work, carried out between 1868 and 1871, and for Glasgow City Improvement Trust.⁵⁹ Annan was a Scottish commercial photographer who lived most of his life in Glasgow. In 1868, the City of Glasgow Improvement Trust asked Annan to record the old buildings in the slum areas of the city, prior to their demolition, which were interesting from a historical point of view.⁶⁰ The aim of the survey was to preserve the images of the past. Annan focused on the spatial character of the old city as a subject and produced a record. He not only produced the images of buildings but also showed them in their context by including public life around them. Thus, while recording some of the city's oldest and newest structures; he also depicted economic and social structure around them.⁶¹ In 1868, Annan produced an album, entitled *Photographs of Glasgow*, consisting of thirteen photographs. In 1871, he enlarged the album by adding eighteen photographs and a table of contents, describing the views. The album was addressed to middle and upper class audience who were unfamiliar with those old areas. Actually, because of the widening gap between the proletariat and bourgeoisie in the mid-nineteenth century industrial society, the city was divided in zones where the proletariat and bourgeoisie inhabited separately as two nations. As a result of this separation, the old center transformed into slums, was unknown and feared places for the bourgeoisie. Thus, these

⁵⁹ Annans's record of Glasgow was not as systematically as that of Marville.

⁶⁰ Eve Blau, "Patterns of Fact: Photography and the transformation of Early Industrial City" in *Architecture and Its Image: Four Centuries of Architectural Representation: Works from the Collection of the Canadian Centre for Architecture*, eds. Eve Blau and Edward Kaufman (Montreal: Centre Canadien d'Architecture/Canadian Centre for Architecture, Cambridge, MA: MIT Press, 1989), 45.

⁶¹ *Ibid.*, 40- 46.

carefully configured albumen prints not only introduced the old buildings but also constructed the meaning that the past had already been transformed.⁶²

The street depicted in Annan's photograph, High street [Fig. 3.21] was a very old distinct of Glasgow. Before the nineteenth century, academic community of Glasgow had been living in High Street. In the 1830s, the street deteriorated and its buildings were inhabited by poor immigrants. The district became overpopulated and the subject of demolition under the Glasgow City Improvements Act in 1866.⁶³ The photograph was an albumen print produced from a glass-plate negative and published in 1878 or 1879.

Another Annan's photograph [Fig. 3.22] showed a narrow passage connecting the street to workers' houses. The photograph gave a clear sense of poverty and poor living conditions of the slum. Another image from the same serial [Fig. 3.23] showed the same neighborhood, and this time the photograph included some of the inhabitants. Both photographs were albumen prints produced from glass-plate negatives. Different from Talbot and Fenton, Annan immersed in the city and put his camera at the eye level. While documenting the distinct, he created the feeling of the physical experience of being there. However, Annan did not invent the conventions of this genre; there was already an awareness of the importance of the street itself in the urban landscape. The works of artists, such as Thomas Girtin, Thomas Shotter Boys had already established the conventions.⁶⁴

Photographers also adapted their works to previous conventions of city views. Henry Dixon and Alfred and John Bool also made a photographic survey. They were commissioned to record the proposed demolition of a sixteenth century coaching inn by the Society for Photographing the Old Relics of London

⁶² Ibid., 35.

⁶³ Pare, *Photography and Architecture: 1839-1939*, 259.

⁶⁴ Robinson, and Herschman. *Architecture Transformed*, 198, 24.



Figure 3.20 Westminster Abbey looking towards the Houses of Parliament under construction, by Roger Fenton, 1857

Source: Gordon Baldwin, Malcolm Daniel, and Sarah Greenough, *All the Mighty World* (New York: The Metropolitan Museum of Art, 2006), 229



Figure 3.21 High Street, Glasgow by Thomas Annan, 1878 or 1879

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture ; New York, N.Y. : Callaway Editions, 1982), plate 111



Figure 3.22 Close, 101 Street, Glasgow by Thomas Annan, 1878 or 1879

Source:

[www.nationalgalleries.org/collection/online_az/4:322/result/0/9026?initial=A&artistId=2669&artistName=Thomas Annan&submit=1](http://www.nationalgalleries.org/collection/online_az/4:322/result/0/9026?initial=A&artistId=2669&artistName=Thomas%20Annan&submit=1); accessed 8 June 2009



Figure 3.23 Close, No 28 Salt Market by Thomas Annan, 1868

Source:

www.bbc.co.uk/arts/apictureofbritain/inspiration/theme/urban/leaf_03.shtml ; accessed 7 June 2009

(SPORL), founded in 1875.⁶⁵ The aim of the project was to acquire the images of old cities before they were totally lost. Dixon and Bools photographed old neighbourhoods of London, threatened by demolition, and produced an album containing one hundred twenty carbon prints of photographs. The photographs were published by Henry Dixon in 1867.⁶⁶ Henry and T.J. Dixon's photograph [Fig. 3.24] showed King's Head Inn Yard, a very old settlement from the sixteenth century. It was also on the Pilgrims' road from France to Becket's shrine to Canterbury. King's Inn was called "Pope's Inn" before 1540 and it was devastated together with five hundred houses in the fire in 1676. The settlement was rebuilt with elaborate balconies as shown in the photograph. However, when it reached the nineteenth century the district became a notorious slum. Marshalsea Prison where Charles Dickens' father imprisoned for his debt and the warehouse where the young Dickens worked was in the site. Thus the place was associated with Dickens' characters.

SPORL was founded as a response of a suggestion published in *Times*. Accordingly, the project was followed closely and encouraged by the press. Truthful and detailed views obtained by photography in a short time were appreciated. So, as written in *Times* on September 26, 1882, "...those vestiges of London which may be expected to disappear in the course of a few months or years; and the prints combine the accuracy of a such work- an accuracy hardly be attained in the most careful drawing." However, these views were also expected to be picturesque as it was written in another excerpt, in *Times* on May 11, 1885, "...A society which ought to be encouraged by all who care for the rapidly disappearing remains of what was picturesque in London."⁶⁷ The society

⁶⁵Robinson, and Herschman. *Architecture Transformed*, 198, 26.

⁶⁶ Ibid.

⁶⁷ The excerpts were available as a part of photographic archive of the society in British Library.



Figure 3.24 King's Head Dean Yard, Southwark by Henry and T.J. Dixon, 1881

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 111



Figure 3.25 College Street with Church of St. Michael Paternoster Road by Henry and T. J. Dixon, 1879

Source: Pare, *Photography and Architecture*, plate 112

published photographs during a period of eleven years between 1875 and 1886. The photographs were produced by two teams; A & J. Bool and Henry & T.J. Dixon. Until 1881, they published a series without text after 1881 until the last issue in 1886, short historical information accompanied to the published photographs.

So, one hundred twenty successively numbered and unnumbered photographs were published.⁶⁸ For instance, Dixons' photograph, [Fig. 3.24] a 17.9x 22.5cm carbon print from a glass-plate negative numbered as fifty.⁶⁹ Another photograph of Dixons' [Fig.3.25] was a view of College Street with Church of St. Michael Paternoster Road which was a historic distinct of London. It was a carbon print from a glass-plate negative of 22.9x17.8 produced in 1879.⁷⁰

As a stage of the transformation of London, the construction of the Metropolitan District Railway from Paddington to Black Friars via Kensington, Westminster and the simultaneously-built Victoria Embankment were systematically photographed by Henry Flather between 1865 and 1870. Flather's career as a photographer started as *carte* photographer. Then he got several commissions to take photographs of some buildings and construction processes in London.⁷¹ So,

⁶⁸ During my research, I found an opportunity to search through some of these photographs in British Library in February 2009. I recognized that the inscriptions were very informative and descriptive both in terms of location and history. For instance, the inscription accompanied the photograph no 61 was 'Little Dean's Yard' is such that 'The photographs shows the entrance to the quadrangle from the cloisters of Westminster Abbey. The arched doorway on the right is surmounted by pediment is the entrance to Westminster School. A portion of the east wing of Asburnham House is to be seen on the left. It would be difficult to find more picturesque corner. By wonderful gradations, resembling more the result of growth than of design, gables and roofs rise one above the another till they culminate in the pinnacles of the south transept of the abbey and the polygonal roof of the Chapter House.

⁶⁹ Pare, *Photography and Architecture: 1839-1939*, 259.

⁷⁰ Ibid.

⁷¹ Mike Seaborne, "Photographers' London 1839 – 1994," (London: Museum of London, 1995), 2 [essay on-line] available www.urbanlandscape.org.uk/essays/earlylondon1.htm accessed 8 June 2009.

the progress of underground construction was systematically documented. Throughout that documentation whenever the construction required surface excavation, Flater included landmarks to the frame. For instance, in the photograph showing the site clearing during the construction [Fig. 3.26], the location was indicated by including Westminster Cathedral to the photograph. By using wet collodion glass plate negatives⁷² and albumen papers Flather produced sixty four photographs as a serial.⁷³ Six photographs showing different stages of the construction can be given here as examples: construction of the Metropolitan District Railway, Westminster, 1869 [Fig. 3.26], construction of the Metropolitan District Railway, Bayswater, 1867 [Fig. 3.27], site clearance at Queen Victoria Street, Blackfriars, 1869 [Fig. 3.28], site construction of the Metropolitan District Railway, 1867 [Fig. 3.29], construction of Bayswater Underground Station, 1867 [Fig. 3.30], and Paddington Station, 1866 [Fig. 3.31].

By the mid 1860s, large commercial firms producing and publishing photographs appeared. Francis Frith, George Washington Wilson, Valentine Blanchard, Negretti⁷⁴ and Zambra, Francis Bedford and the London Stereoscopic Society were the prominent firms in London. The views they were produced were standard tourist views showing major churches, palaces, monuments, main squares and boulevards, etc. Those photographs were bound to conventional expectations of their audience. Thus, they were standardized and similar images were started to be produced.

⁷² His portable dark room required for preparation of wet collodion negatives was seen on the track bed [Fig.3.31].

⁷³ See Seaborne, “Urban Landscape Photography in London-the Early Years”

⁷⁴ Henry Negretti was also the first photographer who tried to capture the Britain’s the first aerial photographs from a balloon in 1863. However, none of the wet-plates were successful. Hannavy, *Encyclopedia of Nineteenth Century Photography*, 12.



Figure 3.26 Construction of the Metropolitan District Railway, Westminster, 1869

Source: www.scienceandsociety.co.uk/results.asp?image=10437912 ; accessed 22 July 2009



Figure 3.27 Construction of the Metropolitan District Railway, Bayswater, 1867

Source: www.scienceandsociety.co.uk/results.asp?image=10437884; accessed 22 July 2009



Figure 3.28 Site clearances at Queen Metropolitan District Railway, 1867

Source: www.scienceandsociety.co.uk/results.asp?image=10325616 ;accessed 22 July 2009



Figure 3.29 Site construction of the Victoria Street, Blackfriars, 1869

Source: www.scienceandsociety.co.uk/results.asp?image=10437900; accessed 22 July 2009



Figure 3.30 Construction of Bayswater Underground Station, 1867

Source: www.scienceandsociety.co.uk/results.asp?image=10437885; accessed 22 July 2009



3.31 Paddington Underground Station, 1866

Source: www.urbanlandscape.org.uk/essays/earlylondon1.htm; accessed 22 July 2009



Figure 3.32 Fountains, Trafalgar Square by Francis Frith, 1860s

Source: www.vandaimages.com/results.asp?image=2006AF0959-01&wwwflag=1&imagepos=7; accessed 25 July 2009



Figure 3.33 Royal Exchange, London by George Washington Wilson, 1890

Source: <http://www.scienceandsociety.co.uk/results.asp?image=10436077>; accessed 8 June 2009

The photograph showing Fountains, Trafalgar Square, was taken by Francis Frith around the 1860s [Fig. 3.32]. As a standard view, showing the square and National Gallery, it was an albumen print mounted on cardboard. Another photograph was from an album, containing sixty photographic views of London, published by George Washington Wilson who established a popular photographic studio in Aberdeen in 1848. In 1873, Wilson was assigned as a photographer to Queen Victoria. By the 1880s, he established a substantial business that became one of the world's largest publishers of landscapes and city views, producing thousands of stereocards, cartes de visite and albumen prints. The last photograph shown in this chapter presented the rush of Royal Exchange [Fig. 3.33] from an elevated point where horse drawn street cars in the foreground, with an equestrian statue of the Duke of Wellington outside the Exchange were seen.⁷⁵

3.2.2 CAPTURING THE “IRON AGE”

While prominent architects and gentlemen carried on the debates on stylistic theories and practices, canals, bridges, viaducts, and railways also shaped Victorian environment as a result of new technological developments. Moreover, as a response to the needs of the industrialized society new buildings types came into being and existing ones were altered. There were no immediate models for these buildings. Furthermore, the need for large covered spaces was common for most of these new buildings. Iron and glass were the new materials, offering new solutions.

Both iron and photography were the products of industrial revolution. Being not restricted to old traditions of representation, photographers could exploit the new possibilities suggested by camera and accordingly, photography was perhaps the most appropriate way of representing the buildings of the Iron Age.

⁷⁵ Although the photographs were usually marked with George Washington Wilson's initials, many were actually taken by assistants like Charles Wilson, his son.

Iron was known and used for structural purposes since Antiquity. But until the industrial revolution, it was used for secondary purposes. The invention of coke-smelted iron in 1747 and the application of steam power in iron industry around 1775 made possible to produce iron in vast amounts at cheap rates which were crucial developments in iron industry. Because of its lower price and availability, the use of iron immediately prevailed over the use of less durable materials. It started to be used as a raw material for ship building and railway industry. Starting in the last quarter of the eighteenth century, iron was used for both structural and decorative purposes as wrought iron masonry reinforcement, cast iron columns, iron frames, iron roofing frames and cast iron facades.⁷⁶

The expansion of railways created the need for stations and bridges requiring wide span construction. Yet, the Britons had already started to experiment with metal bridges when they built a vast network of their canals. The construction of first cast iron bridge, Coalbrookdale over the River Severn of 1779, designed by Thomas Farnolls Pritchard and built by Abraham Derby was an early great display of structural use of iron. Being composed of a single, nearly semicircular arc made up of five cast iron ribs, it spanned thirty meters over the Severn. Thomas Telford, the British engineer and railway expert, built many bridges. His Menai Straits Bridge, which was built between 1819 and 1825, was of particular significance because of its enormous span of one hundred seventy seven meters suspended over the Menai Straits.⁷⁷ The iron bridges were widely photographed as new components of national landscape and the celebration of British progression in technology. As in the cases of two examples showing Coalbrookdale Bridge by an unknown photographer in the late 19th century [Fig. 3.34] and Menai Strait Bridge by Francis Bedford in the 1870s [Fig. 3.35].

⁷⁶ Sevil Enginsoy, "Use of Iron as a New Building Material in Nineteenth Century Western and Ottoman Architecture" (Master Thesis, METU, 1990) , 11-21.

⁷⁷ Kostof, *A History of Architecture*, 599.



Figure 3.34 The cast iron bridge over the River Sever, Coalbrookdale by unknown photographer, late 19th century

Source:

www.scienceandsociety.co.uk/results.asp?image=10308395&wwwflag=2&imagepos=6; accessed 25 July 2009

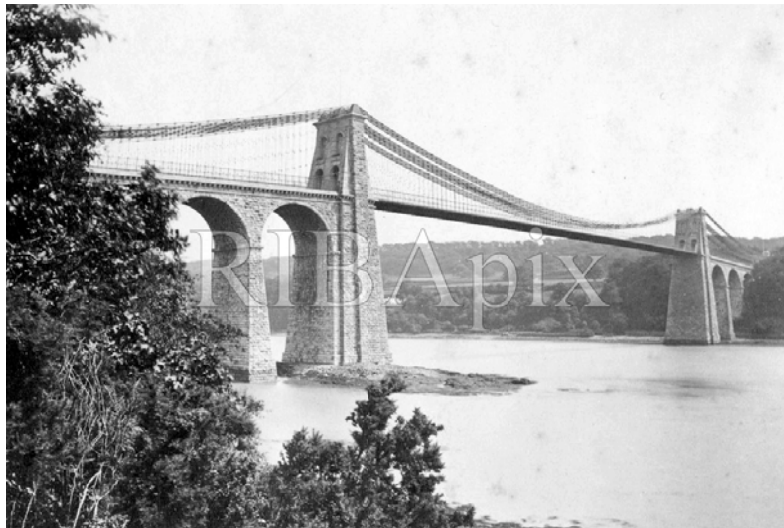


Figure 3.35 Menai Straits Suspension Bridge by Francis Bedford, 1870s

Source:

www.ribapix.com/index.php?a=wordsearch&s=item&key=Wczo2OiJicmlkZ2UiOw==&pg=6; accessed 5 July 2009

During the nineteenth century, as a result of the needs of industrialization the unprecedented architectural problems arose in terms of function and scale. As a response, either new building types came into being or existing ones were altered. The functional requirements of these buildings, such as railway stations, factories, market and exhibition halls, which demanded fire-proofing, glazing and wide spanning challenged both aesthetic conventions of architecture and previous techniques of construction. Iron was a very suitable material to enclose wide spaces requiring natural lighting. Cast iron columns and iron frames were initially used in factories and warehouses and then in market halls, railway stations and exhibition buildings.⁷⁸

Factories emerged as buildings giving a shelter to industrial processes depending on massive machinery as a result of the introduction of new production techniques powered by machinery. So, factory buildings required uninterrupted large spaces and fire-proofing. Structural use of iron successfully fulfilled these requirements. Initially, a structural system consisting of cast iron columns, plaster covered timber beams and brick arches were used. Then, cast iron beams and iron roof frames and iron roof trusses were introduced. However, iron structures were used internally and in most cases they did not extend into the facades.⁷⁹

The photograph showing the yard of Beyer Peacock Railway Engine Manufacturers, Gorton, Manchester [Fig. 3.36] can be given here as an example of these buildings. The brick exterior façades and elevated middle part of the buildings showed that the iron structures were used internally. The image was produced from a paper negative

⁷⁸ Nikolaus Pevsner, *A History of Building Types* (London: Thames and Hudson, 1976), 9, 215, 240-260, 262, 277; Christian Norberg Schulz, *Meaning in Western Architecture* (London: Studio Vista, 1980), 174.

⁷⁹ Nikolaus Pevsner, *A History of Building Types*, 273-288.



Figure 3.36 The Yard of Beyer Peacock Railway Engine Manufacturers by James Mudd, circa 1855

Source: Roger Taylor, *Impressed by Light* (New York: Metropolitan Museum of Art, 2007), plate 42

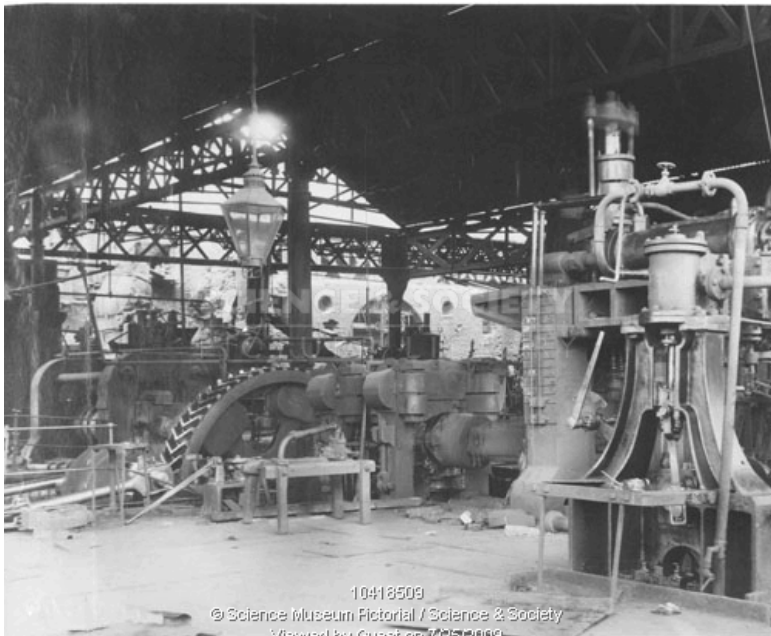


Figure 3.37 Big Mill Steel Works, South Wales, 1880-1895

Source: www.scienceandsociety.co.uk/results.asp?image=10418509; accessed 25 July 2009

of 1855 by James Mudd.⁸⁰ Mudd was a master pattern designer in silk. He started to take photographs in 1850. In 1854, he added photography to his calico design business. In 1856, he exhibited almost fifty prints of waxed-paper negatives and two prints of collodion negatives in the Manchester Photographic Society.⁸¹ Another photograph of Big Mill Steel Works produced sometime in between 1880 and 1895 showed an interior view of a steel works in South Wales [Fig. 3.37]. Iron structure of the building, consisting of columns and trusses, and housing the machines was recorded by unknown photographer.

By the mid nineteenth century prefabricated iron buildings, consisting of cast-iron columns and wrought iron rails uniting the modular glazing, became widespread solution for market halls and arcades. Arcades, market halls and bazaars were some earlier commercial building types, but they suffered from poor ventilation, risk of fire and insufficient day lighting and therefore the new technology was immediately applied in these buildings.⁸² Furthermore, the progress in construction techniques, which made possible to use glass and iron together, paved the way to prefabrication.⁸³ So, as Spiro Kostof remarks, “Not since the Roman invention of concrete had a building technology so radicalized architecture.”⁸⁴ Besides, these prefabricated ‘building kits’ started to be exported all over the world.⁸⁵ The photographs [Fig. 3.38] and [Fig. 3.39] showed the views of the prefabricated structure of a market building being assembled in Britain before its shipment to Santiago, Chile in the 1860s.

⁸⁰ Taylor, *Impressed by Light*, plate 42, 394.

⁸¹ Ibid.

⁸² Nikolaus Pevsner, *A History of Building Types* (London: Thames and Hudson, 1976), 235-255.

⁸³ Curl, *Victorian Architecture*, 201.

⁸⁴ Kostof, *A History of Architecture*, 595.

⁸⁵ Frampton, *Modern Architecture*, 33.

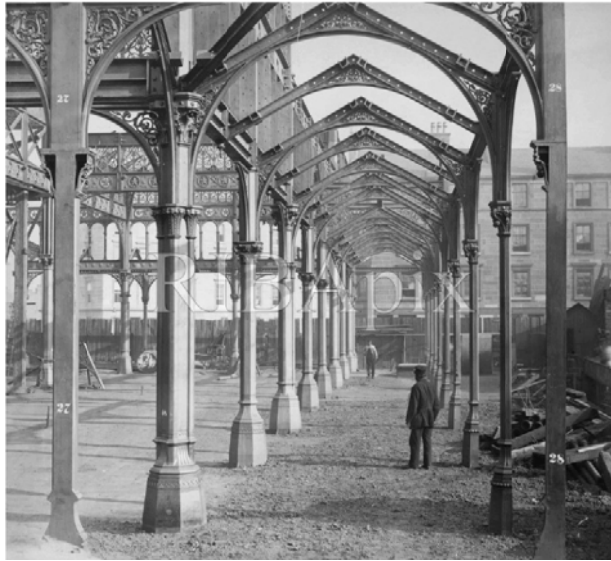


Figure 3.38 Central Market, Santiago: view of the prefabricated structure being assembled in Britain before shipment to Chile, 1860s

Source:

www.ribapix.com/index.php?a=wordsearch&s=item&key=Wczo2OiJtYXJrZXQiOw==&pg=37; accessed 25 July 2009



Figure 3.39 Central Market, Santiago: view of the prefabricated structure being assembled in Britain before shipment to Chile, 1860s

Source:

www.ribapix.com/index.php?a=wordsearch&s=item&key=Wczo2OiJtYXJrZXQiOw==&pg=37; accessed 25 July 2009

The development of railway industry brought together the need for train sheds and station buildings. During the 1830s, train sheds were constructed by either heavy wooden support system or an iron girder construction. In the 1840s, the first vaulted train sheds were built. As a result of rapid progression in the construction technology, in the 1860s, monumental railway structures covered by arched trusses could be built. For example, St. Pancras Station, the largest single arched structure with a width of seventy five meters was built by W.H. Barlow and R.M. Ordish between 1863 and 1865.⁸⁶

Railway stations were hybrid structures, and as Kenneth Frampton indicates they “presented a peculiar challenge to the received canons of architecture, since there was no type available to express and articulate adequately the junction between a head building and a train shed.”⁸⁷ The wide train shed could only be built by the new materials, iron and glass due to its functional requirement and was rendered as ‘engineers’ architecture.’ However, the station building was seen as ‘architecture’ and it was designed in accordance with existing architectural conventions. Thus, while station buildings played the role of a glorious soldier of the army in a ‘battle of styles,’ strange extensions of train sheds were tolerated due to their functional necessity. Illustrating this characteristic, the photograph of St. Pancras Station [Fig. 3.17], as mentioned previously, represented the historicist style of the building. In addition to this photograph, two others, produced during the transformation of London as part of the documentation of railway construction were examples from a serial including all the successive stages of the construction of the station. These two photographs [Fig. 3.40] and [Fig. 3.41] displayed two different stages of the construction of St Pancras station in 1867 and in 1868, successively. Built as a terminus for the Midland Railway's line to London, it was designed by the company's consulting engineer, William Barlow and opened in October 1868. The first photograph documented the construction in its early stage showing iron columns in

⁸⁶ Frampton, *Modern Architecture*, 33, 34.

⁸⁷ *Ibid.*, 33.



Figure 3.40 General view of the construction of St Pancras station, 1867

Source:

www.scienceandsociety.co.uk/results.asp?image=10446871&wwwflag=2&imagepos=2; accessed 25 July 2009



Figure 3.41 Arched Train Shed of St Pancras Station, 1868

Source: www.scienceandsociety.co.uk/results.asp?image=10446865; accessed 25 July 2009

place. The second photograph was taken from nearly one hundred feet up in the roof of the station, looking down towards the platforms and showing that it was almost completed.

During the nineteenth century, the organization of great exhibitions created the need for temporary buildings which had to have large undisturbed space, sufficient daylight, ventilation, high roof, and fire-proof. Moreover, they had to be rapidly erected and dismantled. As a response for these needs, in 1851, Joseph Paxton's Crystal Palace was built for the first international exhibition of London in Hyde Park. The building, which was an enclosure in a very daunting scale and freed from internal walls, was erected in a short time. It was mainly built up of prefabricated components of iron and glass as the first building covering such a large area, approximately seven thousand meter square.⁸⁸ It was dismantled after the exhibition and rebuilt in Sydenham in 1852-54.⁸⁹

Although the Crystal Palace fulfilled all the ethical requirements of architecture which were proposed by Pugin and Ruskin, such as truthfulness of materials, honest expression of structure, it was not appreciated by them. Pugin called it 'crystal humbug' and exclaimed that it was 'the most monstrous thing ever imagined.'⁹⁰ Similarly *Ecclesiologist's* interpreted the building as 'not architecture but a packing case.'⁹¹ The Crystal Palace was not the first building of iron, however, it was criticized because it was the first metallic structure which was not built for utilitarian purposes but transferred to the field of architecture. It was neither Classic nor Gothic but absolutely new. The Crystal Palace was dismantled.

⁸⁸ Bergdoll, *European Architecture*, 209 ; Frampton, *Modern Architecture*, 34; Enginsoy, "Use of Iron as a New Building Material in Nineteenth Century Western and Ottoman Architecture," 68-70.

⁸⁹ Jordan, *Victorian Architecture*, 131.

⁹⁰ Bergdoll, *European Architecture*, 212.

⁹¹ Crook, *The Dilemma of the Style*, 111.

Both photography and ‘the newest architecture’ as the ‘engineer’s architecture’ were the products of industrial revolution and came to maturity around the 1850s. In 1851, Paxton’s Crystal Palace was the great display of the possibilities of new materials and around the same time, photography had passed dire straits of its early technical restrictions, and acquired official and public recognition as a new medium of architectural representation. Accordingly, as Cervin Robinson and Joel Herschman emphasize, “Paxton’s use of factories to turn out modular structural units, units that could be assembled by semiskilled workmen, is comparable to Blanquart-Evrard’s⁹² partly realized dream of using mass-production techniques to produce quantities of identical, reasonably priced photographic units.”⁹³

The Crystal Palace was photographed when it was erected in Hyde Park. However, the systematic documentation of the erection was made during the reconstruction in Sydenham. Phillip Henry Delamotte, who was one of the significant photographers of the time, was commissioned to photograph its reconstruction at Sydenham. Delamotte documented the construction of the building from the levelling at the site to the opening ceremony. By using wet-collodion negatives, Delamotte produced two volumes under the title of *Photographic Views of the Progress of Crystal Palace* which were published in 1855 by Joseph Cundall. The book was a luxury edition, consisting of one hundred sixty albumin prints.⁹⁴

The six photographs from Delamotte’s album of 1855 could be shown here as examples. The first two photographs, [Fig. 3.42] and [Fig. 3.43] were exterior views, depicting two different stages from different point of views. The third photograph [Fig. 3.44] showed the roof arches and scaffoldings. The following two displaying

⁹² See, Appendix B: Early Photographic Processes in Silver.

⁹³ Cervin and Herschman, *Architecture Transformed*, 43.

⁹⁴ Ellwal, *Building with Light*, 34.

ornamental iron frames, were interior views, [Fig. 3.45] and [Fig. 3.46], and the last photograph [Fig. 3.47] was a detail of the upper gallery.

Phillip Henry Delamotte and Benjamin Brecknell Turner had already produced several calotypes in 1851 when the Crystal Palace was in its original location for the Great Exhibition of London. As examples, two albumen prints of calotype negatives produced by Turner in 1852 can be shown here. The first, showing the transept of Crystal Palace [Fig. 3.48] depicted the building as if there was nobody inside.⁹⁵ Turner's other photograph was the nave of the Crystal Palace [Fig. 3.49] in which the structure of the nave composed of modular units of iron and glass was clearly discernable. Turner composed the frame meticulously with the vanishing point deliberately placed one third of the frame, and the repetitive pattern of modular units created a texture. While documenting the structure, he offered us a new aesthetics of technology.

⁹⁵ The absence of people in early architectural photographs could not be a deliberate choice of the photographer but the result of the long exposure time required. However, it cannot be said so without knowing the exposure time.

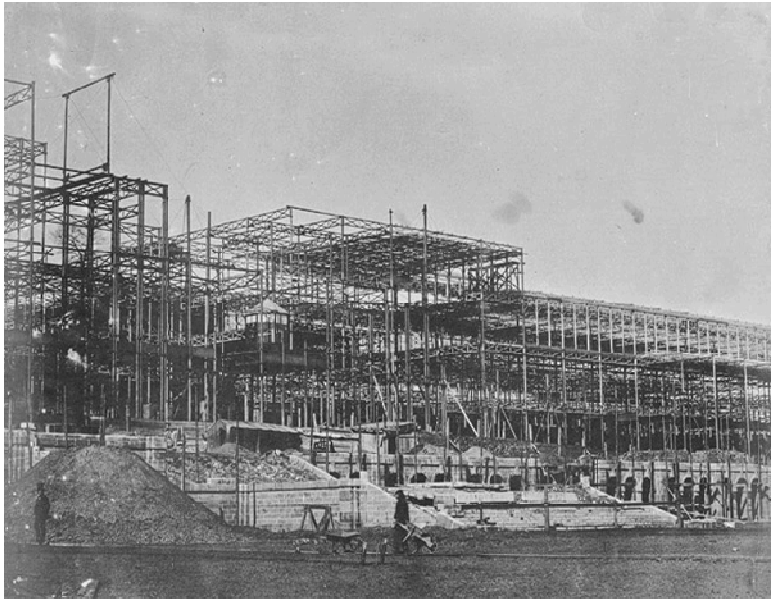


Figure 3.42 Progress of Crystal Palace, Sydenham by Delamotte, 1854

Source: www.metmuseum.org/toah/hd/irev/ho_52.639.htm; accessed 23 July 2009

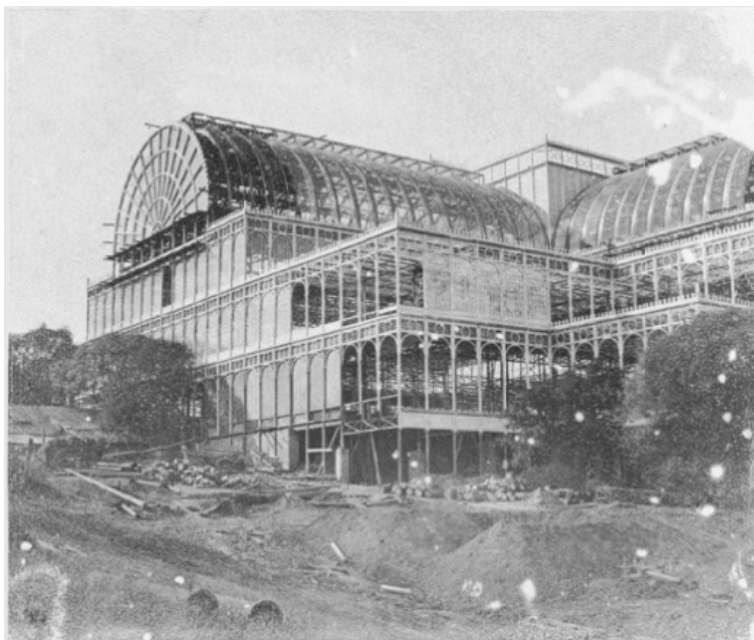


Figure 3.43 Progress of Crystal Palace, Sydenham by Delamotte, 1854

Source: www.metmuseum.org/toah/hd/irev/ho_52.639.htm; accessed 23 July 2009

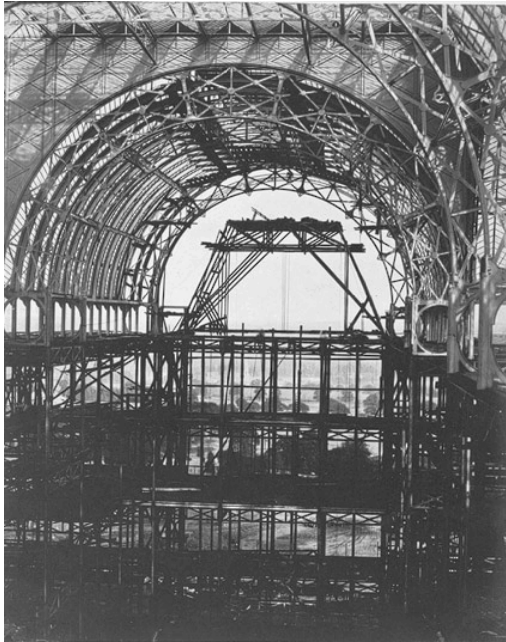


Figure 3.44 Progress of Crystal Palace, Sydenham by Delamotte, 1854

Source: www.metmuseum.org/toah/hd/irev/ho_52.639.htm; accessed 23 July 2009

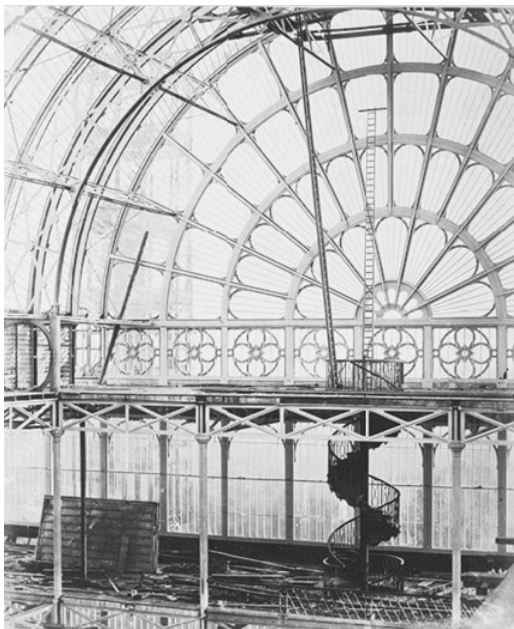


Figure 3.45 Progress of Crystal Palace, Sydenham by Delamotte, 1854

Source: www.metmuseum.org/toah/hd/irev/ho_52.639.htm; accessed 23 July 2009

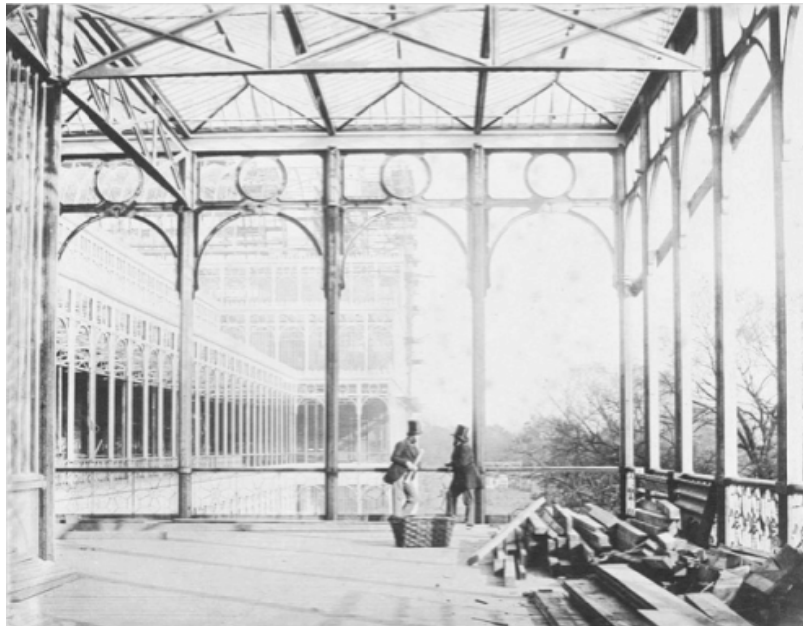


Figure 3.46 Progress of Crystal Palace, Sydenham by Delamotte, 1854

Source: www.metmuseum.org/toah/hd/irev/ho_52.639.htm; accessed 23 July 2009

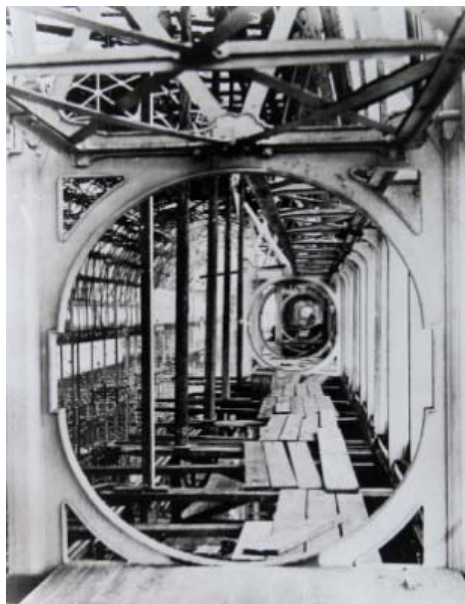


Figure 3.47 Upper gallery of Crystal Palace, Sydenham, by Delamotte, 1854

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 35



Figure 3.48 Transept of Crystal Palace, Hyde Park by Benjamin Brecknell Turner, 1852

Source: www.vandaimages.com/results.asp?image=2006AM5553-01&wwwflag=1&imagepos=1; accessed 25 July 2009



Figure 3.49 Crystal Palace Nave, Hyde Park, by Benjamin Brecknell Turner, 1852

Source: www.vandaimages.com/results.asp?image=2006AM0659-01&wwwflag=1&imagepos=9; accessed 25 July 2009

CHAPTER 4

INTERSECTIONS III: ARCHITECTURAL PHOTOGRAPHY AND ARCHITECTURAL HISTORIOGRAPHY

4.1 ARCHITECT THE TRAVELER: TRAVEL and ARCHITECTURAL HISTORIOGRAPHY

Beyond doubt the finished historian must be a traveler: he must see with his own eyes the true look of a wide land; he must see, too, with his eyes the very spots where great events happened; he must mark the life of a city, and take in, as far as a non-technical eye can, all that is special about a battle-field. So wrote Mr. Freeman in his *Methods of Historical Study*, and he possessed to the full the instincts of the traveler as well as of the historian... He travelled always as a student of history and of architecture, and probably no man has ever so happily combined the knowledge of both.

W.H. Hutton, preface to *Sketches of Travel in Normandy and Maine* by Edward Freeman, 1897.¹

As historians point out, the eighteenth century was the period for Enlightenment that brought new historical consciousness by paving the way to archaeological studies and architectural history researches. Travel was a crucial part of the historical researches, thus the researches took the form of exploration. Consequently, travels for architectural explorations increased in the eighteenth century, and during the following two hundred years architectural travels fundamentally shaped architectural taste and reconstructed architectural

¹ W.H. Hutton, preface to *Sketches of Travel in Normandy and Maine* by Edward Freeman (London: Macmillan and Co., Limited; New York: The Macmillan Company, 1897), vii.

knowledge.² During the eighteenth and nineteenth centuries travel became a part of the architect's professional competence and it was regarded as an important part of architectural education.³

During the eighteenth century and the first half of the nineteenth century, although various geographies were also explored, travel for architectural research was mainly ranged along Greece and Eastern Mediterranean or Normandy.⁴ While the ideological background of Greek revival was based on liberalism of educated classes, the interest in Gothic architecture was nurtured by nationalism.

There were mainly two modes of architectural travel, Grand Tour and voyages of exploration.⁵ Grand Tour which as a mostly upper-class experience, which was the mode of travel devoted to classical architecture at least for a year, especially made by young British noblemen.⁶ It was a journey, as part of studying architecture carried out for both education and leisure. These gentlemen did not travel alone but travelled as a group whose members were not only their personal servants but also highly-trained professionals, such as guides and paid companions, including architects. For instance, John Soane made a Grand Tour as a paid architectural guide. For architects, Grand Tour was a kind of huge spatial survey book of historical architecture. Besides, while encountering with historical architecture they had also a great opportunity to meet inspiring contemporary architects or builders. Most of the classical revivalist British architects of the time, such as

² See, Edward Kaufman, "Architecture and Travel in the Age of British Eclecticism" in *Architecture and Its Image: Four Centuries of Architectural Works from the Collection of the Canadian Centre for Architecture* Eve Blau and Edward Kaufman, eds. (Montreal: Canadian Centre for Architecture; Cambridge, MA: MIT Press, 1989), 62, 63.

³ Kaufman, "Architecture and Travel in the Age of British Eclecticism," 59-63 and Darley, "Wonderful Things. The experience of the Grand Tour," *Perspecta 41* (2008): 17-24, 23.

⁴ Kaufman, "Architecture and Travel in the Age of British Eclecticism," 61.

⁵ *Ibid.*, 60.

⁶ See also Gillian Darley, "Wonderful Things. The experience of the Grand Tour," 18-24.

George Dance, Thomas Hope, William Wilkins, Robert Smirke, Charles Barry, had experienced the Grand Tour.⁷ On the other hand, voyages of exploration were mostly the sponsored travels. Unlike Grand Tour, this mode of travel was governed by sponsored societies or institutions. For instance, Society of Dilettanti, an institute supporting studies of archaeology, founded in 1733. It was one of the societies which sponsored exploratory travels and let the way to the emergence of an array of scholarly publications on Greek Antiquities. In 1751, Society of Dilettanti sponsored Stuart and Revett for their research in Athens which enabled to appear *Antiquities of Athens* in 1762. Meanwhile, three Englishmen who were well-off and well-traveller, Robert Wood, James Dawkins and John Bouverie, were accompanied by the Italian architect G. B. Borra travelled to Levant. *Ruins of Palmyra* and *Ruins of Balbec* by Robert Wood appeared in 1757. In 1764, Society of Dilettanti sent a group to Ionia. They came back to London in 1766. The Society published their study as *Ionian Antiquities* in 1769.⁸

In the meantime, the British and Roman British antiquities were also researched. In 1717, Society of Antiquaries whose members were distinguished and influential scholars, was founded with the aim of exploring the knowledge of valuable relics of former ages and of preserving them for posterity.⁹ *Itinerarium Curiosum, an Account of the Antiquities and Remarkable Curiosities in Nature or Art Observed in Travels through Great Britain* published by William Suckeley, the secretary of the society, in 1725 and *The Cathedral Churches of Salisbury*, published by Francis Price in 1753 were two significant studies of the time: the former was among the first publications containing plans of medieval buildings and the latter

⁷ Kaufman, "Architecture and Travel in the Age of British Eclecticism," 63 and Darley, "Wonderful Things. The experience of the Grand Tour," 22.

⁸ See David Watkin, *The Rise of Architectural History*, 51 and Hanno-Walter Kruft, *A History of Architectural Theory*, 209 - 212.

⁹ Watkin, *The Rise of Architectural History*, 51.

was most probably the first publication including sectional drawings.¹⁰ In 1752, Andrew Coltee Ducarel, who was a significant antiquarian, travelled to Normandy under the sponsorship of Society of Antiquaries. His research was published in 1767 with illustrations under the title of *Anglo Norman Antiquities Considered in at a Tour through Part of Normandy*.¹¹ Normandy attracted scholars and architects because nomenclature of Gothic style and the origin of pointed arch were the two main subjects widely debated on. Architects mostly travelled to Normandy in order to investigate the origins of Norman architecture which was the concern further related to nationalism. As a result of the surveys on religious medieval monuments, surveys were made with ecclesiastical rather than architectural and/or historical interest and the plans and elevations of many medieval cathedrals were drawn.¹² For instance, John Britton who was a significant scholar of Gothic Architecture travelled for research for many times. As a result of his travels, he produced a series of publications. *Architectural Antiquities of Great Britain* was published between 1807-1826 as ten volumes, including many of the prominent Medieval and Tudor monuments of ecclesiastical and domestic architecture. Even though the conception of the book was not systematic, each monument was represented in the book with an elevation drawing, measurement, plan, cross-section and brief commentary.¹³ In between 1814 and 1835 Britton's another series of illustrated books, *Cathedral Antiquities of England*, a survey of medieval cathedrals with accurate measurements, elevations and plans, was published.¹⁴ Including many illustrations, the series was appreciated by both professionals and

¹⁰ Watkin, *The Rise of Architectural History*, 51.

¹¹ Kaufman, "Architecture and Travel in the Age of British Eclecticism," 61.

¹² Watkin, *The Rise of Architectural History*, 49-51.

¹³ *Ibid.*, 60.

¹⁴ *Ibid.* According to David Watkin this series was great success of scholarship and book production.

the public. Then, in order to produce accurately measured orthographic plates of Gothic architecture, Britton worked together with an architectural draughtsman; Augustus Charles Pugin. Britton sent Pugin to Normandy with a team of draughtsmen, including Pugin's thirteen year old son, Augustus Welby Northmore, to make measured drawings. As a result of their travel and site work, *Architectural Antiquities of Normandy* by Britton, Augustus Charles and Augustus Welby Northmore Pugin, and J. and H. Le Keux was completed in 1833.¹⁵ Having started architectural travels since his early years, Augustus Welby Northmore Pugin continued to travel to Northern France, Germany, and Flanders many times to make architectural research and to produce his theories.¹⁶

Since historical researches held on the form of geographical survey by travel, architectural history was conceived as description of certain places, their correspondences and relations.¹⁷ Furthermore, although architectural voyages were devoted to historical research, their accounts were not only about architecture but also about a variety of subjects, such as traditions, people, climate, etc. Yet, rather than the historians' intention to conceive buildings within a context, this geographical interest was related to their wish to answer all kinds of questions about the places they visited as returning travellers. Besides, regarding themselves as travellers and travel writers, rather than architectural historians or history writers, 'historians the travellers' immediately applied conventions of travel literature to their historical writings.¹⁸ Having inherited conventions from travel literature, the contents of these architectural books were arranged according to their places similar to travel books. For instance, in *Antiquities of Athens*, the text and illustrations were arranged to emulate site experience. The book started with a

¹⁵ Watkin, *The Rise of Architectural History*, 60.

¹⁶ See also Darley, "Wonderful Things. The experience of the Grand Tour," 23.

¹⁷ Kaufman, "Architecture and Travel in the Age of British Eclecticism," 70.

¹⁸ *Ibid.*, 64-66.

panorama and then continued with a map in order that the reader/traveller could orient himself/herself, and accordingly, by following plates, he/she could move from the left end of the panorama to the right as if walking in the site.

The common trait of architectural books which appeared in the eighteenth century and at the beginning of the nineteenth century was the surface of certain geographies were scanned without paying attention to probing of time. Therefore, these history books, similar to travel or guide books, included all historical buildings, existing within a defined geography and they presented these buildings as if they coexisted simultaneously during their histories. Accordingly, since these books were mainly related to with a place but not to a historical period, geographies were emphasized as the origins of certain forms.¹⁹ Accordingly, the title of these books indicated certain geography instead of a period, such as *Antiquities of Athens, Antiquities of England and Wales, Antiquities of Normandy*.²⁰

Having been abstracted from their historical sequence or context, the buildings were conceived as forms and became available for architectural practice. It was the eighteenth and early nineteenth century's characteristics that architectural history books were written for the use of architectural practice. For instance, in the preface of *Attempt to discriminate the styles of English Architecture from the Conquest of Reformation* published in 1817, Thomas Rickman openly stated that "the aim of the Author, by a constant reference to buildings, to install the principles of practice rather than mere theoretical knowledge."²¹ Similarly, in the preface of *Cathedral*

¹⁹ Kauffman, "Architecture and Travel in the Age of British Eclecticism," 71.

²⁰ Ibid., 60.

²¹ Thomas Rickman, *An Attempt to Discriminate the Styles of Architecture in England*, 6th ed. [book on-line] (London: John Henry and James Parker, 1862), xi; available from <http://www.archive.org/details/anattempttodisc01parkgoog>; internet; accessed 7June 2009.

Antiquities of England Britton explains the importance of strict geometric elevations and sections as:

Without sections and strict geometrical elevations we can never attain correct information as to the curvature and proportions of arches- the true contour of columns, capitals, and bases-with the relative projections and recesses of various other members in our ancient buildings. With these we are furnished with satisfactory data, either for practical imitation or for antiquarian inference.²²

By the second half of the nineteenth century, a vast array of architectural knowledge about Greek and Gothic architecture had already been acquired and this knowledge had been widely displayed both literally and visually. However, as previously discussed, it was obvious that histories were written about certain geographies and certain buildings. At this point, *Historical Essays on Architecture* written by Thomas Hope and published in 1835 was of particular significance.²³ Having included impressively the large part of the Europe and a great number of buildings, both well known and obscure examples in his book, Hope expanded the boundaries of architectural history books and became a pioneer on the way that led to world architectural history of James Fergusson and Banister Fletcher and Sir Banister Fletcher.

4.2 TRAVEL and ARCHITECTURAL PHOTOGRAPHY

For the Victorians, the nineteenth century was an age of exploration and discovery of new people, nations, places, landscapes and the past civilizations. The wish to explore was nurtured by the current taste for picturesque, the development of tourism, the charm of exotic, and the colonial expansion.²⁴ As a result of

²² John Britton, *The Cathedral Antiquities*, vol I, [book on-line] (London: Longman, Rees, Orme, Brown, Green, and T. Longman, Jun., and the author, 1836), ii.; available from <http://www.archive.org/details/cathedralantiqu01britgoog>; internet; accessed 7 June 2009.

²³ Watkin, *The Rise of Architectural History*, 63 and see also Kruff, *A History of Architectural Theory*, 323, 324.

²⁴ Françoise Heilburn, "Around the World. Explorers, Travelers and Tourists" in *A New History of Photography*, ed., Michel Frizot (Köln: Könemann, 1998), 148.

increasing political, military and commercial interactions between different geographies and a more comfortable and faster travel opportunity offered by railways, more people started to travel around the world for pleasure, for profit or for mission. Making drawings and descriptions, and writing diaries were already a necessary part of travel. As Henry Fox Talbot noted down in his diary during his travel in Italy, he used camera obscura and dreamed “how charming it would be if it were possible to cause these natural images to imprint themselves durably, and remain fixed upon the paper!”²⁵ As Karen Burns points out, “a prehistory of photography, one set up by the ‘inventors’ of photography itself, might locate a desire for photography around and within the figure of one kind of observer: the traveler.”²⁶ Thus, photography met travelers’ desire to possess the visited lands through representation. Photography was welcomed as part of travel mainly due to two purposes: it was used as a tool for the touristic representation of a scene and for documentation in relation to its assumed veracity. Coinciding with the desire to travel by a new and faster means of transportation, photography, a new means of producing faster and more accurate visual records, was assigned as a companion of travel.²⁷

As mentioned previously, the production of architectural photographs was an issue related to romanticism and picturesque and also to historicism, and accordingly, to the restoration and documentation of the rapidly disappearing past. Furthermore, it was also nurtured by the architects’ demand for photographs of historical monuments for inspiration and emulation. Besides, the popularity of

²⁵William Henry Fox Talbot. *Pencil of Nature*, [1844 – 1846], Reprint, New York 1969, ii.

²⁶ Karen Burns, “Topographies of Tourism: ‘Documentary’ Photography and ‘The Stones of Venice’,” *Assemblage*, no. 32 (April 1997): 22-44, 26 [article on-line]; available from <http://www.jstor.org/stable/3171405>; internet; accessed 8 July 2009. She develops this point by referring Jonathan Crary.

²⁷ In “Topographies of Tourism: ‘Documentary’ Photography and ‘The Stones of Venice’” Karen Burns mentions the survey book “Matters of Early Topography” and the book “Photographic Experience” in terms of “speed” of train and camera. Moreover, she also mentions Susan Sontag’s “On Photography” in terms of time and space relationship between travel and camera.

photographs of historical sites and monuments as tourist souvenirs created a market for these images. On the other hand, beyond touristic lands, many photographers were accompaniments to the teams of diplomatic missions, archaeological expeditions and military surveys which produced architectural photographs as part of their records.²⁸

As early as 1839, a different mode of travel which aimed to produce photographic records developed. Commercial entrepreneurs, trying to make profit from a broadening photographic market, commissioned photographers to travel and to produce photographs.²⁹ For instance, the French publisher Lerebours sent daguerreotypists to Europe and the Middle East. Aquatint copies of these daguerreotypes were reproduced and published between 1841 and 1844.³⁰ After 1860, the firms producing geographic views appeared as a response to growing middle-class tourist market. A vast array of views was produced and published and so, to make a Grand Tour just by turning the pages of an album became possible. Furthermore, after 1850s, the navy, the army or a variety of national record offices carried on documentary projects and they employed photographers.³¹ Some early photographers had diplomatic missions, and accordingly, they accompanied early settlers to produce visual records of the territories. For instance, Linnaeus Tripe was the official photographer of British mission to the court of Ava, Burma, in 1855.³² As Richard Pare explains, “the photographer played a role like that of the

²⁸ Robert Elwall, *Building with Light* (London, New York: Merrel, 2004), 12.

²⁹ Heilburn, “Around the World,” 149.

³⁰ Elwall, *Building with Light*, 12, 13 and see also Lindsey S. Stewart, “In Perfect Order: Antiquity in the Daguerreotypes of Joseph Philibert Girault de Prangey” in *Antiquity and Photography*, eds., Claire L. Lyons, John K. Papadopoulos, Lindey S. Stewart, Andrew Szegedy Maszak (Los Angeles, California: Getty Publications, 2005), 67-91.

³¹ Heilburn, “Around the World,” 149.

³² Ellwall, *Building With Light*, 12.

chronicler of the great sixteenth century circumnavigations of the world.”³³ As a result, they were governed by scientific or military projects or they worked as commercial photographers and a great number of photographers toured around the world and produced a vast array of photographs from different geographies. In the following decades after the announcement of Talbot’s and Daguerre’s invention, photographs from all over the World flooded into Western Europe and the United States.³⁴ Throughout the nineteenth century not only English or French photographers but also many native photographers produced photographs. In the 1880s, after half tone process led to the production of postcards, these photographs entered the circulation all around the world as well.³⁵

Regarding the footprints of many travelling photographers, when those of the British photographers between 1850 and 1890s are traced, it can be seen that they move towards mainly to Russia, Italy, Greece, Eastern Mediterranean, Turkey, Spain, Egypt, Palestine, Jerusalem, India, Burma, China and Japan. By the early 1840s, a great number of British tourists continued the tradition of the eighteenth century European Tour and travelled to the Mediterranean and Italy. However, most of these tourists did not attempt to take photographs because under hot temperature and humidity of the Mediterranean climate, the chemicals were deteriorating rapidly. Yet, in 1846 and following three years, Kit Talbot, Calvert Richard Jones and R. J. Wilson Bridges, who were amateur calotypists produced photographs along the Mediterranean and Italy.³⁶ As the first example, ‘the Capitoline’, statue of Marcus Aurelius, Piazza del Campidoglio in Rome [Fig. 4.1] produced by Calvert Richard Jones, was a successful photograph in terms of

³³ Pare, *Photography and Architecture*, 21.

³⁴ For further interest, see also Andrew Szegedy-Maszak, “Egypt”, “Greece”, “Italy” in *Antiquity and Photography*, 9-21.

³⁵ Heilburn, “Around the World,” 151, Elwall, *Building with Light*, 50.

³⁶ Roger Taylor, *Impressed by Light* (New York: the Metropolitan Museum of Art, 2007), 105-109.



Figure 4.1 The Capitoline, statue of Marcus Aurelius, Piazza del Campidoglio, Rome by Calvert Richard Jones, 1846

Source: Taylor, Roger *Impressed by Light*, (New York: Metropolitan Museum of Art, 2007), 107



Figure 4.2 Colloseum, Meter Sudans and Arch of Constantine, Rome by Jane Martha St. Jones, 1856

Source: Taylor, Roger *Impressed by Light*, (New York: Metropolitan Museum of Art, 2007), 114

composition and use of light.³⁷ Jane Martha St. Jones, who was another amateur British photographer, produced photographs in 1856 while she was travelling in Italy with her husband. Even though they also travelled France and Swiss Alps she took photographs only in Italy and made an album in which the photographs were chronically sequenced.³⁸ ‘Collosum, Meter Sudans and Arch of Constantine,’ in Rome [Fig. 4.2] taken by Jane Martha St. Jones in 1856, was one of the good examples of the time, produced by a traveller as an amateur photographer, in terms of its arrangement of three subjects in a frame, accomplishment of the calotype method and use of balanced light.

In Italy, there was a growing commercial market for photographs of monuments and ruins. By the mid-1850s, local and foreign commercial firms appeared. Some well known examples of these firms were Fratelli Alinari in Florence, Carlo Ponti and Carlo Naya in Venice, Pietro Dovizielli, James Anderson and Robert Macpherson in Rome.³⁹ In the 1850s, Robert Macpherson took photographs in Italy by using wet collodion process. Macpherson, who was Scottish, studied medicine in Edinburg, and then moved to Rome and became a landscape painter and art dealer. In 1851, he started to take photographs and became one of the most significant photographers in Italy. He photographed both architecture and sculpture⁴⁰ and also created beautifully composed landscapes. In 1862, more than four hundred photographs of him were shown in Architectural Photographic Association. The exhibition was so appraised by the press that the exhibition was described as: “Magnificent series of the monuments of the Rome (...) chosen with fine taste. From this exhibition the collector may obtain everything he wants of

³⁷ Taylor, *Impressed by Light*, 106.

³⁸ Ibid., 105-109.

³⁹ Ellwal, *Building with Light*, 51.

⁴⁰ Macpherson photographed Vatican Sculptures. Around the mid century, several collections were documented. Roger Fenton documented British museum collection, Adolp Braun also documented Vatican and Louvre. Andrew Szegedy-Maszak, *Antiquity and Photography*, 64.

Rome, from Coliseum to Cameo.” These words indicated how the photographs fulfilled the expectations of the time.⁴¹ The overall touristic view of the Colosseum [Fig. 4.3]⁴² was one of those photographs taken by Macpherson. James Anderson, who was another well known British photographer, was active in Rome too. Anderson started to take photographs in 1849 and established a studio in 1853 in Rome. In 1859, he published his first catalogue. Even though he specialized in reproductions of works of arts, architectural photographs were also an important part of his portfolio. The Forum of Rome [Fig. 4.4] was an example from his portfolio.⁴³

During the nineteenth century, although Spain was not on the route of Grand Tour, there was an interest in the remains of Moorish architecture. Thus, related to the Spanish nationalism, exoticism and historicism, images of historical Spanish architecture were produced both foreign and indigenous photographers. In the 1850s, Charles Clifford who was a British photographer in the service of Queen Isabella was active in Spain. Clifford accompanied the Queen in travels and took photographs of gardens, architecture and interiors. He also documented the art collections of royal residence. In 1854, his album, *Voyage en Espagne*, was shown in London at the first exhibition of London Photographic Society. Then, four hundred photographs of him were exhibited in 1859 at Salon de la Photographie in Paris.⁴⁴ One of the examples of historical architecture was the photograph of the courtyard of Colegio del Arzobispo produced by Clifford in the late 1850s [Fig. 4.5].

⁴¹ See Pare, *Photography and Architecture*, 234, Elwall, *Building with Light*, 18 and Szegedy-Maszak, *Antiquity and Photography*, 64.

⁴² Szegedy-Maszak. *Antiquity and Photography*, 16.

⁴³ See Elwall, *Building with Light*, 45 and Pare *Photography and Architecture*, 233.

⁴⁴ See Heilburn, “Around the World,” 159; Elwall, *Building with Light*, 18, 20, 41; Pare, *Photography and Architecture*, 238; and Cervin and Robinson, *Architecture Transformed*, 190.



Figure 4.3 The Colosseum, Rome by Robert Macpherson, late 1850s.

Source: Claire L Lyons, and others. *Antiquity and Photography* (Los Angeles: Paul Getty Museum, 2006), figure 7



Figure 4.4 The Forum of Rome by James Anderson, late 1850s

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 44

In the In the 1850s, while most photographers were travelling to the south of Europe, the well known British photographer, Roger Fenton went to Russia. In spite of the formidable conditions which Fenton had to cope with, he produced photographs both in Kiev and Moscow by using waxed paper negatives. After returning to London, Fenton exhibited some of his works at the Society of Arts. Even though the exhibition had initially been planned for two weeks, due to unexpected public fascination, it extended until January 1953. ‘Domes of Churches in the Kremlin’ [Fig. 4.6] was one of those photographs produced by Fenton. His photographs of Russia demonstrated “a new level of competence and maturity,” since with these photographs he began Fenton began to consider “the issues as how camera vision differed from human vision and how to construct compositions of monochrome world using monochromatic palette of photographer.”⁴⁵ Having recognized that he could not depict the world by camera in the same way as a painter did, he conceived space in photographs and appreciated the void as an empty space. Moreover, Fenton realized that the depth of three dimensional world could be illustrated onto the two dimensional surface by using diagonal lines.⁴⁶

Around the 1850s, James Robertson, a Scottish who was formerly a gem engraver travelled around Athens and Istanbul, and produced photographs.⁴⁷ Robertson had moved to Istanbul sometime around the 1840s and he cooperated with Felix Beato, who was a Venetian born British citizen. They worked together in Malta, Istanbul, Crimea, Egypt, Palestine and India. Initially, they had used paper negatives and

⁴⁵ Sarah Greenough, “A New Starting Point”: Roger Fenton’s Life in *All the Mighty World*, eds. Gordon Baldwin, Malcolm Daniel, and Sarah Greenough (New York: The Metropolitan Museum of Art, 2004), 15.

⁴⁶ Ibid.

⁴⁷ Bahattin Öztuncay, *Dersaadet’in Fotoğrafçıları: 19. yüzyıl İstanbul’unda Fotoğraf: Öncüler, Stüdyolar, Sanatçılar, vol. I* (İstanbul: Koç Kültür Sanat, 2003), 101-153.

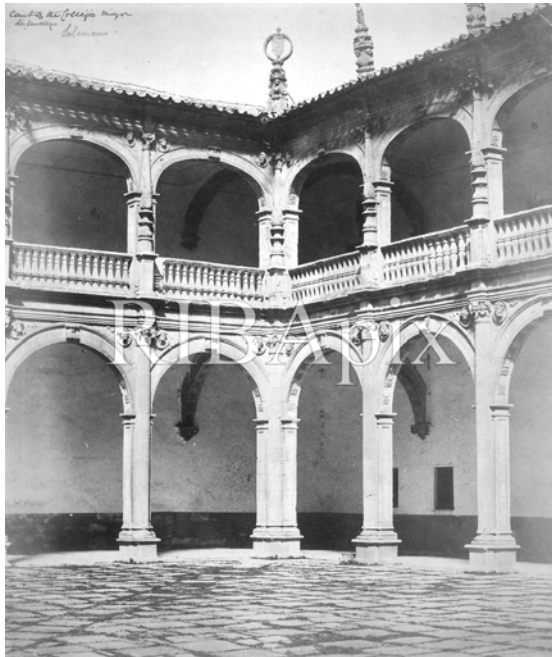


Figure 4.5 Colegio del Arzobispo, Salamanca: the courtyard by C. Clifford, late 1850s

Source:

<http://www.ribapix.com/image.php?i=21099&r=2&t=4&x=1&ref=RIBA13829>;
accessed 23 July 2009



Figure 4.6 Domes of Churches in the Kremlin by Roger Fenton, 1852

Source: Goldon Baldwin, Pam Roberts and Roger Taylor, *All The Mighty World* (New Haven and London: Yale University Press, 2004), plate 4

salt prints, then in the mid 1850s, they changed their techniques to glass negative and albumen prints. Robertson had picturesque approach and he mostly included animated figures into his frames. As an example of his work the photograph selected here [Fig. 4.7] showed a view of the Erechtheion from the southwest of Acropolis.⁴⁸ Another example [Fig. 4.8], which was signed as Robertson and Beato was a full view of Süleymaniye Mosque built in the sixteenth century by Sinan the architect, also animated by local people.

As an entertainment means, panoramas showing bird's eye views of cities were available in the eighteenth and nineteenth centuries.⁴⁹ As examples of these panoramas, those of Istanbul were also shown in London in the first half of the nineteenth century.⁵⁰ Robertson applied conventions of these views to photography and produced panoramic views of Istanbul, as can be seen in the one [Fig. 4.9], a panoramic view taken in the 1850s from probably from Galata Tower. It was similar to its predecessors, in the form of panoramic drawings, executed in the 1840s.

During the nineteenth century, Egypt was also a popular destination triggering the European curiosity. As early as 1839, these places were photographed by many photographers. Not only enthusiastic amateurs but also commercial photographers were active. For instance, Antonio and Felice Beato opened the first photographic studio in Cairo in 1860. Besides, Auguste Salzman, Maxime Du Camp, Felix Teynard, Emile Bechard, Rev. George Bridges, Francis Frith, Francis Bedford were some of the well known names among those commercial photographers.⁵¹

⁴⁸ Pare, *Photography and Architecture*, 240.

⁴⁹ Neumann, "Instead of Grand Tour," 49.

⁵⁰ Namık Erkal. "Londra Panoramalarında İstanbul Sergileri II," *Toplumsal Tarih Dergisi*, 171 (March 2008): 24-31.

⁵¹ Douglas Nickel, *Francis Frith in Egypt and Palestine* (Princeton and Oxford: Princeton University Press, 2004), 11.



Figure 4.7 View of the Erechtheion from the Southwest of Acropolis, Athens, by J. Robertson, 1854

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 63



Figure 4.8 Suleymaniye Mosque, Istanbul by Robertson and Beato, 1850

Source: www.ribapix.com/image.php?i=21087&r=1&t=4&x=1&ref=RIBA13817; accessed 23 July 2009

In 1856, one of the well known British photographers, Francis Frith, travelled to Egypt up through the Nile from Cairo to Abu Simbel and systematically took photographs. He captured each view in three times by using different formats of wet collodion glass negatives. Frith's photographs of Egypt were immediately published by one of the major photographic publishers in Britain. Having met with great success, Frith was able to afford another trip to the Middle East. This time he focussed on Palestine and Syria. Photographs of this trip were published under the title of *Egypt and Palastine Photographed and Described by Francis Frith*. In 1859, Frith travelled farther up the Nile where no photographer had gone yet. The same year, he opened his own firm and produced a large amount of albumen prints from his negatives and took photographs of ruins, landscapes and legendary places.⁵² *The Pyramids of Mycerinus, Chepren and Cheops, Giza*, [Fig. 4.10] displayed those four colossus pyramids; Mycerinus, Chepren and Cheops, Giza.⁵³ Another photograph *Fallen Colossus, Ramasseum* [Fig. 4.11] including a Westerner woman as a tourist with her companion and guides was remarkable because western people were many deliberately excluded from the frame in the other examples of the time.⁵⁴ Frith added not only westerners to the frame but also a note onto the caption of the photograph as "On the right shoulder of the colossus is the prenomen of Ramses II. On the head may be seen the barbarous inscriptions of modern travellers – instance of a manias reprehensible as it is childish."⁵⁵ So, both the appearance of tourists and the criticism of Frith indicated the increase of travel in the mid-nineteenth century.⁵⁶

⁵² Pare, *Photography and Architecture*, 248; Szegedy-Maszak, *Antiquity and Photography*, 11; Heilburn, "Around the World", 156,157 and Nickel, *Francis Frith in Egypt and Palastine*, 10-19.

⁵³ Pare, *Photography and Architecture*, 248.

⁵⁵ Szegedy-Maszak, *Antiquity and Photography*, 11

⁵⁶ Ibid.



Figure 4.10 The Pyramids of Mycerinus, Chepren and Cheops, Giza by F. Frith, 1858.

Source: Pare, Richard. *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 82



Figure 4.11 Fallen Colossus, Ramasseum, Thebes by Francis Frith, 1858

Source: Douglas Nickel, Francis Frith in Egypt and Palestine. *A Victorian Photographer Abroad* (Princeton and Oxford: Princeton University Press, 2004), plate 42

In 1862, Francis Bedford, who was another significant British photographer, was commissioned by Queen Victoria to accompany the Prince of Wales on a travel to India. As a result of the voyage which took four months, Bedford produced two hundred ten large albumen prints. One hundred seventy two of them were exhibited in London and received great enthusiasm.⁵⁷ Among them, Kiosk of Trajan and Temple of Hathor, Philae [Fig.4.12] depicted the uncompleted temple of The Kiosk of Trajan, which was one of the favourite sites of the island of Philae.⁵⁸

India was widely photographed by other British photographers as well. Even though, it might have been expected that the upper-class amateur, enthusiastic Britons working in India would have taken photographs immediately after the invention, the photography in India during the 1840s was hardly visible. It flourished around the 1850s by the formation of some photographic societies in Bombay, Madras and Bengal. Since the weather conditions of the extreme heat, humidity and dust, were formidable to take photographs, photography required the adaptation of local conditions and dedication to the mission. Under these circumstances, mainly army officers and photographers appointed by government could produce photographs.

Photography was widely used to document of India.⁵⁹ Linnaeus Tripe, W. H. Pigou, E. D. Lyon and John Murray were the first photographers who specialized in architectural and landscape photography in India. All of them produced photographs by using waxed paper negatives.⁶⁰ Dr. John Murray, who was a surgeon in the East India Company, was appointed as a civil surgeon of Agra in

⁵⁷ Heilburn, "Around the World," 161 and Pare, *Photography and Architecture*, 247.

⁵⁸ Pare, *Photography and Architecture*, 248.

⁵⁹ Elwall, *Impressed by light*, 119.

⁶⁰ Heilburn, "Around the World," 162 and Pare, *Photography and Architecture*, 250.

1848. He started to take photographs in 1849 and became a successful photographer during the 1850s. In 1857, Murray exhibited some of his prints in the Photographic Society in Bengal. He also brought some of these prints displaying Indian subjects to London. In London, thirty of these photographs were published as a folio entitled *Photographic Views in Agra and Its Vicinity*. Until that time, only some engravings showing Indian subjects had been published. The photographs were met with public enthusiasm. Meanwhile, Murray attracted the interest of the government and was commissioned to photograph the scenes of Benares, Allahabad, Cawnpore, Agra and Delhi where possible mutiny was expected. He was ordered to take photographs of British entrenchments, forts, military defences and the sites under reconstruction. In 1858, Murray was re-assigned as a civil surgeon in Agra and continued to take photographs.⁶¹ In the same year, he also prepared a booklet, entitled *Photographic Views of Agra and Its Vicinity*, by describing the plates. Then, in the following year, he published a portfolio, including twenty-two photographs, under the title of *Picturesque Views in the Northwestern Provinces of India*.⁶² One of the examples of Murray's photographs [Fig. 4.13] depicted the Taj Mahal from the Southeast.

During the same period, Captain Linnaeus Tripe, who was a British army officer, was taking photographs in India as well. He was recognized by the governmental authorities after he carried out an expedition with his fellow A. C. B. Neill, who was an amateur, working in the Indian Medical Service. They travelled to the south of India to photograph three temple sites of Halebid, Belur and Sravanabelagola. They made a broad survey of these sites and produced one hundred negatives displaying the temple buildings. In 1855, they exhibited sixty eight of these photographs at the exhibition of Raw Products, Arts and

⁶¹ Elwall, *Impressed by Light*, 126.

⁶² Pare, *Photography and Architecture*, 249 and Heilburn, "Around the World," 161.



Figure 4.12 Kiosk of Trajan and Temple of Hathor, Philae by F. Bedford, 1862

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 81

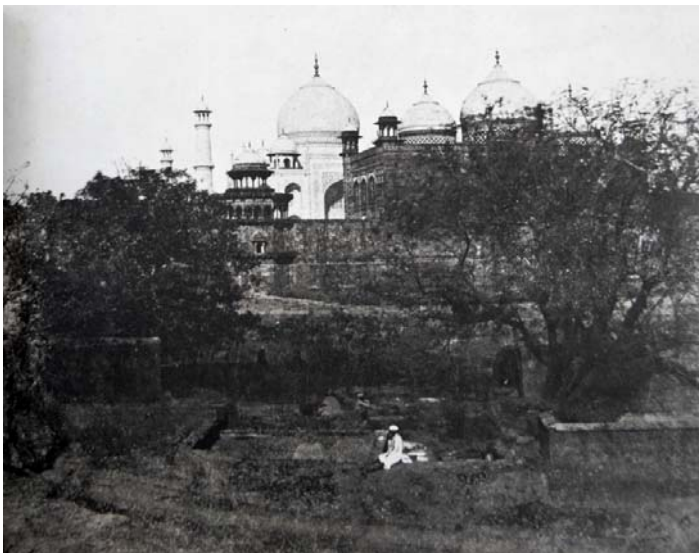


Figure 4.13 Taj Mahal from the Southeast, Agra by J. Murray, 1857

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 84

Manufactures of Southern India in Madras. In 1855, Captain Tripe was sent to the British Mission at the Court of Ava and Burma as ‘artist in photography’. He took the photographs of some buildings, temples and general views. He produced about three hundred photographs including religious sanctuaries. In 1857, these photographs were published for the Madras Photographic Society in Bangalore. In 1856, he became the official photographer of Madras Presidency. Until the new administration abandoned the position of official photographer, he produced many photographs. Then, his career as a photographer ended but he continued his military work. One of his photographs [Fig.4.14] displayed a view from Amarapoora, located in the south of Mandalay in Burma and served as the country’s capital until 1849.⁶³

The government of Bombay appointed Colonel Thomas Biggs, H.W. Pigou and A.C. Neill successively to photograph ancient sculptures and inscriptions in the west of India, especially in Beejapoor and Ahmadabad. In 1866, their prints were published.⁶⁴ The photograph showing Gol Goomuz [Fig.4.15], which was one of the mosques in Bijapur, was produced by Colonel Thomas Biggs. Another name, Captain E.D. Lyon, was charged with taking photographs of ancient religious monuments by the government as well. Since it was almost impossible to photograph long corridors and dim interiors, Lyon developed a system of reflectors which made easy to light long corridors. His works met greet success in London in 1869.⁶⁵ The photograph displaying the interior of Tunkum, Madura [Fig. 4.16] was one of the examples of Lyon’s work. According to Robert Elwall, official photography was important because not only of antiquarian purposes of securing “before they disappear,” as Tripe noted, but also of hidden political

⁶³ Heilburn, “Around the World,”162; Pare, *Photography and Architecture*, 250 and Taylor, *Impressed by Light*, 128.

⁶⁴ Heilburn, “Around the World,”162.

⁶⁵ Pare, *Photography and Architecture*, 250.



Figure 4.14 Amarapooora, Burma by Linnaeus Tribe, 1855

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 85

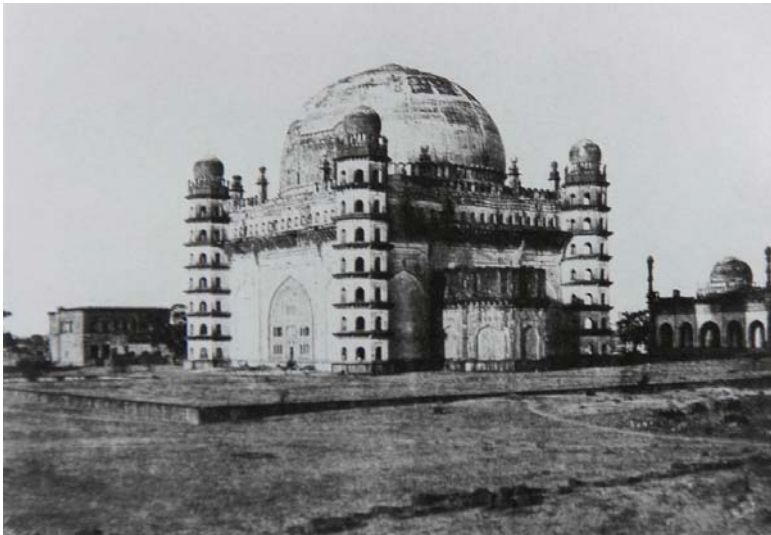


Figure 4.15 The Gol Goomuz, General View by Colonel Thomas Biggs, 1856

Source: Robert Elwall, *Building with Light* (London and New York: Merrell and RIBA, 2004), 57

agenda of showing economic and social benefits of British colonial rule.⁶⁶ In addition to those officer photographers, Felice Beato and James Robertson took photographs in India, too. They produced photographs during the Indian Mutiny. The photograph of an eighteenth century mosque, Bara Imambara Complex of Asafi Mosque in Lucknow [Fig. 4.17] by Beato was an example of Islamic architecture in India.⁶⁷

In 1860, Beato travelled to China and documented the Anglo-Chinese War. He was also the first photographer who visited Japan in 1868 and published two albums of one hundred prints entitled *Photographic Views of Japan and native Types of Japan*.⁶⁸ The photograph showing Buddhist Temple and cemetery in Nagasaki [Fig. 4.18] displayed the view of a shop lined street leading to the temple. In 1865, another British photographer, John Thomson, who was the author of *Street Life in London*⁶⁹ travelled to Asia and spent a decade there. Thomson's travel to Asia and ten years of work resulted in a four volume publication entitled *Illustrations of China and Its People and published* in 1873. The work was composed of two hundred eighteen photographs and depicted the people, culture, geography, antiquities and architecture of China. The Bronze Temple was one of those photographs taken by Johnson [Fig. 4.19]. The temple was one of the few buildings survived after the devastating siege of October 1860. By taking its photograph from an elevated point Johnson enabled to show both the delicate workmanship of the crown of the temple and the ruined base.⁷⁰

⁶⁶ Elwall, *Building with Light*, 21.

⁶⁷ Pare, *Photography and Architecture*, 245.

⁶⁸ Heilburn, "Around the World," 164.

⁶⁹ *Street Life in London* was the publication dealing with social problems. It was issued in twelve monthly editions. See also Pare, *Photography and Architecture*, 253.

⁷⁰ Pare, *Photography and Architecture*, 253.



Figure 4.16 Interior of the Tunkum, Madura by E. D. Lyon, 1868

Source: www.bl.uk/reshelp/findhelprestype/photo/archaeologicalindia; accessed 23 July 2009

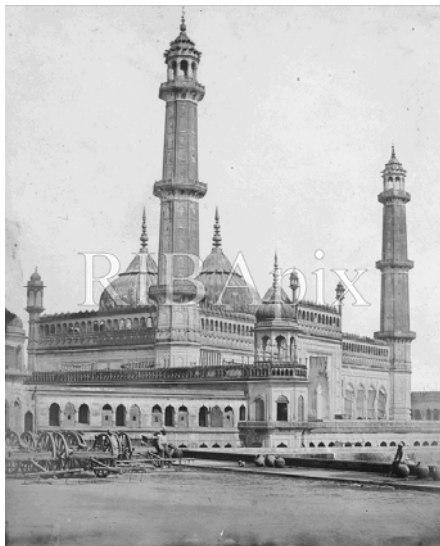


Figure 4.17 Asafi Mosque, Bara Imambara Complex, Lucknow by F. Beato, circa 1858

Source: www.ribapix.com/image.php?i=20656&r=2&t=4&x=1&ref=RIBA13583; accessed 23 July 2009



Figure 4.18 Budist Temple and cemetery, Nagazaki by F. Beato, circa 1865

Source: Richard Pare, *Photography and Architecture: 1839-1939* (Montreal: Canadian Centre for Architecture; New York, N.Y.: Callaway Editions, 1982), plate 96



Figure 4.19 The Bronze Temple, Wan Show Shan, Peking by J. Thomson, circa 1871

Source: Richard Pare, *Photography and Architecture*, plate 94

4.3 'VIRTUAL' TRAVEL

Every day now lessens the distance between the travelled and untraveled man.

Journal of Photographic Society, 21 February 1857.⁷¹

The fascination for travel that emerged in the nineteenth century revealed itself in alternative means of travel as well. Throughout the nineteenth century, as Edward Kauffman notes, “every piece of travel information was brought back and exhibited or published made the act of travel unnecessary.”⁷² Panoramas, travel books, museums, stereographs, world expositions and survey books emerged as the spaces and the means of ‘virtual travel.’ These replacements of travel served for both entertaining and didactic purposes.

The eighteenth century had witnessed the geographic explorations nurtured by the historicist practise of architecture. As discussed previously, since many of the historians were also practicing architects; they researched the historical architecture with the intentions to propagate a certain style. They mostly looked into the history to emulate or to be inspired.⁷³ However, in the nineteenth century a new concept of architectural ‘truth,’ which condemned the stylistic imitation of historical architecture started to be seen. Accordingly, one of the main motivations of geographical exploration started to fade. On the other hand, as a result of previous geographical interest, many places were visited and the information, brought back was either published or exhibited, and accordingly they were consumed as replacements of travel. These replacements diminished the geographical remoteness. Now, one could find temples in Athens and churches in Rouen, which were so remote on the land, on the same shelf in the library. Similarly, that geographical remoteness faded away in the museums and world

⁷¹ Cited from, Haworth-Booth , *The Golden age of British Photography*, 82.

⁷² Kauffman, “Architecture and Travel in the Age of British Eclecticism,” 70.

⁷³ Pevsner, *An Outline of European Architecture*, 191.

exhibitions.⁷⁴ Once the visual data was possessed and brought home, it became easily accessible.

In this context, photography was used to collect visual data and photographs served the dissemination of visual knowledge. Thus, photographs became a crucial tool for architectural historians. Explaining this point, James Ackerman underlines the direct relationship between the availability of a vast array of architectural photographs to scholars and the emergence of the modern history of architecture as a modern science.⁷⁵ So while expanding the knowledge of architectural historians about buildings which were less accessible at first hand, photographs also let them compare geographically widespread buildings.

James Fergusson, who was the author of the first book on the history of world architecture written in English,⁷⁶ was the influential supporter of use of photography as a necessary tool for architectural history. Indeed, Fergusson used photographs not only as book illustrations but also as part of his method of writing architectural history. Towards the end of the nineteenth century, Banister Fletcher and his son Sir Banister Fletcher went far beyond the way opened by Fergusson. Fletchers' long lasted *A History of Architecture for the Student, Craftsman, and Amateur being a Comparative View of the Historical Styles from the Earliest Period*, published in 1896, was illustrated with photographs. Having been continuously 'upgraded,' it has "played a formative role in the history education of

⁷⁴ Kauffman, "Architecture and Travel in the Age of British Eclecticism," 82.

⁷⁵ Ackerman, "Origins, Conventions and Imitations," 120.

⁷⁶ The first World History Book was written by Fischer Von Erlach in German under the title of *Entwurf einer historischen Architectur* and published in 1721. See also Kristoffer Neville, "The Early Reception of Fischer von Erlach's *Entwurf Einer Historischen Architectur*," *JSAH* 66, no. 2 (2007): 160-175.

generations of architects in English-speaking institutions”⁷⁷ and reached its twentieth edition in 1996.⁷⁸

4.4 PHOTOGRAPHY AND THE SURVEY BOOKS

4.4.1 JAMES FERGUSSON and *A HISTORY of ARCHITECTURE*

James Fergusson as the author of the first comprehensive history of world architecture in English, published his *Illustrated Handbook of Architecture* in 1855. Then in between 1865 and 1867 he published *A History of Architecture in All Countries from the Earliest Time to the Present Day*. By writing on a wider range of history, Fergusson wished to challenge the prejudices against any architecture other than Greek and Gothic. As an admirer of Gothic architecture Fergusson told how he was shaken when he became “familiar with the splendid remains of the Mogul and Pagan emperors of Agra and Delhi, and saw how many beauties of even the pointed style had been missed in Europe in the Middle Ages.”⁷⁹ Then his confidence was “further weakened” when he saw “what richness and variety the Hindu had elaborated not only without pointed arches, but indeed without any arches at all”⁸⁰ Accordingly, having been freed from his prejudices, he inspected the ruins of Thebes and Athens and admitted that “at least equal beauty could be obtained by processes diametrically opposed to those employed by the mediaeval architects.”⁸¹ Consequently, he came to the idea that “beauty in

⁷⁷ Gülsüm Baydar Nalbantoğlu, “Toward Postcolonial Openings: Rereading Sir Banister Fletcher’s “History of Architecture,” *Assemblage* 35 (April 1995): 6-17, 7.

⁷⁸ Banister Fletcher's *History of Architecture* is currently being prepared for its twenty-first edition. See <http://www.audacity.org/JMcK-biog.htm>

⁷⁹ James Fergusson, *A History of Architecture in All Countries from the Earliest Time to the Present Day* vol I, 2nd ed. [book on-line] (London: John Murray, 1874), xiv; available from www.archive.org/details/ahistoryarchite07ferggoog; internet; accessed 12 June 2009

⁸⁰ Ibid.

⁸¹ Fergusson, *A History of Architecture in All Countries*, vol I, xiv.

architecture did not reside in pointed or in round arches, in bracket capitals or horizontal architraves, but in thoughtful appropriateness of design and intellectual elegance of detail.”⁸² Furthermore, he became convinced that “no form is in itself better than any other and that in all instances those are best which are most appropriate to the purposes to which they are applied.”⁸³ Then, he concluded that had admirers of certain style gone through the same course of education as Fergusson had passed, there would have to be very few of them.⁸⁴ Fergusson aimed to display “3000 years of perfect success in all countries and under all circumstances.”

Fergusson was also a significant figure in the history of architectural historiography because of the fact that he widely used photographs both as illustrations and as source of his study. He was originally a merchant and became interested in Indian architecture when he went into business in India. At some time around the late 1830s, he travelled thousands of miles to study India’s most interesting surviving monuments. During his travel, he meticulously made the drawings of the buildings by the aid of camera lucida. After returning to Britain, Fergusson published his findings in two books; *Illustrations of the Rock-cut Temples of India* of 1845 and *Picturesque Illustrations of Ancient Architecture in Hindustan* of 1848. *Picturesque Illustrations* could be seen as an early display of the Fergusson’s emphasis on the accuracy of illustrations which led him become an advocate of photography. He asserted that his plates were “the most perfect delineations of Indian Architecture that have been given to the public.”⁸⁵ Before Fergusson, the illustrations of Indian architecture had already been available.

⁸² Fergusson, *A History of Architecture in All Countries*, vol I, xiv.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Robert Elwall, “James Fergusson (1808-1886): a Pioneering Architectural Historian,” *RSA Journal* 139 (May 1991): 393-404, 395.

Between 1780 and 1783 William Hodges had produced sketches, depicting the land, buildings and people of India during his three years stay in India and then, he published his *Selected Views* between 1785 and 1788. Although they were charming, they were inaccurate representations. Similarly, during the late eighteenth century, Thomas Daniel had produced and published a series of views entitled *Views of Calcutta and Oriental Scenery*. However, Fergusson found Daniel's drawings inaccurate, and therefore, he criticized them.⁸⁶

Fergusson's familiarity with camera lucida and his demand for the accuracy of architectural illustrations led him embrace the photography. In 1856, he supervised the photographic copying of architectural drawings of buildings in Beejapoor by Cundall and Downes. RIBA Council suggested the East India Company to multiply the drawings which were used as supplement at a lecture given by Fergusson. Then, these photographic copies of architectural drawings were used as illustrations of the book, *Architectural Illustrations of the Principal Mahometan Buildings of Beejapor* published in 1859. Throughout the following two years, Fergusson's engagement with the Crystal Palace Company, first as the advisor of creation of Nineveh Court and then as the Companies General Manager, required him to be closely in contact and work with both photographers and engineers. Most probably, during this period Fergusson's close relation with engineers further persuaded him to appreciate photography as a quick and easy method of recording.⁸⁷ By the time it was 1860, Fergusson was so strongly convinced about the value of photography that when he lectured at Architectural Photographic Association on the photographs produced by Robertson and Beato, he admitted to his audience that "he had never been in Jerusalem but now Jerusalem came to him."⁸⁸ Robert Elwall claims that Fergusson was more confident in the following

⁸⁶ Elwall, "James Fergusson," 395.

⁸⁷ Ibid., 396.

⁸⁸ Ibid.

year when he was invited to lecture on the Indian photographs submitted by Dr. John Murray and Captains Dawson and Dixon. Accordingly, he emphasized “the importance of procuring complete and systematic series of photographs of all the important palatial and ecclesiastical architecture of Indian empire.”⁸⁹

Consequently, Fergusson produced several books on Indian architecture, illustrated by either photographs or woodcuts which had mostly been copied from photographs.

In 1855, the East India Company drew attention to the importance of photography and recommended the Government of Bombay to employ photography to record antiquities of Western India. However, there were so few commercial photographers in India, that mostly officers in the Indian army were employed to take the photographs. These officer photographers produced works in good quality despite extreme difficulties, such as the inaccessibility of many sites, harsh light and their unfamiliarity with the subject. In 1864, together with the photographs of the caves of Ajanta, taken by one of those officer photographers, Major Robert Gill of the Madras Army, Fergusson’s study on *The Rock Cut Temples of India* was published. In 1866, Fergusson was asked to contribute to three photographically illustrated works by providing the related architectural information. They were *Architecture at Ahmedabad*, *Architecture at Beejapoor* and *Architecture in Dharwar and Mysore*, all produced under the patronage of the Committee of Architectural Antiquities of Western India, formed in February, 1865. Fergusson’s contribution to these photographic studies would become the companion volumes to the *Architectural Illustrations of the Principal Mahometan Buildings of Beejapor*. Moreover, while all of these books displayed the poor condition of these buildings, they drew attention to the role of photography in recording for posterity. In the same year, two hundred of these photographs were displayed at the exhibition organized by Fergusson in the oriental court at the

⁸⁹ Elwall, “James Fergusson,” 396.

South Kensington Museum. Furthermore, in 1866, most of these photographs were exhibited in the Indian Court at the Paris International Exhibition.⁹⁰

By the 1860s, a vast amount of photographs on Indian architecture was gathered, however, according to Fergusson, these were brought together by chance and displayed unsystematically. Thus, he attempted to develop a classification of Indian architecture. It was similar to the classification of Gothic architecture developed by Thomas Rickman yet Fergusson's method of study was based on the use of photographs. By 1876, when his *The History of Indian and Eastern Architecture* was published, Fergusson had already gathered and examined over three thousand photographs of Indian Buildings.⁹¹ As he explained in the preface of that book, a close examination of many photographs was the crucial part of his method:

Photography has probably done more than anything that has been written. There are now very few buildings in India of any importance at least which have not been photographed with more or less completeness; and for purposes of comparison such collections of photographs as are now available are simply invaluable. For detecting similarities, or distinguishing differences between specimens situated at distances from one another, photographs are almost equal to actual personal inspection, and, when sufficiently numerous, afford a picture of Indian art of the utmost importance to anyone attempting to describe it.⁹²

James Fergusson's *A History of Architecture*, published in four volumes, was the first book presenting such a broad range of architectural history both geographically and periodically. Through two thousand pages and with one thousand five hundred wood engravings, Fergusson produced a readable tour of

⁹⁰ Elwall, "James Fergusson," 396 and Elwall, *Building with Light*, 57.

⁹¹ Elwall, "James Fergusson," 397, 398.

⁹² James Fergusson, *History of Indian and Eastern Architecture* [book on-line] (London: John Murray, 1876), v; available from www.archive.org/details/historyindianan03ferggoog; internet; accessed 12 July 2009.

the world architecture. Before that, in 1855, he published, *The Illustrated Handbook of Architecture Being A Concise and Popular Account of the Different Styles of Architecture Prevailing in All Ages and Countries*, which would be modified and become a part of his *History of Architecture*. In the preface of the *Illustrated Handbook*, Fergusson pointed out the “rapid and satisfactory progress during the last fifty years as those which [has] serve[d] to illustrate and elucidate the arts and architecture.” So, it was by means of this progress that “not only has an immense mass of new materials been collected let the way comprehensive studies, but new principles of criticism have been evolved.”⁹³

Fergusson explained his method of research as a comprehensive study on “plans, sections and details” and “years and years of study” to grasp the whole subject “scattered through hundreds of volumes on the principles of design.” Then he emphasized his aim as to supply “a succinct but popular account of all the principal buildings of the world, to condense within the compass of two small volumes the essence of the information contained” and to generalize all the styles known by “assigning to each its relative value, [and] to enable the reader to acquire a more complete knowledge of the subject than has hitherto been attainable without deep study.”⁹⁴ By mentioning the historical studies on architecture produced within the last fifty years, he also underlined that although a vast array of architectural knowledge was acquired within a relatively short time, “these works failed in utilizing the immense mass of information now available” and moreover they were scattered in many publications and too scientific to

⁹³ James Fergusson, *The Illustrated Handbook of Architecture* [book on-line] (London: John Murray, 1855), v; available from www.archive.org/details/illustratedhandb01ferguoft; internet; accessed 12 July 2009.

⁹⁴ *Ibid.*, vi.

communicate with general audience. Thus, he described his handbook as providing the reader “a perfect acquaintance”⁹⁵

Throughout the following decade, Fergusson prepared his *A History of Architecture*. In the preface, he explained that although *A History of Architecture* was based on *The Illustrated Handbook*, it was re-arranged chronologically rather than geographically and it was modified and widely expanded.⁹⁶ *A History of Architecture* was arranged chronologically because his aim, in his own words, was “to trace the connection of the various parts to one another.” He also explained that “if the intention was only to describe particular styles or separate buildings, the topographical arrangement might be found more convenient; but where anything beyond this was attempted, the historical method was the only one.”⁹⁷

For him, it was also necessary to expand the contents of *The Handbook* because:

In Asia, too, great progress has been made. Photography has rendered us familiar with many buildings we only knew before by description, and both the Hindu and Mahomedan remains of India are now generally accessible to the public.” Colonel Yule's work on Burmah and M. Mouhot's on Siam have made us acquainted with the form of the buildings of those countries, and China too has been opened to the architectural student. When the Handbook was written there were many places and buildings regarding which no authentic information was available.⁹⁸

Furthermore, Fergusson formed *History of Modern Architecture* and *History of Indian and Eastern Architecture* as companion volumes of the *History of Architecture*. Presenting his book as a work “far from pretending to be a complete or exhaustive history of the art,” he admitted modestly that he produced “neither an atlas nor a gazetteer, but simply a general map of the

⁹⁵ James Fergusson, *The Illustrated Handbook of Architecture* Ibid., vii.

⁹⁶ Ibid., viii.

⁹⁷ Ibid.

⁹⁸ Fergusson, *History of Architecture*, ix.

architectural world” for the intelligent and general reader.⁹⁹ That was what made Fergusson a pioneer: he attempted to interpret and organize world range architectural knowledge by setting them into a historical context for a general audience.

While doing this, he embraced the new medium of photography as a valuable tool for communication of visual information. Having strongly demanded accuracy as a part of scientific method, he emphasized that in his book “every pain has been taken to secure the greatest possible amount of accuracy.”¹⁰⁰ Accordingly, he gathered many photographs about the subject, and inspected and interpreted them by using architectural drawings if they were available. He was actually a collector of photographs, as we can understand clearly from his statement, “I possess, to give a single instance, more than three thousand photographs of Indian buildings, with which constant use has made me as familiar as with any other object that is perpetually before my eyes.”¹⁰¹ So, by using this collection, he made photographs part of his history writing.¹⁰² However, he did not claim that site experience was unnecessary while practicing such a writing:

It was my good fortune to be able to devote many years of my life to the study of Architecture as a fine art under singularly favorable circumstances: not only was I able to extend my personal observations to the examples found in almost all the countries between China and the Atlantic shore, but I lived familiarly among a people who were still practicing their traditional art on the same principles as those which guided the architects of the Middle Ages in the production of similar but scarcely more beautiful or more original works. With these antecedents, I found myself in possession of a considerable amount of

⁹⁹ Fergusson, *History of Architecture*, x.

¹⁰⁰ *Ibid.*, xvi.

¹⁰¹ *Ibid.*

¹⁰² *Ibid.*

information regarding buildings which had not previously been described, and what I considered of more value of an insight into the theory of the art, which was certainly even more novel.¹⁰³

Regarding the illustrations in his books, he complained that “although every possible care has been taken in selecting the best authorities for the statements in the text of the work, as well as the subjects for illustration,” it was impossible to avoid error because “in many branches few materials exist for a correct description of the style, and that the drawings which are available are frequently so inexact and with scales so carelessly applied.”¹⁰⁴

Throughout the following editions, Fergusson replaced the inaccurate illustrations with the photographs or more accurate illustrations as long as they were available. There were around one thousand five hundred illustrations in the two volumes of the second edition of *A History of World Architecture*, published in 1874.

Considering Fergusson’s wholehearted advocacy of photography, it could be expected that Fergusson would have employed many photographs as illustrations; however, there were only ten woodcut photographic illustrations in those two volumes. Forty three photographic illustrations were used in *History of Modern Architecture* which was the third volume of Fergusson’s history even though the total number of illustrations in this volume was three hundred thirty one. Most of the photographs were pasted to the *History of Eastern and Indian Architecture*. There were around seventy photographic illustrations and the total number of illustrations in the *History of Eastern and Indian Architecture*, published in 1876, was three hundred ninety four.

As can be understood from these numbers, Fergusson did not insist on using photographs but he appreciated photography as a valuable means of visual representation and communication. He used photographs when he needed. The

¹⁰³ Fergusson, *History of Architecture*, vii.

¹⁰⁴ *Ibid.*, xvi

presence of a few photographic illustrations in the first volume of *A History of Architecture* including Egyptian and Christian architecture indicated that although there were a number of available architectural photographs depicting the buildings of Christian architecture, Fergusson preferred reliable drawings as illustrations in his book. This preference can be explained by referring to Ackerman's note that "camera had limitations that did not affect the draftsman."¹⁰⁵ Thus, Fergusson might have chosen the most appropriate representation suitable for his purpose. On the other hand, in the volume of *Indian and Eastern Architecture*, he widely used photographs as illustrations because in this case photographs were more available and more accurate than the available drawings.

Fergusson developed his discussions in the text by inspecting photographs whenever he needed and he further informed the reader by giving valuable footnotes about the photographs on which his discussion was based. Besides, he combined the knowledge transmitted by photographs not only with the text but also plans and sections if they were available. While doing that, Fergusson underlined that his concern was truth: "I can only ask my readers to believe that the assertions are not speculative fancies, but deductions from facts."¹⁰⁶ In order to inspect the truth, Fergusson embraced all the possible sources as long as they were reliable.

Some examples of illustrations from the second editions of Fergusson's *History* were important in terms of showing the similarity between sketches and photographs. Because of the printing technology of the time, photographs were printed after they had been transformed into woodcuts. Thus, both the pictorial and the material qualities were so similar that unless having been informed by the author, the audience could not differentiate photographs from sketches. For

¹⁰⁵ Ackermann, *Origins, Conventions and Imitations*, 101.

¹⁰⁶ Fergusson, *History of Indian and Eastern Architecture*, vii.

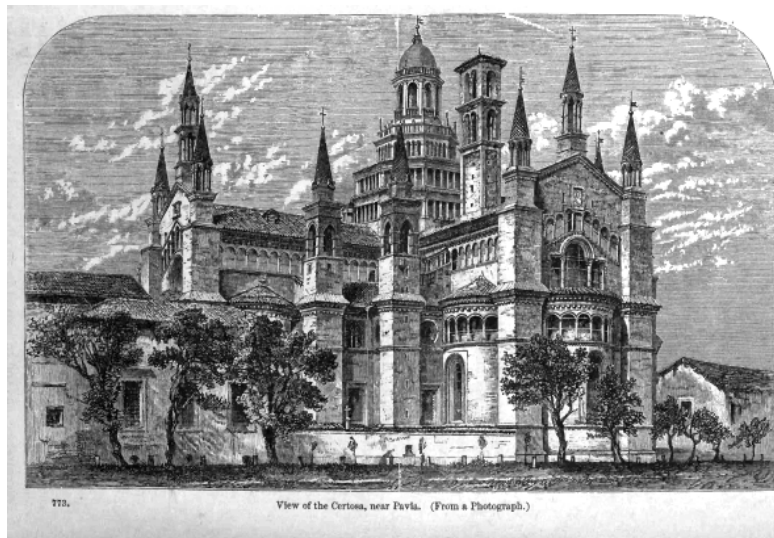


Figure 4.20 View of the Certosa, near Pavla. From a Photograph

Source: James Fergusson, *A History of Architecture in All Countries* (London: John Murray, 1867), 216

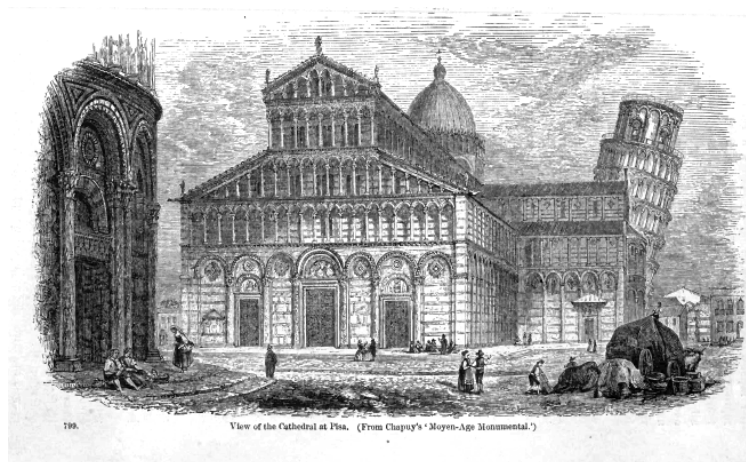


Figure 4.21 View of the Cathedral at Pisa. From Chapuy's *Moyen-Age Monumental*

Source: James Fergusson, *A History of Architecture in All Countries* (London: John Murray, 1867), 245



979. View of Suleymanie Mosque. (From a Photograph by Bedford.)

Figure 4.22 View of Suleymanie Mosque. From a Photograph by Bedford

Source: James Fergusson, *A History of Architecture in All Countries* (London: John Murray, 1867), 415



991. Madrisa of Sultan Husein at Ispahan. (From Flandin and Coste's 'Voyage en Perse'.)

Figure 4.23 Madrisa of Sultan Husein at Ispahan. From Flandin and Coste's '*Voyage en Perse*'

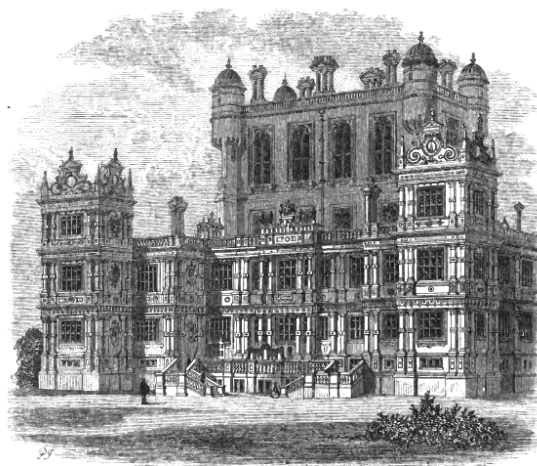
Source: James Fergusson, *A History of Architecture in All Countries* (London: John Murray, 1867), 441



176. West View of St. Paul's Cathedral. From a Photograph.

Figure 4.24 West View of St. Paul's Cathedral. From a Photograph

Source: James Fergusson, *History of the Modern Styles of Architecture* (London: John Murray, 1873), 305



158. View of Wollaton House. From Britton.

Figure 4.25 View of Wollaton House. From Britton.

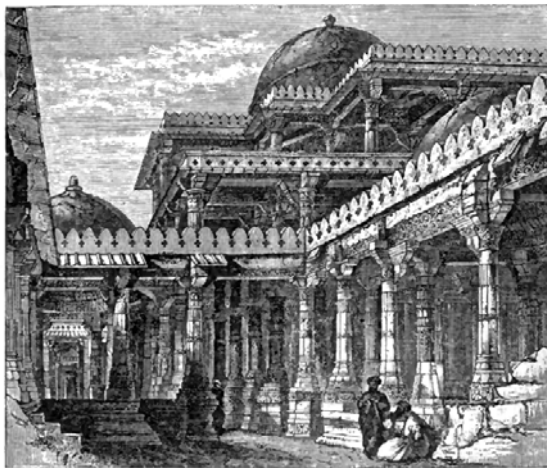
Source: James Fergusson, *History of the Modern Styles of Architecture* (London: John Murray, 1873), 278



373. View of Exterior of Nakhon Wat. (From a Photograph by Mr. J. Thomson.)

Figure 4.26 View of Exterior of Nakhon Wat. From a Photograph by J. Thomson

Source: James Fergusson, *History of Indian and Eastern Architecture* (London: John Murray, 1876), 671



134. View in the Temple at Sadri. (From a Sketch by the Author.)

Figure 4.27 View in the Temple at Sadri. From a sketch by the author

Source: James Fergusson, *History of Indian and Eastern Architecture* (London: John Murray, 1876), 241

instance, [Fig. 4.21], [Fig. 4.22], [Fig. 4.24], and [Fig. 4.26] were photographic illustrations, yet [Fig. 4.21], [Fig. 4.23], [Fig. 4.25], [Fig. 4.27] were sketches. Moreover, it was also significant that Fergusson informed his audience not only about whether the illustration was a photograph or a sketch but also about the author or the source of the illustration. It was Fergusson's particularity that he mentioned the photographers name as the author of a photograph as long as such information existed. So, Fergusson used the photographs not only as illustrations but also as his arguments.

Furthermore, these examples of illustrations showed that using photographs did not change the pictorial conventions or visual codes of book illustration. Illustrations of Fergusson's *A History of World* were not different than any other book on architecture produced in the nineteenth century. The only change was the production method of the pictures. Almost the same pictures were used but with the difference of being produced by "pencil of the nature."

4.4.2 SIR BANISTER FLETCHER AND *A HISTORY OF ARCHITECTURE ON THE COMPARATIVE METHOD*

Towards the end of the nineteenth century, Banister Fletcher and his son Banister F. Fletcher produced their *History of Architecture on the Comparative Method for Student, Craftsman, and Amateur* which was obviously inspired from Fergusson. The first edition of Fletchers' *History of Architecture* mainly three hundred pages and one hundred fifteen illustrations was published in 1896. However, it continuously reviewed and expanded its contents and when it reached its ninth edition in 1931 it had one thousand pages and four thousand illustrations.¹⁰⁷ Fletchers' historiography was the climax of the nineteenth century architectural history writing. Different from the histories directed towards describing buildings, Fletchers attempted to display them in a wider context as they underlined in the preface of the first edition of *the Comparative History*:

¹⁰⁷ See Watkin, *The Rise of Architectural History*, 85, 86.

They are of opinion that in published works upon the subject, Architecture has often been too much isolated from its surroundings, and that the main points of the physical geography, social progress, and historical development of each country require to be understood by those who would study and comprehend its particular style.¹⁰⁸

Moreover, “in order to bring out the effects of these influences, and also the qualities of the styles themselves” Fletchers used “a comparative and analytical method” which was similar to that of Pugin in terms of juxtapositions. By means of such a method, Fletchers thought that “the differences maybe more easily grasped.”¹⁰⁹ They explained their method of comparing different architectures by emphasizing that “the special character of Gothic architecture becomes manifest when put in comparison with the Classic and Renaissance styles.” Accordingly, “the styles themselves were then analyzed and the parts contrasted; the analysis being carried out on the basis of the essential parts which every building possesses.”¹¹⁰ For their comparative method, photographs were the main supply. Availability of a vast amount of architectural photographs almost for every topic made such a comparative method possible.

When the first edition of the father and son Banisters’ well-known and well-read survey book *A History of Architecture* appeared in 1896, it was a three hundred page modest survey of European Styles.¹¹¹ In 1901, Banister Fletcher was dead and Fletcher the son continued to develop the book by making alterations and additions. By the time 1901, having been expanded during a five years period, the

¹⁰⁸ Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur* [book on-line] (London: Batsford, 1896), v; available from www.archive.org/details/historyofarcocad00fletuoft; Internet; accessed 5 August, 2009

¹⁰⁹ Ibid.

¹¹⁰ Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur* [book on-line] (London: Batsford, 1896), v; available from www.archive.org/details/historyofarcocad00fletuoft; Internet; accessed 5 August 2009.

¹¹¹ Ibid.

book reached its fourth edition.¹¹² However, in this edition it appeared with an important difference: the book was separated into two sections, *The Historical Styles*, including all the topics from previous editions and *Non Historical Styles* composed of Indian, Chinese, Japanese, and Central American and Saracenic architecture.¹¹³ In 1905, the book reached its fifth edition and the famous Tree of Architecture, “showing the main growth or evolution of the various styles”

emerged with it.¹¹⁴ Even though Fletcher’s tree seemed to display a chronological development, it was something like a map or plan, showing the route of the visual tour followed throughout the book. By the time 1921, after twenty years the death of the father Fletcher, the book was completely re-written by the son Fletcher and its sixth edition published under the name of a single author; Sir Banister Fletcher.

Born in 1866, Banister F. Fletcher was the elder son of a professor of architecture also named Banister Fletcher. Fletcher, the son, received architectural education too and expertise in the law of building and became a barrister and arbitrator for which he was knighted in 1919. When he was thirty, Fletcher the son, studied with his father for *A History of Architecture*.¹¹⁵ Even though Fletcher was not very

¹¹²Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur* [book on-line] (London: Batsford, 1901), v; available from <http://www.archive.org/stream/ahistoryarchite00fletgoog#page/n4/mode/1up> ;Internet; accessed 5 August 2009.

¹¹³ This separation was widely discussed and examined as a subject of post-colonial studies. For further interest, Gülsüm Baydar Nalbantoğlu, “Toward Postcolonial Openings: Rereading Sir Banister Fletcher’s History of Architecture,” *Assemblage* 35 (1998): 6-17 and Fatma İpek and Deniz Şengel, “Mısır, Etrüsk, Roma: Piranesi ve Bir On Sekizinci Yüzyıl Tartışması,” *METU Journal of the Faculty of Architecture* 25, no.1 (2008): 27-51.

¹¹⁴ Walker, “The Invisable ‘East’: Fletcher and the Unseen Ho-o-den,” 172. See Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur*, 5th ed. [book on-line] (London: Batsford, 1905), v; available from <http://www.archive.org>; Internet; accessed 5 August, 2009.

¹¹⁵ McKean, “Sir Banister Fletcher: Pillar to Post-colonial Readings,” 194.

active as an architect, he was an advocate of eclecticism.¹¹⁶ As discussed previously, during the eighteenth and nineteenth centuries, writing architectural history was closely related to the architectural practice. Thus, because of this relation, architectural history could not be freed from the approach offering a catalogue to architects. This approach was also obvious in Fletcher's architectural history. Even though the book aimed to adapt a progressive chronological approach to history and to examine buildings in a wider cultural context, his engagement with practice weakened this approach. According to Paul Walker, Fletcher's *Tree*, a drawing appeared as the frontispiece of the fifth edition in 1901 and schematized the natural history of architecture, depicted "a space as much as it does a chronology, the space of catalogue. All architecture [was] there, present[ed] together on the page, available for architects to pick from to use in their own compositions."¹¹⁷ Furthermore, comparing different architectures or different modes of architecture as if they existed at the same time and as if they were accessible at the same time indicated Fletcher's topographic engagement abstracting the buildings from their context. Thus, Fletcher's extensively illustrated *The Comparative History* also offered a virtual travel to the students, craftsmen and the amateurs. Reliability and competence of the virtual travel offered by Fletcher was mainly based on its reference to Sir Fletcher's travels. So, as a competent history writer of his time, Fletcher referred to his travels at the very beginning of his book:

This edition differs from previous editions, which were published under the joint names of my father, the joint names of my father, the late Prof. Banister Fletcher, F.R.I.B.A., and myself; for I have now entirely rewritten and recast the book from cover to cover. I have not

¹¹⁶ Paul Walker, "The Invisible 'East': Fletcher and the Unseen Ho-o-den," *Oriental Occidental: Geography, Identity and Space*, ACSA International Conference, 2001, 172 and John McKean, "Sir Banister Fletcher: Pillar to Post-colonial Readings," *The Journal of Architecture*, 11, 2, (2006), 187-204: 194 [Journal on-line]; available from <http://dx.doi.org/10.1080/13602360600786126>; Internet; accessed 7 August 2009.

¹¹⁷ Walker, "The Invisible 'East': Fletcher and the Unseen Ho-o-den," 173.

relied solely other authorities, and my descriptions are largely the result of personal observation of the world's greatest monuments from ancient Troy to modern Chicago.¹¹⁸

However, as Paul Walker claims Fletcher did not travel much, he travelled to the sites of Great Exhibitions. He went to the exhibition of Chicago in 1893 and of Paris in 1889.¹¹⁹ Actually, the world exhibitions were one of the travel replacements of the time. They often gave a shelter to impressive panoramas and sometimes three dimensional open air environments representing actual sites where the viewer travelled through. For instance, at the Paris exhibition in 1889, the Rue du Caire was built with impressive exactitude and realism, including demolished buildings on the two sides of the street.¹²⁰ Fletcher wrote for *The Building News* on the 1889 Paris exhibition that “whole series of exotic pavilions are described in a land of picturesque promenade: Argentina, Mexico, Brazil, Venezuela, Hawaii, India, China, Morocco, Egypt.”¹²¹ It was obvious that Fletcher became familiar with exotic styles through the world exhibitions.

As discussed previously, during the eighteenth and the early nineteenth century travel was crucial part of writing architectural history because it was the only access to sites under examination. However, towards the middle of the century, this situation changed; while more people travelled, travel became less necessary to reach to visual knowledge. Both the new means of transportation and the camera made possible the easy reproduction and rapid transmission of visual data. So, it was possible to replace the real travel with the virtual one by walking

¹¹⁸ Walker, “The Invisible ‘East’: Fletcher and the Unseen Ho-o-den,” 173.

¹¹⁹ Ibid.

¹²⁰ Neumann, “Instead of the Grand Tour,” 52.

¹²¹ Walker, “The Invisiable ‘East’: Fletcher and the Unseen Ho-o-den,” 173. Walker indicates five different issue for the statement of Fletcher; *The Building News* (19 September 1890): 391-392; (26 September 1890):426-427; (17 October 1890): 531-533; (24 October 1890): 570; (31 October 1890): 604-605.

through an exotic street in one of the exposition sites or just by turning the pages of a richly illustrated book. So, similar to his writings published in *The Building News* in which Fletcher described the buildings of the exhibition by following a specific path of movement,¹²² He offered a virtual travel to his readers and guided them through a route, by showing many photographs.

The first edition of the Fletchers' *Comparative World History of 1896* included one hundred fifteen illustrations which were mostly calotypes. In the preface of the first edition, Fletchers underlined that they avoided "long descriptions but provided the largest possible number of illustrations."¹²³ As they explained further, "photographs of large size have been reduced and printed in Collotype by the Direct Photo Engraving Company, Limited, who have also executed the blocks from the line drawings of special plans, maps, and features made by the authors."¹²⁴ In other words, the book made use not only of photographs but also of photographic technique for other illustrations. When the book reached its fifth edition in 1905, two thousand illustrations were pasted. Remarkably, unlike Fergusson's book, in Sir Fletcher's *Comparative History*, photographs rather than sketches were used as illustrations. However, these photographs were similar to the sketches which were previously produced. This shows that the conventional method of architectural representation was not changed. So, the main difference was basically the technique of production. For instance, the engraving of Salisbury Cathedral from Britton's *Cathedral Antiquities* [Fig.4.29] was similar to the photograph of the same building [Fig.4.30] pasted in Fletcher's comparative history. Equally, the drawing of the Cathedral at Pisa in Fergusson's *A History of Architecture* [Fig.4.31] depicted the same view with the photograph of the

¹²² Walker, "The Invisiable 'East': Fletcher and the Unseen Ho-o-den," 173.

¹²³ Fletcher and Fletcher, *A History of Architecture*, vii.

¹²⁴ Fletcher and Fletcher, *A History of Architecture*, vii.

building in Fletcher's history. As another couple of examples, Ruskin's drawing in his *Stones of Venice* of 1851, showing the details of the Byzantine/Gothic capitals [Fig.4.32] found its photographic variation [Fig.4.33] in Fletcher's book. Moreover, Fletcher used photography by placing photographs of two different buildings side by side [Fig.4.35] as Pugin did in his *Contrasts*, by using drawings. Therefore, these uses of the photographs were nothing but the adaptation of previous conventions of architectural representation.



Figure 4.28 Engraving of Salisbury Cathedral Church by Britton, 1836

Source: Britton, John, *The Cathedral Antiquities*, vol I, 1836



Figure 4.29 Photograph of Salisbury Cathedral

Source: Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur*, 5th ed. (London: Batsford, 1905), plate 121

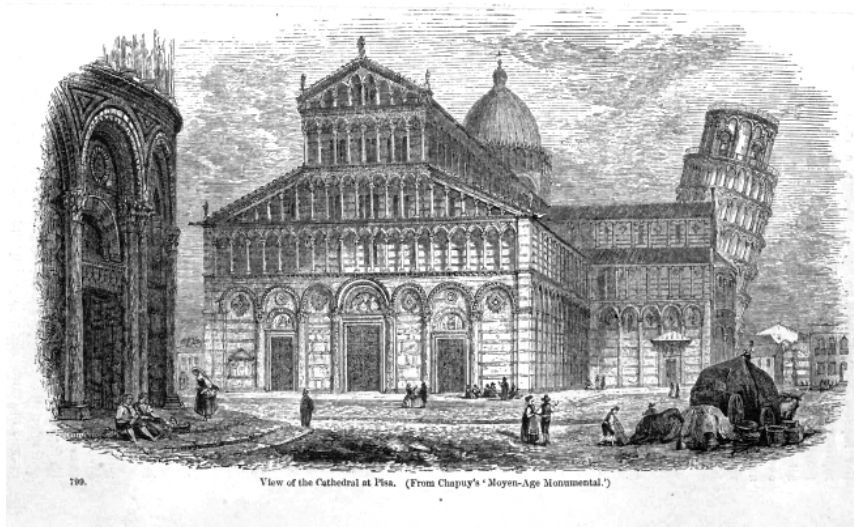


Figure 4.30 View of the Cathedral of Pisa

Source: James Fergusson, *A History of Architecture in All Countries* (London: John Murray, 1867), 245



Figure 4.31 Photograph of the Cathedral of Pisa

Source: Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur*, 5th ed. (London: Batsford, 1905), plate 91



Figure 4.32 Gothic Capitals from *Stones of Venice* by Ruskin

Source: Ruskin, *Stones of Venice* (London: Smith, Elder and Co.1851), plate 18



Figure 4.33 Photograph from *A History of Architecture* by Fletcher

Source: Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur*, 5th ed. (London: Batsford, 1905), plate 88

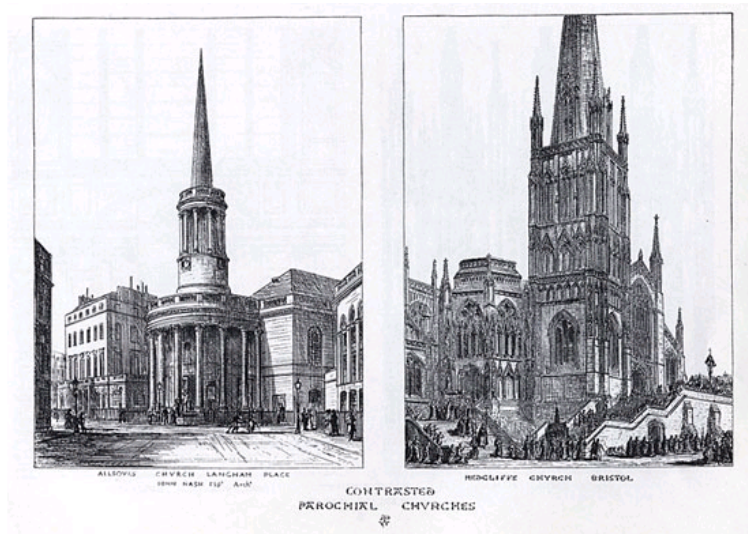


Figure 4.34 Contrasted Churches by Pugin

Source: A. Welby Pugin, *Contrasts* (London: Charles Dolman, 1841)

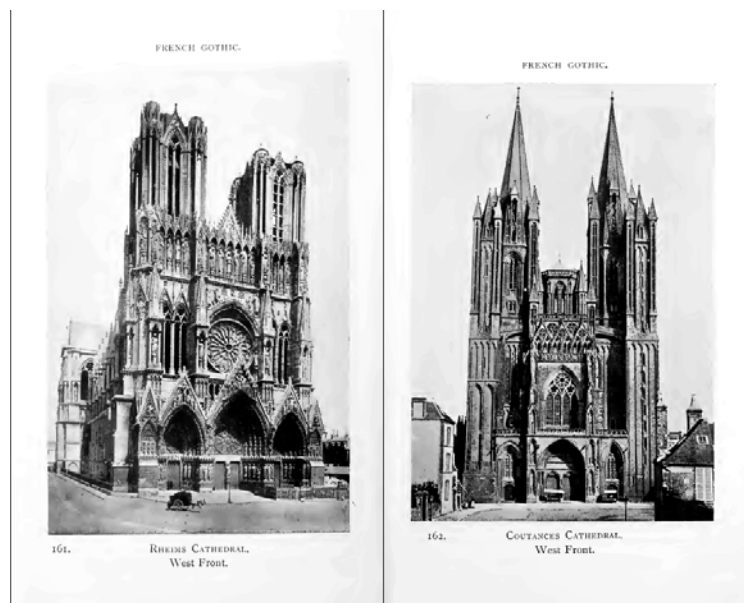


Figure 4.35 Contrasted Cathedrals by Fletcher, 1905

Source: Banister Fletcher and Banister F. Fletcher, *A History of Architecture for the Student, Craftsman and Amateur, 5th ed.* (London: Batsford, 1905), plate 161, 162

CHAPTER V

CONCLUSION

The invention of photography was an issue related to the combination of two scientific principles that had already been known for quite some time. One of them was an optical principle that light, passing through a small hole on a wall of a dark room or camera obscura, projected an image on the opposite wall. The other was a principle of chemistry that certain chemicals turned dark when exposed to the light. In that sense, what made the invention of photography possible was the expansion of capitalist culture, demanding cheap mechanical means for the reproduction of printed material. The nineteenth century was such a ripe time for photography that it was invented almost simultaneously by different people who did not communicate with each other directly. In the first half of the nineteenth century, not only the author of the first surviving photograph Nicéphore Niepce and his collaborator Jacques Mande Daguerre but also Henry Fox Talbot arrived at the scene as the inventor of photography. Furthermore, soon after the announcement of the invention of photography, which was actually two different techniques for producing a permanent positive image by Louis-Jacques-Mande Daguerre and William Henry Fox Talbot in 1839, some people from different parts of Europe appeared by claiming that they had also invented similar techniques.¹

The French process, daguerreotype, which was the technique of recording the object on a small silver-plated metal ground, was not a proper method of

¹ See 2.1.1 Invention of Photography.

one image could be produced as an outcome of the process.”² On the other hand, William Henry Fox Talbot’s invention, the calotype, was a technique for producing a paper negative from which any number of positive prints could be produced. However, a calotype was not as accurate as a daguerreotype.³

Architecture was an ideal subject in the early years of photography since buildings could stand still during the long exposure time of early chemicals. Accordingly, architectural photography appeared with the first photographs. The first surviving view of an architectural subject was Nicephore Niepche’s “the view from the window” of 1827, showing the view across the rooftops of his property. Similarly, the earliest surviving photograph by H. F. Talbot, “Latticed Window,” of 1835 showed an image seen through a window.⁴ Therefore, photography immediately used architecture as a suitable and well demanded subject. On the other hand, since photography was conceived as an objective record, freed from artists’ intervention, architecture also used photography as a tool for documentation and architectural representation. Thus, architecture and photography have closely interacted and have become parts of each other since the invention of photography.⁵

The interaction between photography and architecture is examined in this study. As a conclusion, a literal photograph, depicting the close interactions between photography and architecture is printed below. To capture the photograph, Britain is zoomed and the shutter speed is set in a way that the shutter stays open during

² Gernsheim, *The Rise of Photography 1850-1880 : the Age of Collodion*, 31.

³ See 2.1.1 Invention of Photography

⁴ Pare, *Photography and Architecture: 1839-1939*, 13; Joyce Micheal and others, “Architecture: the camera’s first focus” *Cornerstone* 26, 4 (2005): 34; Geoffrey , *William Henry Fox Talbot* , plate 2.

⁵ See 2.2 Architecture in Focus

the Victorian Period.⁶ While the interactions are followed by panning the camera throughout the period, the focus is locked on the answer of the question “why did architecture and photography closely interact?”⁷

In 1813, when Nicéphore Niépce started his photochemical experiments, he defined mainly two research objectives: to obtain direct images from camera obscura and to copy already existing engravings.⁸ Indeed, these were quite pragmatic objectives and later photographs successfully fulfilled them. Moreover, similar to Niépce, in 1839, Henry Fox Talbot underlined the possible uses of his inventions as obtaining copies of drawings and engravings, and making pictures.⁹ Then, to demonstrate how photography was used for book illustrations, Talbot printed the first photographically illustrated book in the world, *The Pencil of Nature*, in 1844.¹⁰ Consequently, when photography was considered as a means of making multiple copies, it was regarded as one of the techniques of print media, such as wood-cut and engravings. On the other hand, when it was thought as a means of “copying observable reality exactly,” it was conceived within a tradition of visual arts.¹¹ Thus, photography appeared as something not decided whether it was an art form or science. In this respect, among the visual arts, photography and architecture became natural partners because of their kinship with science and technology.

⁶ Here, I use the metaphor of shutter speed to define time interval. A shutter is the part of a lens blocking all light from exposing the film/sensor until you press the button. Then it opens and closes, giving the film/sensor a brief flash of light.

⁷ Panning is the technique to capture a moving object by panning camera through the exposing time. It means that, as long as the shutter opens, the photographer slightly moves the camera in the parallel direction of the moving object to follow it.

⁸ Gernsheim, and Gersheim. *A Concise History of Photography*, 18.

⁹ Goldberg, *Photography in Print*, 36-41.

¹⁰ Pare, *Photography and Architecture*, 14.

¹¹ Warner, *Photography and Its Critics*, 2.

Photography was conceived to have mainly three advantages over the traditional means of representation: it could record details which were not easily seen with the naked eye, it could be produced faster than sketches, and it was 'truthful.' Among these merits, 'truthfulness' was mostly appreciated because of the Victorians' engagement with the idea of 'truth.' During the Victorian period, the concept of "truthfulness" was a basic concept through which all the debates on the styles or the importance of function or the restoration were carried on. Representation of reality was a requirement for copies, but drawings and engravings were subjected inevitably to the interventions of the choices and prejudices of the engravers. Therefore, it was believed that photographs provided more precise and more accurate representations which reflected the 'truth' more than engravings could do. Thus, the nineteenth century idea of 'truthfulness' perceived photography as an innocent, dispassionate way of seeing and appreciated it as a new means of representation, free from omissions, distortion, style, subjectivity, or any interference.¹²

In the second quarter of the nineteenth century, modern profession of architecture and a number of supporting institutions of profession of architecture emerged. Thus, the institutions of architecture and public enthusiasm of architecture created increasing demand for architectural photography.¹³ Moreover, there was also a tendency towards archaeological exactitude and the scientific approach of architectural study which demanded more precision of drawings.¹⁴ Accordingly, photography fulfilled this demand by giving minute details and exact proportions.

In the 1850s, architectural photography emerged as a respectable new profession due to the increasing demand for architectural photographs. That demand came not

¹² See 2.2.1 Invention of Photography.

¹³ Robinson and Herschman, *Architecture Transformed*, 3.

¹⁴ Elwall, *Building with Light*, 12.

only from institutions or persons related to the profession of architecture but also from a variety of sources, such as official institutions, private societies, commercial entrepreneurs, world exhibitions, etc. So, it was inevitably shaped and nurtured by the cultural themes of the period.

Furthermore, during the second half of the nineteenth century, a number of the architectural and historical societies were active and some of them commissioned and published photographs.¹⁵ Architectural Photographic Association, founded in 1857 to supply photographs of architectural works of all countries to its members, was the most prominent one among these societies.¹⁶ Although the association encouraged architects to bring back photographic records of their travels, the most important supply of photographs was the professional photographers. Organizing exhibitions and discussions about the place of photography in the study and practice of architecture, the Association made a great contribution to architecture by assigning photography to the service of architects as a new medium of representation and a tool for documentation.¹⁷ Meanwhile, governments, local governments, some commercial firms, and some institutions also commissioned photographers. Accordingly, construction histories of important buildings, transformation of the cities, progression of railway constructions and stations were recorded. For instance, “Glasgow City Improvement Trust” carried out a photographic survey to preserve an image of the past.¹⁸ With a similar aim, “Society for Photographing the Old Relics of London” was founded in 1875.¹⁹ The

¹⁵ Jager, “Picturing Nations,” 124.

¹⁶ Elwall, “‘The Foe-to- Graphic Art’: The Rise and Fall of the Architectural Photographic Association,” 144; Ackerman, James S. *Origins, Imitations, Conventions* (Cambridge, Massachusetts, London, 2002), 108.

¹⁷ Elwall, “The Foe-to-Graphic Art,” 154.

¹⁸ Blau, *Architecture and Its Image*, 46.

¹⁹ Robinson and Herschman, *Architecture Transformed*, 26.

photographs produced by these organizations were exhibited and published in the form of albums.²⁰

As discussed previously in detail, the nineteenth century was the age when there was a growing interest in the past which manifested itself in romanticism and historical revivalism. At the same time, that interest was strengthened by the nineteenth century nationalism. Accordingly, directed towards the documentation of national heritage, many photographers were engaged in producing photographs of historical monuments.²¹ Therefore, it was in this context that the photographs of picturesque views of medieval cathedrals, abbeys and ruins were widely produced.²²

In the meantime, the newest architecture, the so-called “engineers’ architecture,” was also one of the subjects of photographers. The new architecture was photographed as a new component of nationalism to celebrate the British progression in technology. The new architecture was mainly photographed by commercial firms emerged in the 1860s, producing topographical photographs and recording contemporary architecture.²³

Furthermore, the nineteenth century’s themes of exploration and travel led to the production of photographs in great numbers. Those photographs were produced either by commercial entrepreneurs or by firms trying to make profit from a broadening photographic market. Accordingly, throughout the second half of the nineteenth century, many photographs, showing touristic sites in Greece, Italy, Levant, India, etc. were produced not only by the English or French photographers

²⁰ See 3.2.1 Capturing the City in Transformation.

²¹ Boyer, “La Mission Heliographic: Architectural Photography, Collective Memory and the Patrimony of France, 1851,” 21-54; Ackerman, *Origins, Imitations, Conventions*, 108; and Robinson, *Architecture Transformed*, 3.

²² See 3.1 Capturing the Past.

²³ See 3.2 Capturing the Present Transforming the Past.

but also by many native photographers. In the 1880s, after half tone process led to the production of postcards, those photographs circulated all around the world.²⁴

On the other hand, beyond touristic lands, the navy, the army or a variety of national offices carried on documentary projects, and therefore, photographers were employed to accompany to the teams of diplomatic missions, archaeological expeditions and military surveys to produce visual records.²⁵

So, many architectural photographs, depicting buildings scattered in a very wide geography and displaying a wide variety of historical architecture, was produced within a half century. As discussed previously, such a vast array of architectural photographs was produced not only for architects, institutions or persons related to the profession of architecture but also for a larger group of audience. However, architects, critics, theorists or scholars who studied architecture widely consumed those photographs. They used architectural photographs as a source for receiving historical information related to their works, in their designs, drawings, and books.

Firstly, relating to the nineteenth century's revivalist architectural practice, photographs were used to apply the features of historical styles to new buildings. Moreover, while expanding architects' knowledge on familiar historical styles, photographs extended the scope of that knowledge to a wide spectrum of historical traditions, which were less accessible at first hand, especially those of Egypt, Byzantium, and the Middle East. For instance, in 1861, Architectural Photographic Association offered architects "a choice of photographs which may be useful to those practicing in almost every style under the sun."²⁶ Furthermore, photographs were also seen as valuable support for the restoration and conservation of national

²⁴ See 4.2 Travel and Architectural Photography.

²⁵ See 4.2 Travel and Architectural Photography.

²⁶ Elwall, *Building with Light*, 12.

buildings in terms of documenting their existing states, determining the extent of restoration needed, and of recording the restoration process.²⁷

Secondly, photographs were used as a source for drawings. One of the prominent theorists of the time, John Ruskin, used photographs to produce drawings for his publications. He took and purchased some photographs. Besides, he commissioned some photographers when he needed some special photographs. For instance, he commissioned a photographer to take the photographs of the quatrefoils on the foundation of the west front of Amiens Cathedral which, in his own words, “had never been engraved or photographed in any form accessible to the public.”²⁸ Actively involved in such a project of documentation, Ruskin directed the photographer. Then, he used these photographs for his publications.²⁹

The rise of architectural history as an academic discipline in the nineteenth century intersected with the development of photography as a new medium of architectural representation. By the invention of photography, a wide variety of architectural photographs became available to scholars and architectural photography was used extensively in architectural historiography because of its illustrative and documentary characteristics. As James Fergusson pointed out in the preface of his *A History of Architecture* of 1865, “Photography has rendered us familiar with many buildings we only knew before by description.”³⁰ Undoubtedly, photographs did not create the discipline but without the aid of photography scholars would not have developed sophisticated research by using only drawings and traditional prints. Therefore, architectural photographs emerged as a source of knowledge about buildings which were not accessible at first hand. Thus, the

²⁷ See 2.2 Architecture in Focus and 3.1 Capturing the Past.

²⁸ Harvey, “Ruskin and Photography,” 27.

²⁹ Michel Harvey, “Ruskin and Photography,” *The Oxford Art Journal*, 7, 2 (1985), 25-32: 27.

³⁰ Fergusson, *A History of Architecture*, ix.

use of photography has become fundamental to the practice of historical research by providing a wide range of precise visual record of buildings. Such a use enabled architectural historians to classify or categorize the buildings. By placing the photographs of buildings side by side, historians were able to compare buildings from different places and periods. Accordingly, they searched common traits among different buildings and tried to observe evolutionary changes. Therefore, they made comparative judgements and classified buildings according to style, the style of a certain period, nation, area or designer.

Regarding the use of photography in historiography, photographs were used mainly for two purposes: firstly, they were used as sources of architectural information to write histories, and secondly, they were used as book illustrations. For instance, James Fergusson, the writer of *A History of Architecture*, as has just mentioned, widely used photographs as a source of information in some of his writings. Sir Banister Fletcher, on the other hand, neither referred to such use of photographs, nor he travelled all the places he wrote about. However, he travelled to World Exhibitions and made observations. Considering that photographs were used for the design of the exotic pavilions in the exhibitions,³¹ it can be suggested that Fletcher's history was benefited from photographs, indirectly.

Although photography was widely used by architects and scholars and was regarded as truthful representation, it was not used as illustrations for architectural books or architectural magazines. This was mainly because of the technical impossibility of printing photographs and types together on one page by one operation, until the 1880s.³² On the other hand, it could be possible to produce

³¹See 4.4.1 James Fergusson and *A History of Architecture* and 4.4.2. Sir Banister Fletcher and *A History of Architecture on the Comparative Method*.

³² See 2.1.2 Photography in Ink.

engravings from photographs and to paste them into the books together with the text. For instance, Fergusson's book was illustrated by this method. The woodcut illustrations produced from photographs were so similar to the other drawings executed by draughtsmen that they could not be distinguished unless they were indicated as "from a photograph."³³ By the time Fletchers' *A History of Architecture* appeared in 1896, the half tone process had already developed. Thus, photographic illustrations of this book were distinguishable from drawings through their visual characteristics. However, as exemplified previously, photographic illustrations and other illustrations made by draughtsman were not different from each other, in terms of either their visual language or illustrative purposes. So, photographs adapted to existing traditions of architectural illustrations and they were used as more truthful and precise drawings.

³³ See 4.4. Photography and the Survey Books.

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APPENDICES

Appendix A: Unnamed Inventors of Photography

Sir John Frederick William Herchel who was an astronomer, a chemist, mathematician and the past president of Royal Society first heard of Daguerre's secret process on January 22, 1839. His curiosity aroused and he determined to solve the secret independently.¹ He succeeded in producing and fixing images within a week. Herchel made copies of engravings or drawings by superposition. He also took his first photograph on January 29 which was the picture of a telescope. He produced it on a paper, sensitized with carbonate of silver and fixed with hyposulphite of soda, it should be noted here that one group of salts derived from hyposulphurous acid discovered by him in 1819. Hyposulphite of soda is today known by the name of its chemical formula 'sodium thiosulfate' but photographers use the word 'hypo'.² Hypo which is still used in dark room as fixing bath is Herchel's great contribution to photography. On February 1, Talbot visited Herchel. Herchel showed Talbot a copy of engraving and his first photograph which had been already formed and fixed with hypo and explained him all the processes. But Talbot kept his secret to himself. Herchel suggested to Talbot that unexposed silver chloride could be effectively washed by hyposulphite of soda. He also gave Talbot his permission to publish his use of hypo. Until Talbot revealed his process, Herchel generously stepped aside and did not publish any one of his researches. Talbot asked Herchel for permission to write this fixing process to *French Academie des science*. Then Talbot wrote to Jean Baptiste Biot

¹Newhall, *Latent Image*, 57. Newhall also mentions that Herchel's notebook is still preserved in London Science Museum, which gives us day by day firsthand account of how he independently invented a workable photographic process.

²Newhall, *Latent Image*, 58 and Gernsheim and Gersheim, *A concise History of Photography*, 20.

about hypo. The use of hypo was published in the *Comptes Rendus of the Academy of Sciences*, Paris in 1839. Talbot was reluctant to use of hypo but from this description Daguerre immediately adopted hypo to his process.³

Not only fixing chemical hypo but also the name ‘photography’, the adjective ‘photographic’, the verb ‘to photograph’ and the terms ‘negative’ and ‘positive’ were Herchel’s contributions to photography. The word ‘photography’ was used by Herchel to describe his work. On February 10, 1839 he wrote “At work all day with great interest and success at Photography and chemical rays. [I] Discovered Talbot’s secret, or one equivalent on it. It is the Ferrocyanate of potash. It fixes the optical image.”⁴ Today, it is known that ferrocyanate of potash was not the ‘Talbot’s secret.’ However, what Herchel found would let another photographic invention of him ‘cyanotype,’⁵ in other words, blue print.⁶ He was also the producer of the earliest surviving photograph on glass produced in September 1839.⁷ So, he probably was the most industrious, ingenious and inquisitive of the early experimenters.⁸

Friedrich Gerber, a veterinary surgeon, published in the *Schweizerischer Beobachter* in February 1839 that he had achieved to fix the images on camera

³ Newhall, *Latent Image*, 60-63; Newhall, *The History of Photography*, 36; and Gernsheim and Gersheim, *A concise History of Photography*, 27.

⁴ Newhall, *Latent Image. The Discovery of Photography*, 61.

⁵ Cyanotype was one of several iron-based processes for positive prints. Herchel used his invention to multiply steel engravings and scientific notes. Cyanotypes, in other words blueprints were contact prints produced from pen and ink drawings. It has been used to share technical data and drawings with people working together to make complex structures such as sky scrapers or battleships for decades because it was extremely cheap and simple method of copying. On the other hand, cyanotype was not widely used to make prints of photographs. See Mike Ware, “Cyanotype,” in *Encyclopedia of Nineteenth Century Photography*, ed. John Hannavy, 360 and Richard Benson, *Printed Picture* (New York: The Museum of Modern Art, 2008), 136.

⁶ *Ibid.*, 61, 62

⁷ Gernsheim and Gersheim, *A Concise History of Photography*, 27.

⁸ Newhall, *Latent Image*, 72.

obscura on a paper, coated with silver salts in 1836. Gerber succeeded independently in producing direct images and a negative process from which any number of positive copies could be produced. Nevertheless, his process did not reach perfection. None of Gerber's photographic images survived.⁹

Joseph Bancroft Reade who was a scientist of astronomy and microscopy also made photographic experiments. Reade achieved to make contact copies of botanical specimens and took some photographs with his camera obscura which were shown at the Royal Society in London, in April 1839.¹⁰

Hyppolyte Bayard who was a civil servant at the ministry of France had been making photographic experiments since 1837. In February 1839, before Talbot published the details of his 'Photogenic Drawings,' Bayard demonstrated some negative images on silver chloride paper which were similar to Talbot's negative images. Hearing that Daguerre's images were positives Bayard concentrated on producing direct positive images on paper.¹¹ As can be understood from Bayard's notebook, giving details and the sequence of the events on March 20, 1839 Bayard succeeded in making direct images by a camera obscura. On May 20, 1839 he showed his pictures to Arago. Academy granted Bayard with 600 Francs to develop his process and advised not to publish his process at the time. In order to get public interest, on June 24, 1839 Bayard showed thirty photographs of architectural views and still-lives on the occasion of charity fete for victims of the Martinique Earthquake. However, only two newspapers wrote something about him and his process. The outcome of Bayard's process was not suitable to produce multiple copies and furthermore, it had the appearance of a drawing and lacked

⁹ Gernsheim and Gersheim, *A Concise History of Photography*, 26.

¹⁰ Gernsheim and Gersheim, *A concise History of Photography*, 26. See also R Derek Wood "J. B. Reade's Early Photographic Experiments: Recent Further Evidence on the Legend" in *British Journal of Photography* 119, no. 5845 (28 July 1972), 644–646.

¹¹ Gernsheim and Gersheim, *A Concise History of Photography*, 27.

precision. But on the other hand, it was easy to produce and store and it was economical in terms of the materials used.¹² His method was original. Bayard hold the silver chloride paper to the light until it turned dark then sank it into potassium iodide solution and exposed to the camera. The outcome was a unique positive image.¹³ However, Bayard process was not accepted as a practical photographic tool. Being overlooked by Arago, losing his prominent position as an independent inventor of photography and lacking of public interest Bayard was deeply disappointed. On October 18, 1840 Bayard sent a strange photograph together with a note as strange as the photograph to Academy of Science, [Fig. A.1]. The photograph was his auto-portrait as a drowned man showing Bayard half naked, sitting on a bench and being asleep with a vase and a straw hat next to him. According to Frizot's interpretation the note was saying:

The corpse of a gentleman which you see. . . M. Bayard, the inventor of the process whose marvelous results you have just seen. . . . The government, which had given far too much to M. Daguerre, said it could not do anything for M. Bayard, and the poor man drowned himself. . . . Artists, scientists and newspapers have been concerned with him for a long time, and now that he has been exposed at the morgue for several days, nobody has not yet recognized him or asked to him. . . . the head and the hands of the gentleman are beginning to rot, as you can see.¹⁴

Bayard's photographic expression of his sorrow let him be known in the history of photography as the author of the first fictional photograph.

In Germany, Franz von Kobell and Carl August von Steinheil, who were both professors at Munich University, produced some photographic images after hearing Talbot's process and preparing a joint report on Talbot's invention for the Bavarian Academy of Sciences. They started their photographic experiments in

¹² Frizot, "1839-1840. Photographic Developments," 29 and Gernsheim and Gersheim, *A concise History of Photography*, 28.

¹³ Newhall, *The History of Photography*, 54.

¹⁴ Frizot, "1839-1840. Photographic Developments," 30.



Figure A.A.1 Le Noyé. Self Portrait as a drowned man by Hyppolyte Bayard, 1840

Source: Michel Frizot, “1839-1840. Photographic Developments” in Michel Frizot, ed., *A New History of Photography* (Köln: Könemann, 1998), 30

March 1839 and on 13th April they presented their report together with three paper negatives which were pictures of some buildings in Munich.

Appendix B: Early Photographic Processes in Silver

All photographic methods of capturing images by camera from the invention of photography until the development of digital technology were based on the sensitivity of silver compounds to light. Throughout the nineteenth century many processes for developed for photographic printing. Although some of these methods used non-silver components to print photographic images by contact only silver salts were sensitive enough to record the light coming from images through a camera.¹⁵ Daguerreotype, calotype, wet-collodion process, salted paper prints, albumen glass negatives, albumin prints, gelatine dry process were all silver based photographic methods which were developed and widely used during the nineteenth century.

Salted-paper Prints

The early photographic processes commonly used silver components, especially silver chloride, as a light sensitive material. In order to make a print, one had to coat a paper with silver chloride. However, silver chloride was completely insoluble in water. So, the problem was solved in two steps. First, a paper was bathed into a solution of table salt and left to dry. After it dried, a solution of nitrate of silver as a second coat was applied on one surface and dried at the fire. By this treatment, silver nitrate and sodium chloride came into contact and they produced silver chloride. Since a paper had to be salted initially, these papers were called as “salted-papers.” It was possible to apply the salt coating and store the papers. However, the silver nitrate solution had to be applied shortly before the printing.¹⁶ The salted paper prints were lack of certain accuracy because the fibres of the papers. Moreover, they were also ‘matte prints’ which meant that they were also lack of strong black tones.

¹⁵ Richard Benson *Printed Picture* (New York: The Museum of Modern Art, 2008), 98.

¹⁶ *Ibid.*, 102.

Albumin on Glass Process:

To take a photograph on glass was not a new idea. Glass had been used for photography as early as 1822 by Niepce. Herchel also used glass coated with carbonate of silver to take photograph in 1839. Talbot's photograph, named 'the step of a giant' was considered as the earliest surviving photograph on glass. However, these were trials and not perfected as a practical method. Abel Niepce de Saint Victor, a cousin of Nicephore Niepce, developed the first practical method of photography on glass which was albumen process and published it in 1848.¹⁷ He coated a glass plate with egg-white in order to bind silver salts to glass, developed it with gallic acid and fixed it in usual way. Very clear details were achieved with these albumin plates, but the exposure lasted in five to fifteen minutes. Mainly because of their long exposure time their use was greatly limited, and they never replaced calotypes.¹⁸ Accordingly, the search continued.

Collodion Process and Albumin Papers

Towards the end of the 1840s, a sculptor, Frederic Scott Archer, invented a workable process to produce images which were sharp like Daguerrotype and easily reproducible like the Calotype. Moreover, the exposure time of Archer's process was extremely short so that images could be captured in seconds. Archer wished to take photographs of his sculptures but he was not pleased with the resolution of Calotype. So, he aimed to get rid of the appearance of fibrous texture of paper negative. To be able to that, first, Archer tried to spread various substances onto paper then he thought of experimenting with different surfaces and solutions as a substitute for paper. In 1849, he succeeded in producing a photograph when he coated a glass plate with a collodion solution and exposed it while it was still moist. Since the collodion lost its sensitivity when it dried, the

¹⁷ Gernsheim, *A Concise History of Photography*, 31.

¹⁸ Ibid. and Newhall, *Photography: A Short Critical History*, 45.

plate had to be exposed while it was wet. In 1852, Archer published *A Manual of the Collodion Photographic Process*.¹⁹ The wet-collodion process was not superseded until the gelatine dry plate was marketed commercially. Archer could have patented his method and got profit from it but he did not take patent rights and announced it without restrictions. In contrast to Daguerre and Talbot, Archer did not try to win money from his invention and died in poverty at a relatively young age, the age of forty-four.²⁰

Although the process opened the way to improvement in all areas of photography, it was more complicated than Daguerreotype or Calotype. Besides, for the photographers in the field the process was much more laborious. A photographer in the field needed to do all the operations at the site of the photograph because he had to take the photograph before the plate dried.²¹ In order to prepare the plate, the photographer had to bring bulky glass plates and a portable darkroom to the field. [Fig. A.B.1] Furthermore, the photographer had to beware of the weather. Rain, high winds, heat and frost could affect the success. A spot of dust could harm the plate. Moreover, only distilled water could be used in the solutions. In spite of these difficulties, however, early photographers used wet plates under the most compelling conditions. The bulky apparatus and dark room were carried anywhere needed. The Crimean and Civil Wars were documented by this process.²²

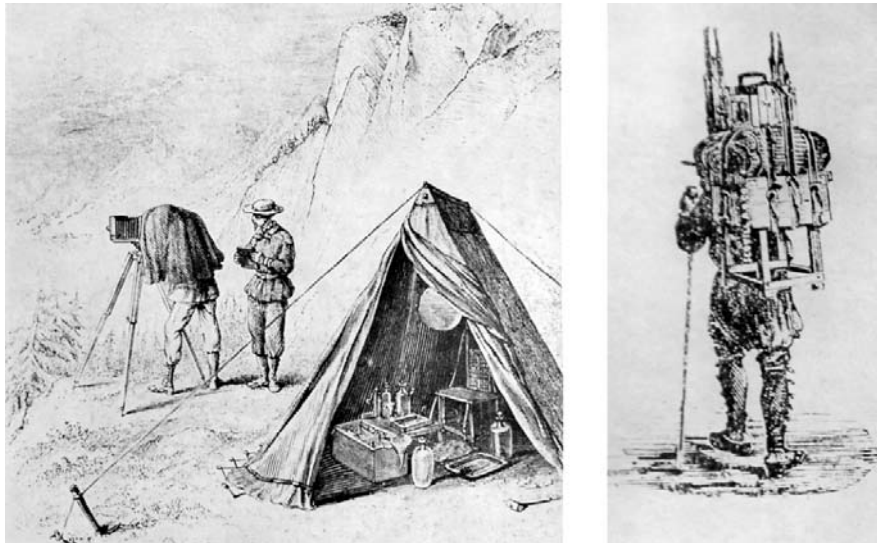
Meanwhile a Frenchman, Louis Désiré Blanquart-Evrard was systematically working upon an improvement of calotype without any contact with Talbot.

¹⁹ Joyce Micheal and others, "Architecture: the Camera's First Focus," *Cornerstone* , 26, 4, (2005) , 34.

²⁰ Pollack, *The Picture History of Photography*, 109.

²¹ Gernsheim, *A Concise History of Photography*, 32.

²² Newhall, *Photography: A Short Critical History*, 46-47.



Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York:H. N. Abrams ,1969), 115.

Figure A.B.1 Two engravings of the photographer's pack for the wet-collodion process



Source: Peter Pollack, *The Picture History of Photography, from the Earliest Beginnings to Present Day*, (New York:H. N. Abrams ,1969), 110.

Figure A.B.2 Advertisement for albumen paper, around 1860

Blanquart-Evrard produced a paper which recorded the camera's image more precisely. He obtained smoother surface by adding albumin in some form. He coated paper with egg-white or milk-whey to the light-sensitive silver salts. The basic principle of calotype photographic negative was still the same but the process underwent certain modifications. Blanquart-Evrard separated the stage of applying silver salts and stage of developing latent image by gallic acid. Without mentioning Talbot's name as original inventor, Blanquart-Evrard published his process in 1847. His technical procedure was precise, easy and suitable for standardized industrial application.²³ Although the albumin paper was first proposed as a negative material, Blanquart-Evrard conceived the idea of using the same paper for positive prints as for negatives. That albumin paper continued in use for positives longer than its use for negatives. [Fig. A.B.2]²⁴

The arrival of wet plate collodion negatives, which let photographers produce more accurate negatives and record wider range of tone than that of paper, created a demand for a new printing technique in order not to lose the accuracy and rich tones obtained by wet collodion glass plates. Albumen printing was the answer to this demand. The name came from the albumen coat on the paper which carried the picture above the fibres of the paper. Moreover, albumen made the surface of the paper semi gloss which could display the very dark tones if there were enough amounts of silver. The use of albumen papers provided the photographs deeper tonality and more details. The combination of wet plate negatives and albumen prints renovated the negative/positive photography.²⁵

²³ Frizot, Michel, "Automated Drawing. The Truthfulness of the Calotype," 68.

²⁴ The consumptions of eggs for albumin paper was tremendous. Gernsheim suggested that one of the largest producer of albumin paper in Europe in the 1890s was using 60000 eggs for whites. Gernsheim, *A Concise History of Photography*, 34.

²⁵ Benson, *Printed Picture*, 108.

Furthermore, in 1851, Blanquart-Evrard perfected assembly line method of printing for mass production of positive prints and opened a printing establishment. Thus, he was able to produce from two to three hundred prints a day at his Printing Establishment at Lille. These prints, on thin India paper, were published as albums or used as book illustrations. In September 1851, Maxime Du Camp's *Egypte, Nubie, Palastine et Syrie*, which was illustrated with 125 original photographs, was appeared. The photographs were printed in Blanquart-Evrard's establishment from paper negatives taken by Maxime Du Camp who toured the Middle East for two years with Gustave Flaubert.²⁶ During the 1860s, photographic materials and techniques increasingly became standardized. As a result of highly increasing demand for photography for both professional and amateur purposes, the medium was rapidly industrialized and handcrafted individuality of the early photography died out.

Albumen on Glass Process and Lantern Slides

Before 1850s, the magic lantern which was a projector had used to project hand drawn pictures. After 1850s lantern slide shows created a new market for photographers. The lantern slides were developed by Frederick and William Langenheims which was based on the method of albumen on glass process developed by a few years earlier by Abel Niepce de St. Victor. The principle was simple large negative images were reduced and printed on to the small glass plate on to the small glass plate by using a camera obscura and then projected on to a large screen. In some cases color was applied by hand painting over the photograph.²⁷

²⁶ Pollack, *The Picture History of Photography*, 109.

²⁷ John Hannavy, ed. *Encyclopedia of Nineteenth-Century* (New York: Routledge, 2007), 826.

Dry Waxed Paper Negative Process

Gustave Le Gray, a painter, pupil of Delaroche and a photographer, invented a modification of the Calotype. Originally Calotype negatives were waxed before printing, however this method was not efficient enough to get rid of the grain of paper. Le Gray used thinner paper and preliminarily waxed it. Preliminarily waxing made the paper quite transparent by giving details as fine as a glass negative.²⁸ Le Gray published an article explaining the process in 1850. He perfected a process to produce a very sensitive paper which was used dry in the camera. He pre-sensitized a paper by using silver-salt and soaked it within melted beeswax. The papers for negatives could be sensitized ten to fourteen days beforehand. Besides, they did not need to be developed immediately after they were exposed. Dry waxed papers enabled the photographic process delay between its steps.²⁹ This was very convenient especially for travelling photographers. By means of this process, landscape or architectural photographers could sensitize their papers before their travel and develop them when they returned.

Gelatine Dry Process

In 1871, Richard Leach Maddox, who was a physician, sent a letter to the editor of the *British Journal of Photography*, describing an experiment with an emulsion made of gelatin. Maddox added silver bromide to melted gelatin and poured this mixture on a glass plate and left it cooling and drying. As a result of this process, the plate which was much more sensitive than any plates of previous techniques was obtained. Moreover, these plates were the driest of the dry plates. Not only could they be used any time but also could be developed long after exposure. Other experimenters worked on Maddox descriptions and perfected the process. Towards the end of the decade, the plates could be manufactured and sold in

²⁸ Gernsheim, *A Concise History of Photography*, 91.

²⁹ Frizot, "Automated Drawing. The Truthfulness of the Calotype," 69.

packages because they could preserve their sensitivity over long periods. Finally, photographers freed from their darkrooms; they needed then no longer to make and develop their plates. They could buy ready-made plates for capturing picture then they could give them to others to develop and finish. Moreover, photographers freed from their tripods because the exposure time for the new plates was so reduced that photographs could be taken by holding the camera by hand.³⁰

In the 1880s, different types of hand cameras appeared on the market. The most famous one was the Kodak. It was produced by George Eastman who was a dry plate maker in Rochester. The camera was loaded at the factory with a roll of paper coated with gelatino-bromide emulsion. The entire camera was sent to the factory after the user took photographs. The negatives were developed and printed in the factory. Then the new roll of paper was loaded and the camera was sent to the user. George Eastman invented not only the practical hand camera, but also a system. The motto of Kodak Company was “you press the button, we do the rest.” In 1889, the paper was substituted with transparent film. These developments which made simpler the equipment and operation, increased the number of photographers and extended the range of photography.³¹

³⁰ See Newhall, *Photography: A Short Critical History*, 56-57 and Newhall, *The History of Photography*, 111-112.

³¹ Newhall, *The History of Photography*, 112.