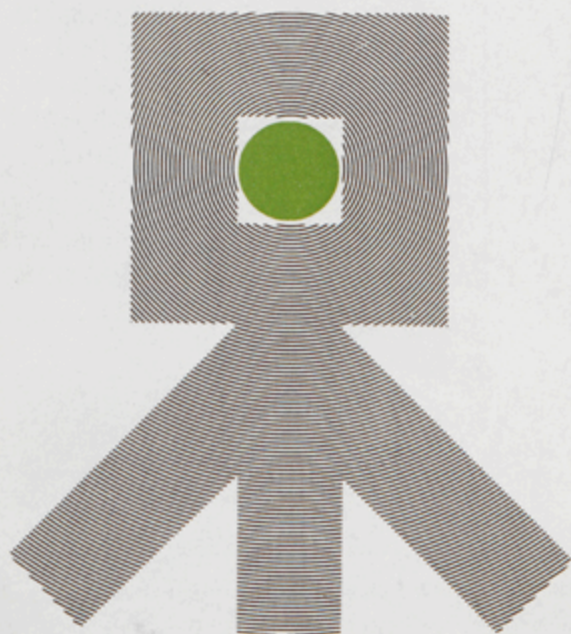


European Society for the History of Photography
Association Européenne pour L'Histoire de la Photographie
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Photoresearcher

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To a journal:

1. J. Brown, Early Portraiture in Somerset, *Photographic Journal*, Vol. 130 No.5 (May 1990), p.194.

To a book or report:

2. F. Short and T. Long, *Historical Essays*, Acorn Publications, London (1989), p.10

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Cover illustration: Henri Berssenbrugge, *Rotterdam Old Fishmarket*, c1910. See page 7

Mirrored Reflections in Photography

by Ingeborg Th. Leijerzapf

PHOTOGRAPHY and mirrored reflections are fraternally linked in the optical and psychological chaos of observation.

When one looks at a reflection or views a photograph one is continually confronted with half truths, illusions, associations and distorted perspective. In the first instance, photography appears as no other aesthetic medium to be a reflection of reality, but when studying and analyzing one stumbles on an unsuspected complexity of deceptive appearances and interpretations. Characteristic for photography is the heated and ever continuing debate of the medium's truthfulness. As no other visual art photography is capable of approaching reality to a dangerous degree, so close, indeed, that the photograph is a priori attributed a faithful character. The cliché "photography cannot lie" is more frequently heard than "photography always lies", but both statements contain an equal truth since photography embraces both objective and subjective elements.

Photography as a mirror of nature

Photographic technique is itself already closely related to reflection through the principle of the photocamera in which the photographed object is reflected onto a negative by means of light rays,

with or without the aid of a lens. In one of the modern camera types, the reflex camera, the mirror has an essential function in framing and focusing the object. However, the mirror was also a vital component of the camera obscura, the predecessor of the photocamera. During the eighteenth century it was scaled down to a compact and manageable size and was much used by topographers and landscape designers. The camera obscura's mirror effected the reflection of light entering the lens onto a focusing screen mounted on the upper side of the camera: the light made visible an image of that part of the surroundings at which the lens was directed. At least one exponent of the camera obscura, William Henry Fox Talbot, claimed that he could capture the landscape's reflection on his focusing screen and did all he could to realise this dream. The art of photography, discovered and developed in the first half of the nineteenth century, was for the artist of that time a direct writing or drawing of nature itself. Nicéphore Niépce, who was the first to achieve a lasting photographic result in 1826, devised many names for the medium such as physautography = painting of nature, physautotype = a copy of nature, and iconotauphyse = a portrait of nature.¹ The final name of 'photography' = writing or representation by light, was probably introduced by the German astronomer Johann von Maedler and the English scientist Sir John Herschel.² Early writers about



Illustration 1. J Reynolds (dates unknown) stereophotograph, c1860. Hand-coloured albumin print. Coll. Printroom, Leiden University



Illustration 2. Edward Steichen (1879-1973). *Little Round Mirror*, 1902. From: Edward Steichen, *A Life in Photography*, NY 1963, illus 25.

photography described it as a Mirror of Nature, which meant, more or less, a true reflection of nature.³ But photographs are lasting objects while reflections are fleeting. The title 'Mirror with a Memory', that, for instance, was used by Aaron Scharf in his book *Pioneers of Photography* is a description that perhaps better suits the medium.

Eroticism and Symbolism

Since the discovery of photography the mirror has played an important role as an object in the photographic image. During the nineteenth century it conformed to the traditional role as in the art of painting, while in the twentieth century it performed in an innovative way inherent to the new conceptions about art and photography. Elaborating on the themes of past periods in painting the mirrored reflection was introduced into photography as a symbol of beauty, vanity and transience, but often more piquant than had been proper in the plastic arts. It became particularly popular in stereophotography. Series of picture-stories with moralising and vivacious subjects enjoyed a considerable circulation. The mirror occupied a prominent place in this and was often used in an inventive and subtle way, as for example J. Reynolds' stereophotograph dated 1860 (Ill.1). The photographer has taken a

still-life with an oval mirror, in itself quite innocent. One observes a scene in the mirror that is not in front of the camera lens and therefore outside the photographer's field of vision: photographed illusion. This deception has probably been chosen with the conviction that such erotic scenes within the limited bounds of the mirror would be less offensive to the predominantly Christian and prudish classes of nineteenth century Europe.

Nevertheless, boudoir scenes with daring poses directly photographed, unaided by indirect devices, were also produced in excess. The mirror functioned in these scenes to reflect the non-visible angles of the posing model. The image seemed more plastic and it facilitated the possibility of showing even more naked parts of the model.

The stereocard industry applied a whole range of reflective functions vanity, exhibitionism and morals were woven into the picture and, naturally, the commercially attractive erotic element was not neglected.

During the fifties and sixties of the nineteenth century efforts to introduce artistic vision into photography met with mixed success, particularly in Great Britain and France. Experiments were conducted making composite photographs constructed from different negatives or with carefully studied poses and compositions. The ambitious photographer took neither reality nor nature but the art of painting as a preeminent example. Photography achieved an important breakthrough internationally during the last quarter of the nineteenth century. Indeed, while still under the influence of painting photography found a 'modus' arrangement in which it could manifest itself expressively and creatively. In style it identified closely with Impressionism and Jugendstil, in content it leaned strongly towards Symbolism and technically it had its own graphic discoveries: the so-called fine printing processes, techniques such as gum print, bromoil print and carbon print, etc. which closely resembled the graphic techniques. the photograph was now far removed from the sharply focused documentary pictures that had been developed in previous decades.

An exquisite example of this new form, discovered by art photographers around the turn of the century, is 'Little Round Mirror' by Edward Steichen (Ill.2) of 1902 and in the form of a gum print.⁴ We are shown a female nude in front of a mirror. What could the photograph's intention be other than a symbol of beauty and seduction? The photographer has portrayed the nude's back discreetly in soft flowing lines exposed in a



Illustration 3. George Hendrik Breitner (1857-1923). *Nude Study*. c1890-5. Modern print (1988) from the original negative. Coll. Printroom, Leiden University



Illustration 4. Willem Witsen (1860-1923). *His wife Betsy with son Eric*, c1898. Modern print (1988) from original negative. Coll. Printroom, Leiden University.

harmoniously matching light. Here the mirror serves minimally as a reflection of the non-visible parts, the nude's front is not in view and therefore the picture's erotic content is very subdued. Indeed, while the suggestion remains the attention is specifically drawn to the classical beauty of the female form rather as a universal ideal of beauty than as an object of sensuality. The photographer's "elevated thoughts" place his photograph 'Little Round Mirror' on a higher plane than the stereophotographs of earlier years. The mirror has a comparable, referring function for concepts such as 'Vanitas' and 'Prudentia' but plays a very reserved part, reduced to a mere sign.

The female nude and her reflection form an interesting part of George Hendrik Breitner's experimental photography. Breitner took as series of nude exposures in his studio, utilizing mirrors in order to show his model from various angles (Ill.3). As far as is known he was the first in the Netherlands to include nude photography in his repertoire.⁵ The mirrored effects in his nude photographs had to some extent the same meaning for Breitner as for Edward Steichen but eroticism played a greater part. However, Breitner was also deeply concerned with another aspect: the mirror's capacity to create a suggestion of space.

Spatial Relations

Since the last quarter of the nineteenth century a function was yet found for the mirror other than symbolic, namely as a spatial innovation and a rhythmical repeating element. Breitner's friend and colleague, Willem Witsen, painter, etcher and amateur photographer used mirrors regularly in the photographic portraits he took of family and friends in his studio (Illustration 4). Witsen arranged his compositions so that the mirror created not only rhythmically constructed images but also achieved a plasticity: one sees the subject from two angles which produce a sculptural effect, further heightened by the reflection of light in the mirror. However, Witsen was especially fascinated by the spatial effects to be achieved by working with mirrors. One sees various parts of his studio, the one immediately in front of the camera lens and that which falls just outside the lens' range. Thanks to the mirror, the photographed area is in fact doubled. In early stereophotography playing with the space before, next to or behind the camera's lens had already been applied but the mirror's innovative spatial function had not then any real importance. The absence of this role is almost unthinkable in twentieth century photography.



Illustration 5. Henri Berssenbrugge (1873-1959). *Rotterdam, Old Fishmarket*, c1910. Later Print (c1930) from the original negative. Coll. Printroom, Leiden University.

Around the turn of the century art photography mastered a new variation on mirrored effects, i.e. reflections in wet and smooth surfaces, inspired by the Impressionists. As in painting the photographer took to nature, abandoning the studio, confronting his lens with new themes like rain, snow and storms. In 1910 Henri Berssenbrugge, father of Dutch art photography showed in a photo of children playing in the street how a wet road surface could play a creative part in the composition (illustration 5). The position of the photographer's camera could not be explained without the reflection of the children in the water. In later decades photographers would go so far that in comparable subjects the children would be left out altogether and the reflection itself chosen as the dominant subject. In 1910 this choice was not yet feasible for Berssenbrugge.

In the water rich Netherlands photographing objects mirrored in water has become immensely popular. More often than not the effects are formal rather than illusionary. The actual subject of the photograph is the form, the symmetry of the landscape in the reality and its reflection in water. Particularly in simple landscapes featuring a low horizon the doubling effects lean towards the abstract. For many years now this type of photography has met with huge success in amateur photography competitions, calendars and postcards.

In the late twenties and early thirties - the years of the New Functionalism and New Photography - the form aspects of reflection became an important element of the picture. Experimenting in form was an absolute 'must' for avant-garde photographers and during these experiments mirrors were placed in every conceivable position to examine their effects. The French photographer Florence Henri acquired special fame with her 'constructivist' photography in which a strong Cubist influence is present both in the deployment of objects and in the research into perspective.⁶ For example she, she positioned several different mirrors around an object so that there appeared to be a question of continuing space even though there was no continuity of perspective. Florence Henri particularly concerned herself with the problems voiced by the Russian constructivist and photographer Alexander Rodtschenko in 1934 when he tried to put a new definition of photography into words: "contradictions of perspective, contrasts of light, contrasts of form, points of view impossible to achieve in drawing and painting."⁷

Florence Henri also toyed with the identity of the mirror itself. In one of her self-portraits her image is reflected in a framed mirror standing against a wall: the bodily presence of the photographer is absent from the photograph thus creating the impression that a framed photograph is propped up against the wall. In another photograph she suggests this effect of a framed portrait even stronger by avoiding any reflection of the surrounding space: there is no connection between the photographed area and the reflection. Thus the mirror loses its identity and the photographed reflection becomes, as it were, an autonomous picture within the photograph.

In a similar manner the painter-photographer Paul Citroen took a photograph in which the mirror has an ambiguous part (illustration 6) the question is whether we see the portrayed individuals, John Fernhout and Paul Citroen himself, as the reflection in an oval mirror hanging in the room or is there a photograph in the oval frame hanging on the wall in the photographed room? In the first instance the association is directly that of a mirror because the room would seem to be a bathroom but on a closer inspection one has to doubt the certainty of this. The angle from which the photographer must have taken the photograph seems to be in conflict with a possible reflection of the photographer at that particular place at the wall.

The limited number of experiments with mirrors conducted by Dutch photographers of the New Photography period - men such as Paul Citroen or for example Paul Schuitema or Gerrit Kiljan



Illustration 6. Paul Citroen (1896-1983). *Self portrait with John Fernhout*, 1929. Modern print (c1968) from the original negative. Coll. Printroom, Leiden University.

(illustration 7) - were certainly worth the effort but none of them equalled the subtlety and refinement reached by Florence Henri in her numerous mirrored effects.

Autobiographical Reflections

The development of the photographic self-portrait is a chapter of photography in which the mirror plays a major part. For centuries the mirror has been an indispensable attribute for the artist portraying himself in paint. Similarly, it was utilized by the photographer, but, above all, he discovered a new associative significance in the mirror's use.

Otto Steinert, a German photographer and teacher at the Folkwangschule in Essen, initiated an important stimulus in a new direction. Steinert asked renowned and lesser known photographers throughout the world to send him a self-portrait to be included in an exhibition and accompanying book entitled: 'Selbstportraits' in 1961.⁸ This collection was to become an interesting source of study not only because of the beautiful photographs and fascinating portraits but also from a sociological point of view. Steinert forced the photographers to reveal themselves to the human race, as it were, and to

ponder on how they wanted to do this. They were requested to choose either an already existing portrait or to take a self-portrait - perhaps for the first time - and in doing so create a pose. The book came to contain a vast variety of photographs in which the mirror had clearly been an important tool for many photographers.

Just as varied is the Dutch book of photography devoted to self-portraits published in 1984 and titled 'seeing and being seen, photographic self reflections in the Netherlands'.⁹ The study's title underlines the element of self-reflection in the self-portrait. Using mirrors to play with time, reality and deceptive appearances in the self-portrait produced a high degree of sophistication. But the primary concern is self examination: the mirror as an autobiographical reflection. It is an important phenomenon that the photographer can show his portrait to the viewer as he always sees himself, namely as a 'reversed reflection.' Another major aspect of the many self-portraits in Steinert's book and in 'Seeing and being seen' is the context in which the photographers reveal themselves via mirrors. The Pole Hilmar Pabel, for instance, photographed himself before a mirror reflecting a ballroom, complete with crystal chandeliers and society folk exchanging niceties, creating the impression that he was not just a simple street photographer but was received in better circles. Behold the male sex's mirror of vanity!

The Dutchwoman Marianne Dommissé photographed herself via a mirror hanging on a wall between her photographs. In using this combination she tries to tell us something about her own personality. Her camera is also in the picture. Just as the painter depicted his palette in his work the photographer wishes to show us that his camera is his most vital tool. It also reveals the identity of the portrayed person, in addition the camera type gives us a clue to the photographer's specialisation. A photojournalist prefers a 35mm camera while the studio photographer uses a plate camera.

Numerous variations and as many deceptions have resulted from the combination of self-portrait and mirrors. Each photographer poses his own problems and seeks his own solutions.

A Mirror of the Soul.

Compared to the previous century twentieth century photography allows moralism as less coercive character but it has not altogether disappeared. Social relationships can be just as good a reason to take suggestive pictures, as for instance, in the fascinating photograph taken by

the Dutch photographer Emmy Andriesse (illustration 8). She photographed a mannequin modelling a fur-wrap, choosing such a low vantage point that the visible area of the room is limited to the walls and ceiling. The only attributes in the room are a hatstand and a mirror. The latter reflects not - as one would expect - the mannequin's image but that of a man who, with his hands in his pockets, is looking at her. His image is reflected by a second mirror in the room not visible in the photograph. The man's presence is, of course, determined by his function: he could be the designer of the art director. But the photographer, Emmy Andriesse, has assigned him another function: she casts the role models in the photograph. The man's critically approving glance, the woman's seductive look and her liking for beautiful clothes creates the confirmation of a social attitude that the photographer apparently wishes to question.

This much is clear, in the century and a half of the medium's existence the mirror's function in photography has become increasingly complex and significant. The creative potential does not appear to have been exhausted by any means. It is not possible to show the latest results of every new idea. An obvious yet still little applied one in Dutch photography is the mirror's use in narrative film scenes of the kind Herman van den Boom photographed (illustration 9). In a certain sense such an image is not very far removed from our first example, the stereophotograph with its story telling character. In his photograph van den Boom sets the scene of his story by means of associative reflections. One sees a male form suddenly loom large through a car's windscreen, blurred as in rapid movement. A woman's face covered by her hands is visible in the car's rear-view mirror. This attitude of hands covering the face is known in the history of art as a dramatic pose, so here it might be a violent reaction of panic or fright. These two images within one framework force an association on the viewer: the thought of a terrifying experience and an impending accident. The mirror here is not simply a means by which two different areas are brought together in one image but rather a means to visualise a filmic continuation by the associative combination of two moments.

The American photographer Duane Michals is an outstanding representative of narrative photography. However, his work is far more literary than filmic. For him text is an inseparable part of the image he makes, associative texts rather than explanatory that have a powerful influence on the reception of his work. He utilizes mirrored effects in an original way as one can see in his own book of photographs 'Real Dreams'.¹⁰ For

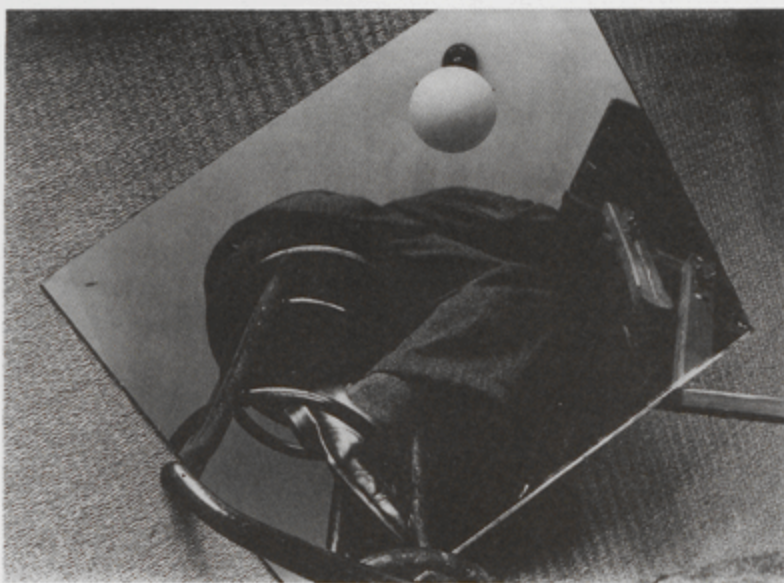


Illustration 7. Gerrit Kiljan (1891-1968). *Self portrait*, c1930. Modern print (1988) from the original negative. Coll. Printroom, Leiden University.



Illustration 8. Emmy Andriesse (1914-1953). *Balmain show*, c1950. Gelatine silver print. Coll. Printroom, Leiden University.

example, in one of his photographs he portrays himself super-imposed on his own reflection with the reflection of a young man next to him. The text under the photograph reads "In my dream I saw the face of my unborn son." The images here are not intended as reflections of outward appearance but of subconscious thoughts.

A source of inspiration for many present day artists and photographers is the phenomenon of our being conditioned in seeing by tradition and by automatic expectation patterns. Increasingly, we find ourselves rapped over the fingers when we deign to think we know what we are looking for! Through strange and alien pictures, suggestive, associative and creative forces are continually at work to rob us of every last straw of reality only to reveal that same reality to us with renewed eyes.

The task that many photographers have set themselves since the 1970s has been to put the understanding of what reality is under pressure. They manipulate with the medium's so-called truthfulness, adding to this the often thankful use of made of illusionary mirrored effects.

The vision of photography knows more nuances. The American photohistorian John Szarkowski in his book and exhibition 'Mirrors

and Windows', published in 1978, draws a distinction between a more or less objective, documentary photography in which one looks from outside in through a window, as it were, and the more subjective, creative photography in which by means of a mirror (the photograph!) one looks into the soul of the artist.

Oscar Wilde once said "Art never expresses anything but itself."¹¹ Whether a photograph lies or not, whether it be a reflection of reality or of the soul it is, above all, a form of depiction that has its own value.

Notes

1. Aaron Scharf *Pioneers of Photography*, British Broadcasting Corporation, London (1975) p.35
2. J.M. Eder *History of Photography* (transl. by Edward Epstein), Columbia University Press, New York (1945) pp.258-259.
3. Helmut Gernsheim *Creative Photography*, Aesthetic trends 1839 to modern times, Bonanza Books, New York (1962) pp.23-31.
4. From: Edward Steichen *A Life in Photography*,



Illustration 9. Herman van den Boom (born 1950). Rocky Mountains, Colorado, 1976. Gelatine silver print. Coll. Printroom, Leiden University.

Museum of Modern Art, New York (1963)afb.25.

5. Ingeborg Th. Leijerzapf (ed.) History of Photography in the Netherlands in essays and monographs, Samson, Alphen a/d Rijn, issue 7, (1987)

6. Maurizio Fagiolo, Florence Henri, Una riflessione sulla fotografia (Florence Henri, Reflections on Photography) Martano Editore, Torino (1976); Exhibition catalogue Aspekte der Photographier der 20-er Jahre (Aspects of Photography in the twenties) Münster/Baden-Baden (1976)

7. A. Rodtschenko Möglichkeiten der Photographie (Possibilities of Photography), Köln (1982)

8. Otto Steinert, Selbstportraits, Gutersloh (1961)

9. Exhibition catalogue, Zien en gezien worden, Fotografische zelfbespiegeling in Nederland van ca.1840 tot heden, Nijmegen (1984)

10. Duane Michals, Real Dreams: Photostories by Duane Michals, Danbury, New Hampshire (1976)

11. O. Wilde, The decay of lying, London (1891)

Abstracts

Photography and mirrored reflections are linked through the viewers perception of half truths, illusions, associations and distorted perspective. During the 19th century the use of mirrors in photographed scene varied from stereocards in which applied a whole range of reflective functions vanity, exhibitionism and morals were woven into the picture, to Steichen's nude study the 'Little Round Mirror'. Spatial effects brought about when working with mirrors were studied photographically by the Dutch painter Witsen while others used the reflections caused by water as the basis of their experiments. Objects mirrored in water became immensely popular. Florence Henri, strongly influenced by Cubism, used mirrors to achieve the effect of continuing space. Paul Citroen used the mirror to create portraits which played on the ambiguity of whether there the image was photographic or a mirrored image. More recently several photographers, including Duane Michals, have created portraits which use the mirror as a form of autobiographical reflection which looks "into the soul of the artist."

Photographie und Spiegel reflexionen sind durch des

Betrachters Wahrnehmung von Halbwahrheiten, Illusionen, Beziehung und verzerrte Perspektive verbunden.

Im 19. Jahrhundert variierte der Gebrauch von Spiegeln in fotografierten Szenen von Stereokarten, in welchen eine ganze Reihe von reflektiven Funktionen z.B. Einbildungen, Exhibitionismus und Moral in das Bild eingewoben war, bis zu Streichens Aktstudie der "Little Round Mirror".

Räumliche Effekte, die durch das Arbeiten mit Spiegeln hervorgerufen wurden, studierte photographisch der holländische Maler Witsen während Andere die Widerspiegelung durch Wasser für ihre Experimente nutzten.

Objekte, die sich im Wasser spiegelten wurden sehr beliebt. Florence Henri, die vom Kubismus beeinflusst war, benutzte Spiegel um den Effekt des unendlichen Raumes zu erhalten. Paul Citroen nahm den Spiegel, um Porträts herzustellen, die mit dem Doppelsinn spielten, ob ein Bild fotografiert war oder ein Spiegelbild.

In neuerer Zeit haben Photographen, Duane Michals eingeschlossen, Porträts gemacht, die den Spiegel als Form autobiographischer Reflektion nutzen, die in die Seele des Künstlers blickt.

Les demi-vérités., les illusions, les associations et la perspective déformée perçues par le spectateur forment un lien entre la photographie et l'image du miroir. Au dix-neuvième siècle les différences façons de se servir des miroirs dans la photographie variaient des "stéréocartes" dans lesquelles se tissaient une multiplicité de fonctions auto-réfléchies, la vanité, l'exhibitionnisme, la moralité, jusqu'à la Figure nue de Steichen intitulée "Petit miroir rond". Le peintre hollandais Witsen explorait photographiquement les effets spatiaux produits par les miroirs, tandis que d'autres donnaient leur expérimentations sur les reflets produits par l'eau. Les objets reflétés dans l'eau étaient fort populaires. Florence Henri, très influencée par le cubisme, se servait des miroirs pour obtenir l'effet d'un espace non-clos. Paul Citroen s'en servait également pour créer des portraits qui jouaient sur l'ambiguïté de l'image photographiée et l'image reflétée du miroir. Plus récemment plusieurs photographes, y compris Duane Michals, ont créé des portraits où le miroir a pour fonction une sorte d'image autobiographique pour percevoir "l'âme de l'artiste."

Women Photographers in Nineteenth-Century California (USA) - An Overview

by Peter E Palmquist

HOW many women were active in California photography before 1901? At least 850 have thus far been identified by name. This number represents a wide range of occupations including female photographers and gallery operators, retouchers and colourists, printers and finishers, clerks and bookkeepers; all participants in commercial photography generally. Also included in this group are a number of advanced amateur and fine-art photographers.¹

However, it is likely that this number is actually quite low by comparison to the *potential* quantity of women workers often not identified because of poor record-keeping, or, in some cases, an out-right prejudice concerning women in the work-place. For instance, many women were not listed in public records simply because they did not qualify as a head-of-household. In other cases, the woman's occupational role is obscured due to the exclusive use of her husband's name in business matters. Nevertheless, wives of male photographers were almost always expected to help in her husband's business despite their additional responsibilities as homemakers and mothers; seldom was a wife's work given its proper due. Even less likely to be recorded were the large numbers of women who did "piece work"; generally women who performed tedious and low-paying tasks.

I first began researching California photographers some twenty years ago. In the beginning I limited myself to those individuals who actually advertised themselves as professional photographers. It was not until I began an extensive reading of California census records, city and regional business directories, local newspaper accounts, and viewed the tens of thousands of surviving photographs that I came upon hundreds of photographers who apparently never advertised.² This was especially true of women in photography.

As my research continued, there was also increasing evidence that a great many women worked at various trades within photography. Nor was this a static or unchanging situation. Fre-

quently, over time, the same woman might be observed in multiple roles, working first as a retoucher, then as a camera operator before finally becoming a gallery owner. Some women were active in the photography field for periods as long as 40 years, others for only a few months. Finally, there were the amateur photographers, especially those who regularly participated in camera clubs and/or exhibited in the various fine-art salons common at the turn-of-the-century. Consequently I resolved to keep track of all women who had any connection with the photographic industry. In the process I created four broad categories of photographic activity as an aid to my study:

1. Gallery owners (exhibited financial control)
2. Photographers (actual camera operators)
3. Workforce A. Labour (i.e., clerks, printers, finishers and the Like) B. Artists (colourists, retouchers, and so forth)
4. Amateur and fine-art photographers

The 850 women whose names I have gathered fit into one or more of these divisions.³ My next goal was to gather information concerning their lives. In some cases I found extensive biographical data while in other cases only the merest mention of their existence has been recorded.

Not surprisingly, there remain a large number of unanswered or only partially-answered questions concerning the lives of these women. How many were amateur photographers before they finally became professional? How may we differentiate between the work done by a woman married to a photographer from that of her husband? How many were foreign-born, or the sole support of their family, etc. Quantitative details such as salary received or information concerning the level of social status afforded these women is also in short supply. Obviously there is much research that remains to be accomplished before we will have a true picture of the significant role played by women in the history of photography. The 1910 United States Census, for example, indicates that women

formed at least 20% of the workforce in American photography.

The first women to advertise as a photographer in California was Mrs. Julia Shannon, who, in January 1850, advertised herself as a "daguerrean" in San Francisco. With true entrepreneurial spirit she also touted herself as a midwife with "rooms opposite the hospital."⁴ The first known male photographer in San Francisco was Richard Carr who was active almost exactly one year earlier.

While Julia probably conducted her portrait gallery in much the same way as her male counterparts, there was also evidence of a perceptual difference accorded her gender. In January 1850, for instance, a San Francisco newspaper reporter expressed the prevailing local interest and sceptical attitude toward Shannon - and women on the El Dorado frontier generally - when he wrote: "[Daguerreotype likenesses] taken in a very superior manner, and by a real live lady too . . . Give her a call, gents."⁵

Although relatively little is known about Julia Shannon, it is clear that she was a participant of the rough and tumble times of Gold Rush San Francisco as evidenced on 4th May, 1851, when Julia lost two houses worth \$7,000 in one of the city's many destructive fires.⁶ Sadly, I am unaware of any surviving daguerreotypes known to have been taken by Mrs. Shannon, nor do I know what eventually happened to her. Yet, even if only a pipedream, I would like to believe that the following advertisement may have been penned by our illustrious photographer/midwife:

HUSBAND WANTED. Whereas my husband has lately left my bed and board without provocation on my part, I hereby advertise for a suitable person to fill the vacancy thus caused. The gentleman applying must have blue eyes, light coloured mustache (my husband had black) an attractive goatee and a genteel figure. He must be not over twenty-five years of age, well educated, of unexceptionable morals, and agreeable address. It is a requisite that his personal encumbrances should be limited, and his prospective fortunes flattering. No gamblers need apply. Address JULIA.⁷

With Julia Shannon gone from the scene by 1852, the California photographic stage appears to have remained empty of female players until June 1857, when a Miss Hudson advertised herself as a travelling photographer in the little village of Oroville in Butte County:

MISS HUDSON & CO/ EXCELSIOR AMBRO-TYPES, MALAINOTYPES, DAGUERREO-

TYPES! / MISS HUDSON, having perfected herself in the art, cannot fail to please her friends and patrons. Will remain at Oroville, in the Empire Hotel, room No. 18./ **CALL AND SEE.** Children's likenesses guaranteed.⁸

The following spring, Miss Elisa Anderson advertised her presence in Santa Rosa in Sonoma County, north of San Francisco. She indicated that her gallery was well equipped and that she had received training "from some of the best artists [i.e., daguerrean artists] in the country." After promising to take only pictures of the "most perfect kind," she extended an invitation to the ladies "in particular" to call and examine specimens of her work.⁹

Shannon, Hudson and Anderson were followed by a slowly increasing number of women photographers during the 1860s. Geographically, they ranged from the northern mid-state region of San Francisco and Sacramento northward to Yreka in Siskiyou County, only a short distance from the Oregon border.¹⁰

Mrs. Rudolph, who settled in Nevada City in Nevada County, is a example of a woman who was trained as a daguerrean before her arrival in California. Born Julia A. Swift, she received early training as a public schoolteacher in Litchfield, Connecticut, where she obtained her teaching certificate on May 15th, 1839, the same year as the electrifying announcement of the daguerreotype process.¹¹

From 1852 to 1855 she worked for daguerrean Daniel D. T. Davie in Utica, New York. In April 1856 she arrived in Nevada City, California, where she took over the G.O. Kilbourn Gallery on Commercial Street. At that time she called herself "Mrs. Julia A. Raymond."¹² In July her gallery burned to the ground, yet by September she had completely rebuilt it and was back in business as a portrait photographer.¹³ By October she had reverted to her maiden name, Julia A. Swift "formerly Mrs. Raymond." She continued her photography business until her marriage in 1860 to a local druggist, James P. Rudolph. By 1865 she had opened a second gallery in Sacramento (California's state capital), and between the years 1865-1888 she shifted her gallery alternately between Sacramento and Nevada City.¹⁴ Her 36-year tenure as a California photographer is remarkable and seldom surpassed by a photographer of any era. Surviving examples of her portraiture attest to her competence as a professional photographer.

During the 1870s there were many new portrait galleries in California, of which most were operated by men with families. Clearly, wives and/or daughters of these photographers were expected to assist in these establishments. John

D. Godeus, for example, married Mary A. Kemp in 1865, shortly before he became a photographer, or photographic assistant, in San Francisco's South Park Photograph Gallery. By 1872 he had opened his own People's Art Gallery where he was assisted by his wife and later his daughter. When Godeus died in 1895 his wife took over the business and operated it successfully for a number of years.¹⁵

Many women learned photography from their husbands; some wives did the hand colouring or retouching, often combining her work with the traditional duties of a mother and manager of the family home. One woman active in the state of Washington, interviewed after having spent nearly 50 years processing and printing her husband's negatives was clearly surprised by all the fuss when she observed: "There isn't much to say. I only did my duty. Any good wife would have done as much. Photography was my husband's business, and it was my job to help. I tried never to let him down. . . I see nothing especially noteworthy about that."¹⁶

Although women seldom got credit for their role as helpmates in photography, there were some notable exceptions. A "Mr. and Mrs. Morris" ¹⁷shared equal billing in Santa Cruz, and the partnership of "Wm S. Young & Daughter" did travelling photography near Fresno in 1874.



Illustration 1. Mrs Eliza W Withington. *Miner's Headquarters by the River*, c1874. Copy from a stereograph. Withington was one of very few female photographers to make stereographs in California.

The Young's advertisement typified the way a travelling portrait operation worked:

PHOTOGRAPHIC. Nothing, unless it be a letter, gives more pleasure in proportion to its cost than a photograph. A likeness of yourself or a picture of your residence would be esteemed beyond price to your friends in the East . . . WM. 5. YOUNG and DAUGHTER, Photographers, of Centerville, will be in different places in Fresno county, as follows: At DRY CREEK ACADEMY, April 1st; MILLERTON, April 10th; BUCHANAN, April 20th. Rain or an unexpected amount of work may delay any one of these appointments a day or so, but they will endeavor to be "on time" . . . they earnestly request their patrons to favor them with calls as soon as they open, that they may be kept busy.¹⁸

The Young's advertisement placed an emphasis on portraiture. This was where most of the money was made, so much so that it has been estimated that at least 90% of all 19th century photographs were portraits. This does not mean that women did not take outdoor or landscape images in California. In fact, Mrs. Withington used her outer skirts as a portable darktent.¹⁹

Mrs. Eliza W. Withington hailed from a tiny dot of a town called Lone City in rural Amador County. Not only did she make a business of taking landscape photographs, but she wrote an article concerning her techniques called "How a Woman Makes Landscape Photographs."¹⁹ In it she explained that she often travelled great distances "by stage[coach], private conveyance, or fruit wagons" in search of suitable subjects.

During the hot summer months, she explained, she "began to finish up and dismiss local work, clean 5 x 8 [inch glass] plates, select and arrange my chemicals in compact little packages or small bottles . . . [so that] I may hie me to the mountains."²⁰ 1876, the year her article was published, travelling photography required a backbreaking amount of cumbersome equipment, especially because glass-plate negatives using the wet collodion process had to be sensitized and processed in the field. Even her camera was a considerable handful by comparison to today's point and-shoot 35mm photography:

[My] camera, the pet, consists of a pair of Vorrison lenses, a Philadelphia box and tripod; on short distances I usually carry these, having the [tripod] legs doubled up and tied, but, if riding far, and I do not want to use it I take out the [tripod] screw, invert the lenses, i.e. turn them into the [camera] box, turn up the bed frame, and wrap [it all] up in the skirt-tent and pack away.²¹

Enter the "skirt-tent." Imagine, if you will, Mrs. Withington as she travelled around the countryside by stagecoach. Assuming her arrival at a suitable rest-stop, she would get out her camera and assemble it. After focusing on the subject of her choice, she had to sensitize her glass plate. This had to be done in a darkroom or darktent. She did not always have time to set up her portable dark-tent:

I improvised one by taking a dark, thick dress skirt, that was well fringed (i.e., weighted with sticks and rocks), sewing two thicknesses of black calico to the bottom, then, when I knew of a view that we were to pass, I would sensitize a plate and by wrapping a wet towel around the plateholder, and over that the focusing cloth, I have carried [the plates as long as] three hours. When the exposure has been made, I throw the skirt over the camera, and pin [its] band close to the camera box [the camera tripod supported the "dress dark-tent"] . . . If the sun is bright, and too much light enters, I throw over all a heavy travelling shawl, and the water, [safelight] lamp, and developer, I slip under cover, develop the view [i.e., negative], wash and replace in the plateholder until a more convenient time for fixing and varnishing.²²

Mrs. Withington was as completely practical as she was innovative. In addition to her photographic kit she also carried a "strong black-linen, cane-headed parasol." She used her parasol "to shade her camera lenses with, or to break the wind from the camera; and for climbing mountains or sliding into ravines [as] a true and safe alpenstock."²³

Mrs. Withington's account is one of our most detailed description of a California field photographer during the 1870s and well worth reading in its entirety. Since her working arena was one of California's most sparsely populated and rugged districts, it speaks highly of her personal courage and fortitude. One cannot help but admire the great energy and initiative that her surviving photographs demonstrate. Her stereoscopic views of gritty mining activities, often taken under very difficult conditions, are inspirational.²⁴

As I learned of Mrs. Withington's adventurous travelling technique, I assumed that she was a young woman. In fact, she was 51 years old when she wrote her article in 1876. She died the following year from unknown causes.²⁵

Less glamorous, but equally important, were the women employed in supporting roles in California photography. Some were gallery clerks, others served as print finishers or negative retouchers and a few operated as independent sales agents. Information concerning these

occupations has often been obtained through tiny (often inadvertent) mentions in local newspapers. An example of this occurred in 1873 when San Francisco photographer Carleton E. Watkins was in the process of mass producing large quantities of stereographs picturing the Modoc Indian War. A newspaper reporter in Yreka (the nearest town to the site where the conflict occurred) reported that the photos were being "finished in good style" and that 20 women and a "number of Chinamen [were] being kept constantly at work."²⁶ The women described here were doubtless piece-work employees, hired specifically to complete a particular task.

Colourists and retouchers were frequently referred to as "artists." Mrs. Emily Eastman, for instance, enjoyed a reputation as an outstanding photograph painter. Active in San Francisco, she regularly exhibited her work in the Mechanics' Exhibitions beginning in the late 1860s.²⁷ She was visited during the mid-1870s by an Ukiah (Mendocino County) photographer A. O. Carpenter, who later penned the following comment to his wife: "[Mrs. Eastman] is the principal photo-retoucher and colourist here. You have heard me speak of her. She is a Vermonter, a widow, real lively, and plain - about 40 I should say, large and imposing."²⁸

Sarah Dutcher began her career as a retoucher in San Francisco during the mid-1870s. By 1880 she had become an independent photographic sales agent. Such sales, done outside the regular galleries, were unusual and it is likely that she served as a go-between for photographers and public outlets such as Woodward's Gardens in San Francisco, a popular tourist



Female retoucher at work, c1885.

attraction of the 1880s. (Dutcher was also the first woman to climb Half Dome mountain in Yosemite and was linked romantically with landscape photographer Carleton Watkins.) By the 1890s the retoucher's trade had become an essential element of all major California portrait galleries; no less than ten women are known to have been associated with Frank Schumacher's gallery in Los Angeles during the period 1890-1895.

Beginning in the late 1880s, a substantial number of the women who worked in photography in California were either immigrants or the children of immigrants, especially Irish, German and Italian according to the California population census for 1900. Inasmuch as the 1890 census was lost to fire, the 1900 census remains our best source of information concerning family configuration during the last decade of the nineteenth century.

By the 1890s public records reveal that many daughters of immigrant women holding entry-level jobs in the photography industry. Margaret Curry, born in California to Irish immigrants, worked as a photograph mounter. She live with her sister's family, was aged 21 and single.²⁹ Claire Haussberg, the 22-year-old daughter of Swiss immigrants, found work as a retoucher. Her household consisted of Claire's parents (her father was an artist), grandmother and two sisters, one, aged 24, whom worked as a private tutor while the other, aged 17, was unemployed.³⁰ Likewise, Cora Heymann, born in California of German immigrants, was listed only as an employee of a "photograph gallery." She was 15 years old.³¹

Sometimes census information is puzzling. Consider the following entry: "Carey, Mrs. Elodia, photographer, born Nebraska [1876], divorced and mother of three children." Reading further, one discovers that none of her children were living in 1900 and that she was located at the Hoopa Indian Reservation in the wilderness some 350 miles north of San Francisco.³² What was she doing there? Think as well of the immense sadness of having had three children, all of whom apparently died in infancy.

Yet, for every sad story, there is another in which a woman triumphed in the face of great adversity. Abbie Cardoza is an interesting example. The sixth of nine children, Abbie had been forced into marriage at the age of 14 by her parents. Her husband was nearly as old as her father. When she opened her first photography business in the small coastal town of Ferndale she was 30 years old, divorced with three teenage daughters to support. At that time a businesswoman in the frontier West was uncommon;

a divorced mother even more so. Nonetheless, she not only competed favourably with the other three portrait galleries in town - operated by men - but she successfully outlasted them all.³³

Not surprisingly, women had to work harder to gain proper credit for their efforts. For example, one indication of an insidious form of discrimination against of women in California photography is revealed by their lack of status in early photographic organizations. Neither the San Francisco Photographic Artists Association, formed August 1866, nor the Photographic Art Association of the Pacific, founded in March 1875, had women members. Likewise, the Pacific Coast Amateur Photographers Association, formed in March 1883, was essentially a men's social group: "Ladies were never permitted an entrance to those sacred, cold walls on Merchant Street, and many [a] pleasant evening [was] spent there . . ."³⁴

In 1890 these restrictions came under severe attack, and on 27th March the Pacific Coast Amateur Photographers Association (P.C.A.P.A.) passed a resolution admitting women to membership. The vote was the largest ever polled in the history of the Society. Twelve women were considered for immediate membership, and within a short time the Society added another eight.³⁵ All was not well, however, and the Association folded (largely due to the conflict over electing women to membership) with most of the members shifting allegiance to the California Camera Club which was founded in March 1890. Not only was the California Camera Club active and longlived, but it was the sponsor of two influential journals of photography, *The Pacific Coast Photographer* (1892-1894) and *Camera Craft* (1900-1942) which were also very supportive of women.³⁶

By 1890 the United State Census reported 17,839 men and 2,201 women as professional photographers in America. During the next two decades thousands of women joined the burgeoning ranks of amateur imagemakers. In California this amateur movement would prove crucial in helping establish a healthy and flourishing climate for fine-art photography; a movement that rivalled such fine-art bastions as Boston, Philadelphia and New York. More women found employment in the photography industry as well, so much so, that by 1910 the United States Census indicated that women occupied at least 20% of the photographic workforce in America.

By 1905 there were more than 50 camera clubs operating in California. Two of these, the California Camera Club in San Francisco and the Los Angeles Camera Club, were the most active. These clubs provided a socially acceptable

atmosphere for women to learn photography. Some, of course, joined for purely social reasons, but for many others the clubs provided an all-important forum for the display and criticism of their art.

In May 1891, for instance, the P.C.A.P.A. held its annual exhibition of lantern slides and prints and noted "the prominent part taken by lady members." Seven women were specifically singled out for critical comment, of which the following was typical:

[Miss I. W. Palache] showed a large amount of studies, mostly landscapes, which all showed the result of true artistic feeling, combined with a perfect technical knowledge of photography. Her "After the Storm" and "Angora Creek," were the most complete as pictures, but an [reviewing artist] lingered long over "Approaching Storm at Tahoe" and "Early Morning at Tahoe" which fascinated by their true rendering of nature as it really is.³⁷

By 1894 there was already a small cadre of women who were considered "serious" workers in art photography. Miss J. F. Banks, a member of the California Camera Club, exhibited in both

the P.C.A.P.A. Salon of 1892 and in the San Francisco Mid-Winter Fair of 1894. The San Francisco *Chronicle* reported that Banks had already established a reputations for herself "as being clever with the camera," and noted that she "has just returned from Alaska with a trunk full of new and interesting negatives . . . [which] will be shown at the California [Camera] Club in the near future."³⁸ Another was Miss Floride Green of San Rafael, Marin County, who "is one of the most popular and clever members of the amateur ranks... she devotes herself principally to portrait and figure work and has made some valuable additions to the California Club's collection. She also excels in platinotype work."³⁹

These women were among the forerunners of a "west coast school" of art photography and were soon followed by such internationally known luminaries as Annie Brigman and Imogen Cunningham.

However, some women amateurs used their cameras for much different purposes. One of these was Nellie McGraw who was born in San Francisco in 1874, the fourth of 13 children. Nellie became a schoolteacher, and by 1900 had



Illustration 3. Nellie McGraw. Portrait of the Marshall Family, Hoopa Indian Reservation (Humboldt County), c1900. Courtesy Joel W Hedgpeth).

landed a position as a teacher on the at Presbyterian Mission School on the Hoopa Indian Reservation. She loved to photograph her students and to record her daily life among Indians. Following her assignment in Hoopa, Nellie acquired a folding Kodak that took post-card-sized negatives and carried it with her as she travelled all over the United States on behalf of the home mission field. Her goal: "The sad plight of the Indians and how they needed saving from drink, immorality and the Roman Catholics."⁴⁰

Elizabeth Fleischmann was a true heroine of photography.⁴¹ Not only did she pioneer in a previously unknown occupation in X-ray photography but in her lifetime achieved world-wide recognition for her extraordinary skill and dedication to this life-saving science. Tragically, Fleischman was among the very first to die from the then unknown effects of X-ray radiation poisoning. In June 1900 the San Francisco *Chronicle* dedicated an entire page to Fleischmann's accomplishments in "radiograph work." The interview was prompted largely by her X-rays taken of wounded soldiers returning to San Francisco following action in the Philippines during the Spanish American War. Many of these men suffered severe medical problems, including complicated bone fractures, unlocated shrapnel and other hidden trauma which could not be remedied in a field hospital. Many of these special cases were taken directly to a hospital in San Francisco where they were X-rayed by Fleischmann. Often working around the clock, Fleischmann was consistently praised for her uncanny ability to "take the radiographs at just

the proper angles." "We have never failed to go straight to a foreign body imbedded in the human anatomy which is shown by her radiographs." Army surgeons and others frequently marvelled that so delicate a work could be performed by "this little lady."

At this time, Fleischmann was also working at the forefront of experimentation with the application of the X-ray to dentistry and for cancer therapy: "Miss Fleischmann has several cancer cases under treatment and the foremost physicians of the city are watching these with the deepest interest," noted the *Chronicle* reporter. Five short years later the *Chronicle* sadly reported the "DEATH OF A FAMOUS RADIOGRAPHHER." Her untimely demise was obviously due to the direct result of exposure to unshielded X-rays: "[Her] arm was amputated last January [1905] and she never fully recovered her health, though she endured all suffering with heroic fortitude . . . death came as a relief. . ." She was about 38 years old.

By the close of the 19th century, the route of women in California photography was well established. On the professional side, many women now owned their own studios and/or occupied positions of increasing respect in the photographic trade. By 1902 the Francisco School of Photography had opened its doors. It referred to itself as "a kindergarten for the photographer" and offered a course consisting of 12 lessons together with "a practical field demonstration."⁴² Much more definitive, however, was the training offered by the California College of Photography, which was established in Palo Alto in Santa Clara County in 1904. Here an enterprising young woman could learn the commercial end of the photographic trade:

New fields are opening up for the photographer every day. The Government has placed them in all the agricultural and scientific departments. Advertisers are placing them in their illustration departments. Half-tones are rapidly taking the place of pen and ink drawings. The large daily, the weekly and the monthly magazines are steadily increasing their staff of photographic artists . . . [also] a few days ago a representative of one of the leading San Francisco stock houses told us that he could place a number of first-class [photographic] printers and operators at once on a salary of \$25 to \$35 a week.⁴³

Photography as a fine art also reached its apex shortly after the turn of the century. During the late 1890s, some women had combined the traditional art training offered by such schools as the Mark Hopkins Art Institute with experiments in photography gleaned through their connec-



NORMAL FOOT TAKEN THROUGH SHOE, SHOWING TENDONS, MUSCLES, AND HOW THE SHOE IS LACED

Illustration 4. Miss Elizabeth Fleischmann. X-ray photograph of foot taken through the shoe, c1900.



Illustration 5. Laura Adams. *Portrait of Sarah Whitney*. Photographic exhibited at the 2nd San Francisco Photographic Salon and published in *Camera Craft*, c1900

tions with the California Camera Club or own their own initiative. Laura May (Adams) Armer, for example, studied painting and drawing under Arthur Mathews before establishing a professional photographic portrait studio in 1899. At the same time her interest in fine-art photography remained high, and she exhibited ten prints in the first San Francisco Photographic Salon (1901). Armer remained a successful and consistent contributor to local and national salons for many years.⁴⁴

The foregoing glimpses into the lives of women in California photography before 1901 offer only a fragmentary outline of their total contributions. Yet, each woman's efforts - not unlike the individual pieces of a unique patchwork quilt - help to form a colourful and vital whole.

NOTES

1. Photographic partnerships, such as "Ganter & Ganter" (they were sisters) are counted, also each individual sister (i.e. a total of 3). Some women may be listed twice, once under her maiden name and again under her married name. My previous writings on women in California photography include, "Photographers in Petticoats" *Journal of the West*, vol.21:2 (April 1982); and "California Nineteenth Century Women Pho-

tographers" *The Photographic Collector* vol. 1:3 (Fall 1980). See also "The Indomitable Abbie Cardozo" in *Photography in the West* (Manhattan, KS: Sunflower University Press, 1987) and "Stereo Artist Mrs. E. W. Withington: or, 'How I use My Skirt: for a Darktent'" *Stereo World*, vol. 10:5 November/December 1983. Recent writings include: *Shadowcatchers: a Directory of Women in California Photography Before 1901* (Arcata, CA: published by the author), 1990; and *Elizabeth Fleischmann: Pioneer X-Ray Photographer* (Berkeley, CA: Judah L. Magnes Museum, 1990). Portions of this essay were previously published as "19th Century California [Woman] Photographers" in *Yesterday and Tomorrow: California Women Artists* (New York: Midmarch Arts Press, 1989).

2. I list more than 7,000 photographers active in California before 1901. However, an educated guess suggests that there may have been upwards of 10,000 men and women involved in California photography by the end of the century.

3. For an interesting classification of women's work in photography in London, England, c.1873, see Jabez Hughes, "Photography as an Industrial Occupation for Women," *Anthony's Photographic Bulletin*, vol. 4 (1873), pp. 162-166.

4. Charles P. Kimball (compiler), *The San Francisco City Directory*, September 1, 1850, pp. 99 and 134.

5. *San Francisco Alta*, January 29, 1850.

6. *Ibid.*, May 7, 1851.

7. *Ibid.*, October 8, 1850, p. 2, c. 5.

8. *Butte Record*, June 6, 1857.

9. *Sonoma Democrat*, January 6, 1859. She was active as early as April 1858.

10. With the exception of Stockton (San Joaquin County) and San Jose (Santa Clara County) the southern part of California was little developed until after 1880.

11. Certificate held by the California State Library, Sacramento.

12. *Nevada City Journal*, 4th April, 1856.

13. Both the gallery and the former gallery owner's house (possibly also occupied by Mrs. Raymond) were burned on 19th July 1856, with a total loss listed at \$10,000. On 12th September 1856, she resumed advertising.

14. It is likely that Mr. Rudolph suffered from a medical problem that was helped by moving to Sacramento for part of each year. It is unclear whether Julia owned the Sacramento Gallery or merely rented it during part of each year.

15. Both John D. Godeus and Mary A. (Kemp) Godeus were born in Holland. She was born in April 1849. Mrs. Godeus was listed as the sole proprietor of the studio by 1896, and by 1900 she was a member of the Photographers Association of California. Her daughter, Mary Clara Levy, also worked as a photographer according to the 1900 census.
16. Dave Rohn and Rudolfo Petschek, *Kinsey Photographer* (San Francisco: Prism Editions, 1987), p. 308.
17. Ella M. Morris was born in Massachusetts in 1852. She ran a gallery in Santa Cruz, 1883-1887. Samuel I. Morris, born in Illinois around 1850, was an upholsterer in Santa Cruz, 1878-1888. He joined his wife in the photographic gallery c.1886.
18. *Fresno Weekly Expositor*, April 1, 1874. The daughter may have been Annie C. Young (born in Iowa, 1847), who was listed as a photographer in San Francisco in 1880.
19. *The Philadelphia Photographer*, Vol. 13: 156 (December 1876), pp. 357-360. See also Palmquist, "Stereo Artist Mrs. E.W. Withington," p. 20.
20. *Ibid.*, p. 357.
21. *Ibid.*, p. 359.
22. *Ibid.*
23. *Ibid.*
24. A number of Mrs. Withington's stereoscopic mining views are held by the Huntington Library, San Marino, California. She also did carte de visite and cabinet card portraits; frequently adapting her darkroom needs in the rural homes of her clients: "A bed-room or clothes closet can so easily be converted into a dark closet, and we are safer from accidents [caused] from wind or dust."
25. The Amador, California, Census for 1870 listed her age as 45, and noted that she was married to George Withington, aged 49. Her schoolteacher daughter, Augusta, was aged 22. Both Eliza and George were born in New York, while their daughter was born in Michigan. Eliza's death was noted in *The Philadelphia Photographer* (as quoted from the Mosaics of January 1877), Vol. 14, p. 128.
26. *Yreka Journal*, 25th June, 1873.
27. As an example, Mrs. Eastman exhibited 30 painted photographs in the 1875 San Francisco Mechanics' Fair, according to the 10th annual catalog of that exhibition. Her name appeared regularly in the San Francisco business directories through at least 1900.
28. Correspondence, Aurelius Ormando Carpenter to Helen McCowen Carpenter, c.1875 (Courtesy Grace Hudson Museum).
29. United States Census for San Francisco for 1900, reel 103, p. 110A, line 48.
30. *Ibid.*, reel 102, p.159A, line 9.
31. *Ibid.*, reel 107, p.273A, line 36
32. United States Census for Humboldt County for 1900, reel 87,p. 294.
33. Palmquist, "The Indomitable Abbie Cardozo," pp. 106-109.
34. Citation from an unidentified newspaper, possibly the Monterey Wave, of 14th Nov, 1891.
35. Correspondence from A. J. Treat, published in *Anthony's Photographic Bulletin*, Vol. 21: 9, 10th May, 1890, p. 286: "This change will put new life into the Society, as the work of many of the lady amateurs equals the best of the most skilful of the sterner sex."
36. The California Camera Club held regular outings, lectures (usually illustrated with lantern slides) and exhibitions. One lantern-slide lecture titled "Through Japan with a Camera" (June 27, 1890) drew an audience of 1700 people.
37. *Anthony's Photographic Bulletin*, Vol. 22: 11 (13th June, 1891), pp. 346-347
38. *San Francisco Chronicle*, 30th June, 1894.
39. *Ibid.* She was sometimes referred to as "Chloride" Green and had been a photographer in New York before her arrival in California. A note in an unnamed and undated (c.1897) California newspaper reported a mishap which she suffered by using flash powder: "This ardent lady amateur was severely burned about the hands by the explosive, but is now well on the way to recovery."
40. Information courtesy Joel W. Hedgpeth. Her negatives are on file at the Lowie Museum, University of California, Berkeley.
41. For a complete review of Fleischmann's life and work see, Palmquist, *Elizabeth Fleischmann: Pioneer X-ray Photographer* (Berkeley, CA: Judah L. Magnes Museum, 1990).
42. *Camera Craft*, March and April 1902, n.p. The class was scheduled for 5th May, 1902.
43. Enos Murdock, "California College of Photography," *Overland Monthly*, Vol. 44 (September 1904), pp.378-379. There are also various mentions (and some lengthy descriptions) of the college in *Camera Craft* during 1904.
44. Lavern Mau Dicker, "Laura Adams Armer: California Photographer," *California History*, Vol. 56: 2 (Summer 1977), pp. 128-139. Armer wrote "The Picture Possibilities of Photography," *Overland Monthly*, Vol. 36: 213 (September 1900), pp. 241-245, and a number of books centering on Indian life in the American southwest.

Abstracts

At least 850 women were involved in the various branches of Californian photography before 1901 though the actual figure was probably considerably higher. These included gallery owners, photographers, clerks, printers, finishers, colourists, retouchers, and amateur and fine-art photographers. Julia Shannon was first woman photographer to advertise in California in 1850 and those women who followed her had extremely varied careers and photographed a wide range of subjects. Julia Raymond's career in Nevada City and Sacramento lasted 36 years; Eliza Withington made a business during the 1870s from landscape photography sometimes using her skirt as a portable darkroom. In spite of the contribution made to early Californian photography it was as late as 1890 that the Pacific Coast Amateur Photographers Association became the first society to admit women as members. By the 1890s there were "serious" women art photographers, such as Floride Green, active in California and they may be seen as the forerunners of a "West Coast School" later made more famous through the work of photographers such as Imogen Cunningham. Californian women photographers also were involved in social documentary and medical photography. Nellie McGraw travelled throughout the United States recording the "sad plight of the Indians" while Elizabeth Fleischmann achieved world-wide recognition for her pioneering work with X-ray photography.

Mindest 850 Frauen waren vor 1901 in die verschiedenen Zweige der kalifornischen Fotografie verwickelt, obwohl

die tatsächliche Zahl vermutlich beträchtlich höher lag.

Diese schlossen Galleriebesitzerinnen, Photographinnen, Angestellte, Drucker, Fertigsteller, Koloristinnen, Retoucherinnen und Amateur- und Kunstphotographinnen ein.

Julia Shannon war die erste Photographin die 1850 in Kalifornien inserierte und die Frauen, die ihr folgten hatten extrem verschiedene Berufslaufbahnen und photographierten ein weites Angebot von Dingen.

Julia Raymond's Karriere in Nevada City und Sacramento dauerte 36 Jahre; Eliza Withington machte in den 1870zigern mir Landschaftsfotographie Geschäfte, wobei sie manchmal ihren Rock als transportable Dunkelkammer benutzte.

Trotz des Beitrages zur frühen kalifornischen Photographie war es erst 1890, dass Frauen, als erstes bei der "Pacific Coast Amateur Photographers Association" als Mitglied zugelassen wurden.

Um 1890 gab es ernsthafte Kunstphotographinnen, wie Floride Green, die in Kalifornien aktiv waren, und sie können als Wegbereiter für die "West Coast School" gelten, die später bekannter wurde durch die Arbeit von Photographen, wie Imogen Cunningham.

Kalifornische Photographinnen waren auch in soziale Dokument- und medizinische Photographie verwickelt.

Nellie MacGraw reiste durch die Vereinigten Staaten und nahm die "sad plight of the Indians" (armselige Zustände der Indianer) auf, während Elizabeth Fleischmann weltweite Anerkennung durch ihre Pionierarbeit mit Röntgenphotographie erreichte.

Au moins 850 femmes ont joué un rôle dans les diverses disciplines de la photographie en Californie avant 1901, et le chiffre exact est assurément plus élevé. Parmi ces femmes il y avait des propriétaires de galeries, des assistantes, certaines qui connaissaient les techniques de tirage, des coloristes et des retoucheurs. La première à travailler commercialement en Californie en 1850 fut Julia Shannon, et les carrières des femmes qui la suivent furent extrêmement variées d'autant plus qu'elle photographiaient une énorme gamme de sujets. La carrière de Julia Raymond à Nevada City et à Sacramento dura 36 ans; Eliza Withington s'établit pendant les années 1870 par la photographie des paysages, se servant parfois même de sa jupe comme chambre noire "portative". Malgré cette contribution aux débuts de la photographie en Californie ce ne fut qu'en 1890 que la "Pacific Coast Amateur Photographers Association" devint la première association à admettre des membres femmes. Déjà depuis 1890 il y avait des photographes femmes établies dans la domaine artistique, comme Floride Green, qui travaillaient en Californie qu'on peut considérer comme précurseurs de l'école "West Coast" qui fut plus tard célèbre grâce au travail des photographes comme Imogen Cunningham. Les photographes californiennes contribuèrent aussi à la photographie médicale. Nellie McGraw voyageait partout aux Etats Unis photographiant "le triste sort des Indiens", tandis que Elizabeth Fleischmann fut reconnue dans le monde entier grâce à son travail innovateur sur la radiographie.

IN MEMORIAM

A Maker of Photographic History

ERIC HOSKING OBE., Hon.FRPS.

THE Internationally renowned bird photographer, Eric Hosking, died on 22nd February, 1991, after a brief illness, at the age of eighty-one. Full of enthusiasm and energy to the last he had recently returned from photographing birds in Kenya.

Eric was a master photographer and a pioneer in the photography of birds. He was also a skilled ornithologist who introduced the grace and beauty of birds to millions. His photographs are world famous through his many publications, his lectures and television appearances.

Eric Hosking began his career in 1939 with a photograph of a sea elephant recently arrived at the London zoo, which covered half the back of a newspaper. One of his early pictures of swans was used as the motif for Swan Vesta's matches. Another photograph of his of a Montagu's harrier was the insignia of an Royal Air Force squadron. His most famous photograph is of a barn owl in heraldic pose with wings spread and a vole in its beak.

From the 1950s he was travelling all over the world photographing birds. He pioneered the use of high speed flash photography for Nature subjects, catching birds in flight which revealed details of wing span and body mobility never seen before. In his Autobiography *An Eye for a Bird* (1970), Hosking wrote of his great fondness of owls. They lured him "as surely as the pied Piper of Hamelin". In fact on one occasion he got too close to a nest of baby owlets as he climbed up to his hide and was attacked by the alarmed mother tawny owl. Although he lost his left eye he retained his affection for owls.

Eric had many friends in the Royal Society for the Protection of Birds. He was on familiar terms with Royalty, having shared a hide with HRH Prince Philip and advised him on Nature photography. He was on friendly terms with Lord Alanbrooke, the famous General of the Second World War, who shared his enthusiasms for Nature and Wild Life.

Ten years ago Eric Hosking told an interviewer that he had photographed 1,800 species of birds out of a total of 8,000. "I've grown old too soon" he said. In sixty years as a bird photographer he 'caught' a number of the world's rarest or least accessible species: lammergeyers in the Spanish mountains; sea eagles in an island off Norway; and the first snowy owls to nest in the Shetland islands off Scotland.

He confessed to having no small talk as he worked a seven day week. "I'm so bird minded, I fear I'm a bit of a bore" he is reputed to have said. He collected statuettes of birds, bird paintings and bird books. He had pictures of birds on his coffee cups and his ties.

His pictures were reproduced in at least 800 books world wide and his own publications included *Birds in Action* (1949); *Nesting Birds, Eggs and Fledglings* (1967); *Eric Hosking's Owls* (1982); *Just a Lark* (1984). He also edited *British Birds* from 1860 to 1976.

Eric Hosking leaves a rich legacy to the world in the form of his fine library of photographs which is administered by his younger son, David, who is likewise a Nature photographer. Any one interested in obtaining a catalogue of their pictures can contact him at pages Green House, Wetheringsett, Stowmarket, Suffolk IP14 5QA, England. (MFHF)

News of Courses and Workshops

Collecting & Conserving Photographs

The Photographers' Place Bradbourne, Ashbourne, Derbyshire, with ROGER TAYLOR of the National Museum of Photography, Film & Television, 18th-20th OCTOBER, 1991

Want to know the difference between a carbon and a salt print, an ambrotype and a tintype, a Frith and a Beato? If so, this weekend workshop is for you whether you are a keen amateur collector or a professional archivist.

Senior curator of photography at the National Museum of Photography, Film and Television, Bradford, Roger is one of this country's leading experts on the medium and is in charge of acquisitions at the museum. A photographer, lecturer and historian, he will disclose the detective work involved in his job and help participants identify 19th and 20th century processes and the photographer responsible. The aesthetic, craft, commercial and social context of photographic images will also be discussed as will conservation and research. Please bring old prints you would like identifying.

Fee £90.00 (arrive Friday evening: Depart Sunday evening)

Workshop includes tuition, food & accommodation, plus use of library and print collection at The Photographers Place.

Notes

ESHPh Symposium at Toulouse, France 27th to 30th June, 1991

At the last ESHPh Symposium in Göteborg, in 1989, Monsieur Jean Dieuzaide proposed that the 1991 Symposium should be in Toulouse, this June.

The Symposium is going ahead, organized by M. Dieuzaide, on the dates as above. This offers the delegates the opportunity of going on to the Arles Festival, held in the first week of July. And of course, the Symposium offers a splendid opportunity, too, for making contact with the other people interested in photographic history and culture. The venue will be the Galerie du Chateau d'Eau.

The theme will be 'Lumiere et Matiere' - 'Light and Matter'. Most members will be aware that M. Jean Dieuzaide is recognized internationally for his own exquisitely beautiful photography of nature, landscape, still life and medieval architecture. He is the Artistic Director of the Galerie du Chateau d'Eau in Toulouse.

Among the areas to be discussed will be - the achievements of Professor Charles Fabre, author, in 1892, of the first Encyclopedia of Photography - Arthut Batut, innovator, in 1886, of photography by kite.

Any supplementary papers from ESHPh members on the theme of the Symposium will be welcomed.

A social programme sampling to the full the region's special ambience and gastronomic delights will include the following excursions:

Thursday 27th June: visit by coach to Gascogne to sample the local Armagnac

Friday 28th June: evening trip, following the day's programme, to sample the 'vin du pays', at Chateau Bellevue, close to Toulouse.

Saturday 29th June: Visit to Albi, famous for its Museum dedicated to the painter Toulouse-Lautrec, and for its XIII/XIVth century Cathedral.

Please note that all correspondence concerning the Symposium reservation and requests for information should be made to

Comite d'Organisation du Symposium AEHP/ESHPh, Galerie Municipale du Chateau d'Eau, Place Laganne, F-31300 France Tel: 33-61-426172 Fax: 33-61-410270

Photographic Collections

Local Studies Department, Central Library, Chamberlain Square, Birmingham B3 3HQ
Telephone: 021-235-4220 Contact: Peter James, Photography Development Officer

There is a very extensive photographic collection in the Birmingham Central Library including works by Benjamin Stone, Francis Frith, Samuel Bourne, Francis Bedford, William Jerome Harrison, Burgoyne and Whitlock. A photographic archive and study centre is currently being established. The centre will include the collections of the Birmingham Photographic Society from c.1850-1950 and a local photographic studio which operated from c.1913-1988.

Museum of Science and Industry, Liverpool Road Station, Liverpool Road, Castlefield, Manchester M3 4JP.

Tel: 061-832-2244 Fax: 061-833-2184

Following the article by Michael Hallett on 'The Manchester-Liverpool Circle' in the first issue of the Photoresearcher the editors received two letters regarding the museum's collections.

The museum holds a large collection of photographs by James Mudd, J.B. Dancer and others. There is also a collection of photographic equipment comprising some 800 items. These have been catalogued onto preprinted cards which contain all the basic information about an individual object. Some of this information has been fed into a PC computer running dBASE III Plus which makes it a most useful tool for the curatorial staff and for researchers.

The museum's image collections are held in the Library and Record Centre which is open to researchers on Tuesdays and Thursdays 1.00pm - 4.30pm or at other times by appointment. Appointments may be made by telephone (extension 256/7) or by letter to the Library and Record Centre. Contacts: Gaby Porter, Curatorial Services Manager; Jenny Wetton, Assistant Keeper for Science.

Women Photographers

Peter E. Palmquist is in the process of preparing a book on women photographers worldwide. He would be grateful for information on early photographs by women and in a letter to the editors has mentioned two women photographers in particular. They are a Mrs. Catlin of 1, Deptford Road, Rotherhithe, London and Catherine Weed Barnes Ward, who was the editor, with her husband, of *The Photogram*, and who spent part of her life in England. Any information can be sent to Peter Palmquist at 1183 Union Street, Arcata, California 95521, USA.

Henry Cole and the Institutionalization of Photography

by Anthony Hamber

THE 1850s was probably the most significant decade for the progress of photography during the 19th century. It was during this period that throughout Europe photography was transformed from its somewhat peripheral role as a limited commercial enterprise primarily confined to portraiture.

The origins of the institutionalization of photography during the 1850s lie in the stimulus brought about by the endeavours of both professional and amateur photographers in the previous decade. Some amateurs used photography in highly specific ways which were directly related to their occupation, others experimented with

subjects such as reproductions of works of art, still-life, topographical views and landscape which frequently reflected the formal structural conventions of the traditional fine arts teaching of painting and drawing.

The progress of photography during the 1850s is inextricably bound to its institutionalization. This took the form of the creation of societies, the production of publications and the development and diversification of commercial photography. Another, and equally important dimension was the way the medium came to be used as a tool within both the old and the modern professions and institutions. This form of institutionalization was frequently greatly affected by the attitudes of those individuals who worked within these professions or institutions. This article evaluates the importance of one of these individuals to the progress of photography.

Henry Cole was one of the pivotal characters in the mid-Victorian world. The diversity of his influence was astonishing for both its width and depth. He was instrumental in the introduction of cheap pre-paid letter post; he wrote a series of successful children's books; he helped founded the territorial army; he was instrumental in the reorganization of the national system of art schools; he was involved in the improvement of health in towns by better drainage and water supply; in the 1840s he designed a china tea service which was still being mass produced in 1875; he was also the driving force behind the international exhibitions of 1851 and 1862. Cole was above all one of the great Victorian reformers and innovators and his power base from 1852 until his retirement in 1873 was the Department of Science and Art (founded in late 1852) of which he was Secretary for Art, and the South Kensington Museum, the Department's showcase, which opened in 1857, of which Cole was the first director.

To date the significance of Henry Cole's influential role in the history of photography has been relatively untouched. This role can be defined as his use of the medium during the Great Exhibition of 1851 and subsequently within the Department of Science and Art. The zenith of Cole's application of photography was most



Henry Cole. Photographed by Lock and Whitfield. Woodburytype. Men of Mark - Contemporary Portraits of Distinguished Men, Second Series, London, Sampson Low, Marston, Searle, and Rivington, 1877 p21.

clearly seen at the South Kensington Museum. Furthermore, Cole influenced certain aspects of contemporary photography in Britain and had a very significant effect on art education in mid-Victorian Britain.

Henry Cole, the son of young army officer, was born in Bath on 15th July, 1808. Between 1823 and 1852 Cole worked under Sir Francis Palgrave (1788-1861), a sub-commissioner in the Record Commission, a government body transcribing ancient documents and preparing them for publication. By 1839 he had risen to become an Assistant Keeper in charge of the Augmentation Office of the Record Commission in which he remained employed until 1852.

Of all the individuals connected with the use of photography at the South Kensington Museum Henry Cole stands above all others. This is not because he was a professional photographer of art but because, through his various roles in the art establishment of mid-Victorian England, he fully understood and dynamically exploited the medium. We are fortunate to have Cole's diaries, a considerable number of letters and memoranda and the Reports and Minutes of the Department of Science and Art from which it is possible to reconstruct his early association with the medium and his subsequent far sighted use of it.¹ However, it is difficult to estimate the full extent of Cole's influence in this sphere and whether he was the sole driving force behind the policies of the Department of Science and Art.

In 1852 Cole had been appointed Secretary for Art and Lyon Playfair Secretary for Science. Playfair, who had been the favourite student of the great German chemist Baron von Liebig, had played a central role in the classification of exhibits at the Great Exhibition of 1851.² However, he resigned his post as Secretary for Science in 1858 and subsequently no appointment was made for the post of Secretary for Science. This left Cole as de facto head of the Department of Science and Art.

Cole made but the briefest of reference to the use of photography at the South Kensington Museum in his autobiography.³ This seems curious given the dynamic use of photography at the museum from the late 1850s and the leading role played by Charles Thurston Thompson (1816-1868), the Museum's first official photographer. Thompson had been part of Cole's social circle since at least the early 1840s. He had worked with Cole on the photographic arrangements at the 1851 Great Exhibition and had married, with Cole's considerable encouragement, Charlotte Bond, Cole's sister-in-law.⁴

However, Henry Cole's diary provides a clear indication of his photographic activities. While no

mention of photography appears in the Cole diaries during the period 1839 until the mid-1840s it would seem unlikely that he was unaware of the few photographic studios in London which were mentioned in the periodical the *Athenæum*, which carried regular articles on photography, and for which he wrote the "Weekly Gossip" column. It can also be reasonably assumed that he knew of or perhaps had seen issues of the *Pencil of Nature*. Furthermore, there were several important London print dealers, such as Gambart, Graves and Ackermann, who sold photographs and there were commercially available photographic manuals.

In April and May 1846 Cole noted that he had on three occasions been with "Simpson[s] for Daguerreotype" though it is far from clear as to who Simpson was.⁵ A more direct contact with photography may have been forged around this time through one of Henry Cole's numerous endeavours. Between 1833 and 1851, under the nom de plume of Felix Summerley, Cole wrote *A Hand-Book for the Architecture, Sculptures, Tombs, and Decorations of Westminster Abbey* and *A Hand-Book to Hampton Court* as well as a series of children's books called the Home Treasury which eventually totalled over twenty titles. These were published by his friend Joseph Cundall (1818-1895), a founder member of the Calotype Club, the precursor of the Photographic Society of London, and an important figure in the promotion of commercial photography during the early 1850s.⁶ Cundall was also a Fellow of the Society for the Encouragement of Arts and Manufacturers and Commerce, more commonly known as the Society of Arts. Another Fellow of the Society was Peter Le Neve Foster, Treasurer and Council Member, and likewise a founder member of both the Calotype Club and the Photographic Society of London.

During the 1840s Cole rose to a position of considerable influence in the mid-Victorian art world. A cornerstone of Cole's power base was his role in the Society of Arts which he joined in 1846. Cole immediately started to organize annual exhibitions which transformed the Society. He was keen to emulate the successful French industrial exhibitions and in June 1849 he visited the Paris Industrial Arts Exhibition which included a large display of Daguerreotypes and paper prints. Unfortunately Cole made no mention of the photographic exhibits in his diary.

The following year Cole was elected Chairman of the Society of Arts an influential position further buttressed by his place on the government select committee which investigated the School of Design in Somerset House which was in urgent need of reform.

The Society of Arts was primarily introduced to photography through lectures such as those given by the Frenchman Antoine Franoise Jean Claudet (1797-1867) and William Edward Kilburn. Claudet was a Fellow of both the Royal Society and the Society of Arts, and by 1846 was, together with Henry Cole, a member of the Society of Arts' Fine Arts Committee. Kilburn accompanied his paper to the Society, read in February 1847, with "Specimens of Daguerreotypes, illustrative of the Progress of the Art."⁷ Specimens of American Daguerreotypes had already been presented to the Society by a Mr. R. Lawrence of New York in December 1846.

Given that several Fellows of the Society were so involved with photography it seems strange that Cole did not take an active part in the early photographic institutions such as the Calotype Club, the Photographic Society or the Photographic Exchange Club. However, it is probable that the influence of other Fellows upon Cole was instrumental in later enabling him to use photography to such good effect.

Prince Albert had been elected President of the Society in 1843 and he and Cole struck up a dynamic partnership which, until the Prince's death in 1861, produced many notable achievements. The most influential of these was the 1851 Great Exhibition held in London. The success of this exhibition led to the creation of the South Kensington Museum, now called the Victoria & Albert Museum. It also was Henry Cole's first large scale encounter with photography.

Cole's importance reached a new peak with his role as a member of the Executive Committee of the 1851 Great Exhibition which included perhaps the first major display of photographs to have a significant effect on an international scale. Furthermore, photography was used as an administrative tool during the exhibition, was employed to make an official as well as a commercial record of the exhibits and to disseminate images of the event. Cole became closely involved in the photographic arrangements at the Great Exhibition.

During the exhibition a decision was made to produce a photographically illustrated four volume presentation set of the *Reports by the Juries*. The Royal Commissioners of the Exhibition were eventually to order one hundred and forty presentation sets, each containing one hundred and fifty-five Salt paper prints. This venture was by far the largest photographic publishing venture so far attempted, over 20,000 photographs having to be individually printed.⁸ The initiation of this project and the problems involved in the production of these photographic



Henry Cole. Page from Henry Cole Album, 1856.
Top: *First Love*, from a painting of 1838-9 by William Mulready.
Centre: *Mrs and Miss Rathbone*, 1856.
Bottom: *The Flight Interrupted*, from a painting of 1815-16 by William Mulready.
Three Albumen prints. London, Victoria & Albert Museum, Department of Prints and Drawings, Henry Cole Album. Courtesy of the Board of Trustees of the Victoria and Albert Museum.

prints for the *Reports by the Juries* are an excellent example of the intricate difficulties and central issues which bedeviled 19th-century photography, particularly during the first two decades of its existence.⁹ They also indicate that Cole already had a sound knowledge of photography.

In May 1851 Colonel Charles Grey, Private Secretary to Prince Albert, wrote to Cole;

"H.R.H. thinks that the suggestion of Talbotype Representations of Articles exhibited in connection with the Official Catalogue would be very desirable. He does not however exactly understand how far you wish to carry such a collection."¹⁰

Grey also mentioned that there might be a surplus from the exhibition which could cover

such an outlay, but that the Prince Consort required more precise information. In the event the surplus of £186,000 was sufficient to found the South Kensington Museum.

It is far from clear whether Prince Albert or Henry Cole was the driving force behind the arrangements which led to the production of the sets of Talbotypes for the *Reports by the Juries*. A note from Grey to Cole stated;

"Could you come here [to Buckingham Place] tomorrow at 11.00 o'clock. The Prince has appointed Mr. Ellis on the subject of photographs"¹¹

Cole recorded in his diary for 16th of July that;

"Summoned to see the Prince about Talbotyping. Grey proposed Ellis as the Superintendent - Prince suggested that Talbotypes should be prepared to illustrate the report of the Jurors, and that 100 copies should be taken of each negative to be distributed to Public Libraries and foreign countries exhibiting."

Who Ellis was is far from clear though he did meet and discuss photographic arrangements with Cole and seems to have been well informed and may have been a photographer himself.¹²

Nevertheless, it would seem that the other officials in the royal household were far from au fait with even the most basic tenets of photography for on 23rd August 1851 Cole wrote a long and detailed letter to Col. C.B. Phipps, who had retired as the Prince Consort's private secretary in 1850 and had become Keeper of the Privy Purse.

"My dear Colonel,

Daguerreotypes cannot be repeated like Talbotypes - but they can be repeated on a diminished scale. Daguerreotypes are like Pictures - things to be framed. - Talbotypes like Engravings which may be inserted in books etc.

I have learnt from Mr. Ellis that any large size Daguerreotypes of the building or portions would cost about 50 to 100l. each. As they certainly have some useful features different to those of the Talbotype, I think that it might be useful for the Commission to possess a collection and if his Royal Highness is of that opinion, I will see that it is made and included in the estimate already sanctioned by the Commission. Under any circumstances, as there are some cases of machinery where a wood engraving would be preferable to a Talbotype, the Daguerreotype would come to aid most usefully in taking the views of the

machinery to be engraved, and I suggest that Mr. Ellis be employed to take such Daguerreotypes - on this point as well as the use of wood-cuts, we should be glad to have the Prince's sanction, as preparations must be made, and steps taken before another meeting of the Commission can be held. Another point is that the Juries have named about 170 objects or groups of objects which ought to be Talbotyped.-

The £1000 sanctioned by the Commission was to provide only for 100 subjects - The majority of the remainder might be wood Engravings and we want the necessary authority to proceed with them.- The expense would not be in proportion-Will you tell me what you consider the most direct objects to be obtained by His Royal Highness' proposal in respect of the surplus. I understand them to be 1. Exhibitions 2. Sections and 3. Conversations. I want to know what the Prince considers the essentials in order to think over the means of effecting them, and fitting them with the wants of the public already expressed.

Faithfully yours, Henry Cole

P.S. If His Royal Highness wishes Daguerreotypes taken for other purposes than those of the Commission, perhaps you will either communicate with Mr. Ellis, or let me know."¹³

Clearly concerned about the number of photographs being taken at the exhibition Cole wrote to Col. Phipps on 24th September 1851;

"The Photographs by Mr. Owen¹⁴ do not represent the objects selected by us, but by himself for his own pleasure - only some of which we propose to use - in fact only those subjects named in the Reports."¹⁵

Cole was, however, not averse to carrying out such extra photography himself, adding as a postscript to a letter written to Phipps on 26th of September "I will try and get a Photograph of Dyce's design tomorrow to send."¹⁶ This implies that Cole already perceived photography as a useful tool for making quick and accurate reproductions for administrative purposes. In March 1858 Cole again used photography to similar effect when he sent the Prince Consort photographs of his design for the proposed memorial of the Great Exhibition.¹⁷

Cole encouraged his friends to examine the photographs taken at the Great Exhibition and the artist William Mulready (1786-1863) and the surgeon and amateur etcher Francis Seymour Haden (1818-1910) are both recorded as examining photographs at Cole's home in late

1851.¹⁸ In March 1852, with the printing of the photographs causing continued problems, Cole noted in his diary that "Thurston Thompson came to see Bingham's Photographs & would go to Paris himself."¹⁹ Undoubtedly the experience gained in all the photographic arrangements connected with the Great Exhibition further increased Cole's knowledge and appreciation of photography. He was to use this experience to good effect as Director of the South Kensington Museum and Secretary of Art to the Department of Science and Art.

A little more than a year after the Great Exhibition, a photographic exhibition, organized by Joseph Cundall, Philip Henry Delamotte and Roger Fenton, was held between 22nd December 1852 and January, 1853 at the Society of Arts in London.²⁰ Cole had already been in contact with both Cundall and Delamotte who had "brought [their] Calotyping instruments" to his home on at least two occasions in July of that year.²¹

The 1852-3 photographic exhibition included some seven hundred and seventy nine photographs by seventy-nine photographers.²² The support of the Society's Chairman Henry Cole was provided by his attending the opening soirée with his wife and two of his children. Furthermore, Cole exhibited at least one photograph, that being Cat.117 *The Louvre* by F. Martens which indicates that by 1852 he certainly owned photographs. It is possible that Cole had bought this photograph directly from Martens who had been one of the photographers to take glass negatives for illustrating the *Reports by the Juries*. Delamotte exhibited several photographs

of objects from the Museum of Ornamental Art in Marlborough House.²³ Henry Cole was in charge of this museum which was the precursor of the South Kensington Museum though it is unknown whether Delamotte's photographs were taken at Cole's instigation.

Curiously Henry Cole took no active part in the Photographic Society of London, founded in January 1853, being neither an officer nor an ordinary member. However, soon after the formation of the Photographic Society the Department of Science and Art proposed that Calotypes be taken at Marlborough House in Pall Mall, London, which housed the School of Design and the Museum of Ornamental Art.²⁴ By early July Charles Thurston Thompson was already at work photographing exhibits from a temporary exhibition of cabinet work being held at Gore House and it appears that Francis Bedford was to photograph in the Museum of Ornamental Art.²⁵

Thompson and Bedford differed in their fee structure and by so doing indicated their perceptions of the potential of the infant photographic sales market as well as the rights of the photographer. Thompson asked 5s. a piece for the first copy of each photograph and 2s. a piece for subsequent prints. Bedford offered to photograph at 2s. a piece and would present two copies to the Department of Science and Art if he himself could sell other prints "on his own account."²⁶ While Thompson perhaps perceived that he could be appropriately financially rewarded by sales within the Department of Science and Art, Bedford, an accomplished lithographer and chromolithographer, may have set his sights on the potentially far larger general commercial market which could encompass both photographs and reproductions based on photographs.²⁷ Cole was directly involved in the discussions with the photographers.

These somewhat ad hoc photographic arrangements started to be formalized during 1854. It was agreed that three prints of each photograph should be made of objects loaned to the Department, one to be given to the lender while another was to be circulated to the Schools of Art. In September Cole and Thompson were in France, near Boulogne, where Thompson made an unsuccessful attempt to photograph the French army encampment.²⁸ Thurston Thompson was to fare better when in April 1856 he and Sergeant Mack, of the Royal Engineers, photographed that year's French military camp.²⁹

In 1855 Henry Cole was appointed Commissioner for the British Section of the Exposition universelle in Paris and was allocated £500 to purchase photographs, casts and drawing.³⁰ During the exhibition Cole would have undoub-



(?) Royal Engineer Sapper. The Sheepshanks Gallery of the South Kensington Museum under construction around December, 1856. Albumen print. London, Victoria & Albert Museum, Department of Prints and Drawings. Courtesy of the Board of Trustees of the Victoria & Albert Museum.

tedly seen the large display of photographs. He was also supervising the photographic campaign of Charles Thurston Thompson and Robert Bingham to record not only the exhibition but also the collections of the Louvre.

Cole was approached at the exhibition and asked whether he might be willing to support the purchase of the collection of decorative arts of M. Jules Soulages of Toulouse. Herbert Minton, the head of the famous china factory, showed Cole some photographs of the collection and on 4th October, 1855, Cole went to Toulouse to inspect the collection, taking Thurston Thompson with him.³¹ Who commissioned or took the photographs which Minton showed Cole is unknown though it is an interesting early example of photography being used to procure the sale of works of art.³² Thurston Thompson probably took photographs of the Soulages collection in situ during his two days in Toulouse and exhibited some of these in January 1856 at the exhibition of the Photographic Society of London.

The Soulages collection was eventually purchased and individual items were photographed by Thurston Thompson. Cole noted that catalogues and photographs should be sent to each subscriber, which may have been in the form of a copy of the special photographically illustrated edition of J.C. Robinson's catalogue to the collection.³³

1856 was a year of formalization within the Department of Science and Art and personal experimentation for Cole. In January he travelled to Southampton and visited Colonel Henry James (1803-77), who in 1854 had been made Director-General of the Ordnance Survey and was later to reproduce many of the nation's historical manuscripts through the Photozincographic process. Their discussion led to an agreement whereby sappers from Chatham would be taught photography at South Kensington.³⁴ Later in the month Cole "passed estimates for photographing". In July he visited the British Museum to examine the photographic room and discussed the official terms whereby Thurston Thompson would make negatives and positives. A little more than a week later the Department of Science and Art authorized the establishment of a Department of Photography and appointed Charles Thurston Thompson as Superintendent. In November Cole was drafting the instructions for the official photographer and in early December was discussing the arrangements with Thompson.

On a personal level, Cole was photographing throughout that year. The results of his endeavours partially survive in the form of a photograph album which is now in the Victoria & Albert

Museum.³⁵ Throughout the summer months Cole regularly undertook photography in and around Shere in Surrey, where he was in the process of buying a cottage. Indeed his diary shows that he measured and photographed the cottage prior to purchasing it.³⁶ He also photographed in Boulogne in February; at St. Michael's Mount, Penzance in March and then at the military camp in Boulogne; and in Liverpool, Bangor and Carnarvon in June. Even on holiday in the small village of Shere Cole could not get away from photography, for he recorded visiting an exhibition of photographs at the School Room in October.³⁷ However, Cole's photographic exploits in 1856 do not seem to have been pursued in later years and no other album of his photographs is known to exist.

From the mid-1850s South Kensington must have seemed to visitors and residents alike to be one perpetual building site as the Museum complex was constructed. The progress was recorded in numerous photographs, primarily taken by the Royal Engineers, which are now to be found in the Museum's Guard Books. However, within the Museum, photography was also being applied in diverse ways; to record temporary exhibitions, the growing collections and supply photographs for the Circulating Collection which disseminate images of museum objects to the provincial Schools of Art.

The use of photographs by the Schools of Art was being cultivated by the Department of Science and Art by at least 1855 and the Circulating Collection which loaned prints, drawings, casts and photographs. Cole frequently selected the objects for photography and by the late 1860s he was discussing with Joseph Cundall the possibility of class photographs for the Schools of Art to include a variety of subjects from all over the World. In 1867 the Department of Science and Art ordered Thurston Thompson "to take views of new modern architectural works in Paris, on a scale to be useful to schools of art." In 1869 one hundred sets of Cundall's Woodburytypes of Indian architecture were ordered.³⁸ Cole took a great interest in the proposals for an Indian museum and on several occasions referred to examining "Indian photographs". In 1868 Cole was being encouraged to increase the collection of Indian photographs by the architectural historian James Fergusson who had a particular interest in Indian architecture and during the 1860s was involved in the production of several photographically illustrated books on Indian architecture. By the end of the 1850s, and the departure of Roger Fenton from the British Museum, Henry Cole was attempting to significantly increase his power base by centralizing all photography in the national Lon-



(?) Charles Thurston Thompson. Art Gallery, Architectural 24 April, 1862. Dilke Album. Albumen print. London, Victoria & Albert Museum, Department of Prints and Drawings. Courtesy of the Board of Trustees of the Victoria & Albert Museum.

don museums and galleries at the South Kensington Museum. However, he was to an extent the victim of his own success. The Department of Science and Art had to cease selling photographs in March 1863 because supply could not meet the demand and furthermore the commercial photographic trade complained that the Department's photographs were sold at little above cost, a price against which no commercial photographer could compete.³⁹

Cole regularly travelled abroad and often purchased photographs for the collection held in the Museum's library as did other members of the museums staff. Always on the look out for suitable subject matter Cole, while on a trip to Dublin, visited the Library of Trinity College and examined the late 8th century illuminated manuscript the Book of Kells which he noted in his diary "should be photographed."⁴⁰ He also met photographers and even had occasion to keep in touch with current developments in Europe. In London in July 1866 he met and, on a subsequent occasion, dined with the Roman photographer Pietro Dovizielli (1804-1885).⁴¹ While in Madrid, in April 1870, he twice mentioned in his diary that had he visited the photographer J. Laurent.⁴²

Examining photographs, in a similar way to prints, was also an activity which Cole regularly undertook, either by himself or in the company of friends. Perceiving that international exchange agreements were an important means of increas-

ing the Museum's collections of casts, reproductions and photographs of foreign works of art Cole vigorously promoted this concept during the early 1860s. The idea reached fruition at the International Exhibition in 1867 in Paris.⁴³ Henry Cole was, as ever, instrumental in the making of this agreement and seems to have personally convinced several members of European royal families visiting the exhibition to approve of the scheme. While in Paris Cole also found time to have his portrait bust taken in François Willème's 'photosculpture' pavilion in the grounds of the Paris exhibition.⁴⁴ The following year Cole sat for Julia Margaret Cameron with seemingly successful results.⁴⁵

The closure of the South Kensington Museum's Department of Photography did not hold Cole back for long. In another important agreement in which he appears to have been the driving force an arrangement was made in 1866 between the Department of Science and Art and the Arundel Society. The Arundel Society had been founded in 1849 with the expressed aim of reproducing the "highest examples of art." Its success had been founded on its production of chromolithographs.⁴⁶ The 1866 agreement made provision for the Arundel Society to act as agents for selling photographs in a shop in the South Kensington Museum. The society also acted as an imprint and produced "under the Sanction of the Science and Art Department" a series of photographically illustrated books. It also produced a series called *Examples of Art Workmanship of Various Ages and Countries* which were "for the Use of Schools of Art and Amateurs." Thus through the Arundel Society Henry Cole was able to continue to exploit photography for both the South Kensington Museum and the Department of Science and Art. However, there were growing concerns over the expense of the Circulating Collection. In January, 1868 Cole stated that he had been in a meeting with Richard Redgrave, his colleague in the Department of Science and Art, who was "hesitating about circulating photographs and examples to Art schools on the sense of expense."⁴⁷

In the same month as this meeting with Redgrave, Charles Thurston Thompson died. Cole undertook many of the necessary arrangements and on Saturday 8th February Thompson's widow, Charlotte came to the Cole household "and resolved to have nothing to do with Photography in future [and] proposed to Richard Thompson that Mrs [Isobel Agnes] Cowper should take up artistic work but not the trade."⁴⁸

Isobel Agnes Cowper is reputed to have been Thurston Thompson's sister and she remained at the museum working as a photographer until the 1890s, some two decades after the retirement of

Henry Cole. Little is known of her life or her work which included photographs destined for reproduction by chromolithography, views of the museum buildings, views of the model for the Museum's extension and records of objects in the Museum's collection. By 1870 reference to the quality of her photography had made its way into the periodical press for in that year the *Art-Journal* referred to "fine photographs" produced from three foot square negatives and printed as Carbon prints.⁴⁹ In 1871 she exhibited in the photographic section of the exhibition held in the Albert Hall, London. Isobel Cowper's career, like those of so many 19th century women photographers, may unfortunately never be fully reconstructed.

In spite of the reduction of the photographic facilities at South Kensington during the 1860s Henry Cole was able to continue his interest in photography through the expanding collection in the Art Library, which by 1880 had registered some 50,000 photographs, and the organisation of the Circulating Collection for the Schools of Art. Even towards the end of his career at the South Kensington Museum he regularly mentioned photography in his diary whether it be as part of his daily schedule at the Museum or on his European trips.

Henry Cole retired in 1873 and died on 18th April 1882 in London. His interest in photography had been profound and his use of the medium for recording and disseminating images of works of art far reaching. Within his lifetime Cole had helped fully institutionalize the medium. The photographic collections he instigated, though dissipated amongst various departments of the Victoria and Albert Museum, remain one of his greatest legacies, a legacy which had fundamental consequences for museum curatorship and the general study of works of art.

Abbreviations:

Victoria & Albert Museum (formerly the South Kensington Museum) (V&A)

Henry Cole Papers, Special Collections, National Art Library, Victoria & Albert Museum (V&A, HCP)

Henry Cole Diaries, Special Collections, National Art Library, Victoria & Albert Museum (V&A, HCD)

Photograph Register of the Victoria & Albert Museum (formerly the South Kensington Museum) (V&A, PR)

Public Record Office, Printed Minutes of the Department of Science and Art (PRO, PDMSA)

Notes

1. The Cole diaries and a collection of his correspondence are in the Special Collections section of the National Art Library, Victoria & Albert Museum, London. The Minutes of the Department of Science and Art for the period from 1852 to 1877 were printed and can be found in two volumes at the Public Record Office, Kew. (PRO, PDMSA)

2. In May 1861 Playfair acknowledged in a letter to the Secretary of the Photographic Society of London the "gross philosophical error" of the classification of photography in the 1862 International Exhibition in a Class entitled "Photographic Apparatus and Photography". This categorization was based on his classification of photography at the 1851 exhibition.

3. Sir Henry Cole *Fifty Years of Public Work*, (ed. Alan S. Cole and Henrietta Cole), George Bell, London 1884. 2 vols. which was completed after his death by two of his children.

4. V&A, HCD Saturday 3rd January, 1857 "S. Kensington. Urged T. Thompson to be married before A. Bond returned to Dublin". Sunday 4th January, 1857 "Th. Thompson came in the evg. & settled to be married on 13th".

5. V&A, HCD 29th April, 2nd May and 20th May 1846. Elizabeth Bonython, who is editing Henry Cole's diaries, has identified Simpson as being possibly either John Simpson, a portrait painter and enamellist or the firm of W.B. Simpson and Sons, wall-paper manufacturers, and later mosaic makers.

6. During the 1860s and 1870s Cundall carried out official photography at the South Kensington Museum for the Circulating Collections and would, towards the end of his life, be employed as the Superintendent of Photography. He also made a catalogue of the photographs in the Art Library of the South Kensington Museum. See Ruari McLean *Joseph Cundall - A Victorian Publisher*, Private Libraries Association, Pinner, 1976. London, Public Record Office, Printed Minutes of the Department of Science and Art 13th November, 1977 "J. Cundall to catalogue collection of photos in National Art Library during his official hours, and without extra cost."

7. *Abstracts of Proceedings and Transactions of the Society of Arts 1844-50*.

8. The four volumes were published in the early autumn of 1852.

9. For an account of this project see N.B. Keeler "Illustrating the 'Reports by the Juries' of the Great Exhibition of 1851; Talbot, Henneman, and Their Failed Commission", *History of Photo-*

graphy, Volume 6, Number 3, July 1982 pp.257-272. See also R. Brettell, N. Keeler, S.M. Kilgore 'The Calotype as Print Medium' in *Paper and Light - The Calotype in France and Great Britain, 1839-1870* ed. R.R. Brettell et al., Boston: D.R. Godine, 1984 pp.47-63.

10. V&A, HCP, 55.BB (Box 1) Part II end.

11. *ibid.* 15th July, 1851.

12. There was a photographer by the name of Robert Ellis who wrote a letter to the Athenæum on his application of "the art of photography to some interesting geological examinations" which was published in the issue of the 22nd February No.1217 1851 pp.224-5.

13. V&A, HCP, 55.BB (Box 1) Part II end.

14. Hugh Owen (1804-1881) an amateur photographer from Bristol who, since he was not being paid by the Executive Committee, was not breaking Talbot's patent.

15. V&A, HCP, 55.BB (Box 1) Part II end.

16. The artist William Dyce was responsible for designing the headings of the certificates which were issued to successful exhibitors. There were two, one for prize winners and council medals, the other for exhibitors. See Marcia Pointon *William Dyce 1806-1864 - A Critical Biography*, Clarendon Press, Oxford, 1979 pp.123-24 and Ills. 135 and 137.

17. Victoria & Albert Museum, Henry Cole Papers, Correspondence, 55.BB Part II End, p.276. Letter from Grey to Cole dated 22nd March, 1858.

18. V&A, HCD Saturday 13th September and Friday 7th November, 1851.

19. *ibid.* 10th March, 1852. This meant that Thompson would visit Bingham's studio in rue Royale in Versailles. Bingham had been commissioned to produce some of the prints from the negatives taken for the Reports and wrote to Cole regarding the varnishing of photographs with Gelatine. London, Victoria & Albert Museum, Henry Cole Papers, 55.BB. Part II End.

20. See Roy Flukinger "The Calotype and the Photographic Exhibition of the Society of Arts, London, 1852-53" *The Formative Decades - Photography in Great Britain 1839-19*, University of Texas Press, Austin, 1985 pp.64-78.

21. V&A, HCD Tuesday 13th and Thursday 29th July, 1852. Cole's 1852 diary records that he purchased for 2s. 6d. a copy of Robert Bingham's treatise on photography.

22. The first official exhibition catalogue contained only three hundred and ninety-seven entries for the seven hundred and seventy-four photographs.

23. These included "Specimens from the

Museum at Marlboro' House" and "Part of the Cellini Shield deposited in Marlboro' House by Her Majesty"; respectively catalogue numbers 248 and 254. (first edition)

24. PRO, PMDSA (A.165) 9th May 1853.

25. V&A, HCD Sunday 3rd July, 1853 and Public Records Office, Printed Minutes of the Department of Science and Art 3rd August, 1853 (A.227). Some of these photographs can be found in the first volume of the Guard Books in the Photo Sales Section, V & A. Gernsheim includes A series of Photographs of Decorative Furniture in the Royal and other Collections, exhibited at Gore House as being published in 1853 in his *Incunabula* (no.26) though it unclear whether this publication ever appeared as a commercial venture. The minutes of the Department of Science and Art recorded that "Photographs of Cabinet work &c. at Gore House and Museum, arrangement for cost, circulation & copy to each exhibitor." PRO, PMDSA. 9th May, 1853 (A.165).

26. PRO, PMDSA ED 28.1 Minutes 1852-53, Document 227.

27. For instance John Burley Waring's *Art treasures of the United Kingdom from the Art Treasures Exhibition Manchester*, Day & Son, London, 1858 which was illustrated by lithographs by Bedford. Some of these lithographs were after Bedford's own photographs.

28. V&A, HCD Tuesday 12th September, 1854. "T. Thompson cd. not do the photographs of the Camp."

29. *ibid.* Saturday 22nd March - Tuesday 25th March, 1856.

30. PRO, PMDSA 16th February 1852 - 1st July 1863 (D.68) (S) 16th June 1855.

31. Sir Henry Cole *Fifty Years of Public Work*, Vol.1, p.0. The diary of Henry Cole for the year 1855, one of the most crucial in his career, was not included amongst those donated to the South Kensington Museum after his death, perhaps because, in hindsight, it did not show Cole in a glowing light. Herbert Minton (1793-1858), the china manufacturer from Stoke-on-Trent perhaps became aware of the utility of photography at the 1851 Great Exhibition at which his porcelain and parian had been officially photographed and used to illustrate Volume III of the Reports by the Juries.

32. Another example took place 1859-60 when the Italian collector Ottavio Gigli visited England, bringing with him a photographic album of his collection of Italian Renaissance sculpture. This collection was eventually purchased and the Gigli Collection was accompanied by a photographic album with letterpress descriptions by Migliarini,

the Keeper of the Florence Gallery. It is not known whether these two albums were one and the same. See the introduction to John Charles Robinson *Italian Sculpture of the Middle Ages and Period of the Revival of Art*, Chapman & Hall, London, 1862 pp.xv-xix.

33. V&A, HCD 22nd December, 1856. J.C. Robinson *The Catalogue of the Soulaiges Collection, being a descriptive inventory of a collection of works of decorative art, formerly in the possession of M. Jules Soulaiges of Toulouse, now exhibited to the public at the Museum of Ornamental Art, Marlborough House, December 1856*, Chapman & Hall, London, 1856. Illustrated with ten Albumen prints.

34. *ibid*, Wednesday 16th January, 1856. Cole regarded the Royal Engineers as good disciplined men.

35. See Mark Haworth-Booth "Henry Cole as Photographer" *The V & A Album*, Autumn 1988 pp.38-45.

36. V&A, HCD Sunday 10th February, 1856.

37. *ibid*, Friday 31st October, 1856. Cole noted that 42 people visited the exhibition.

38. PRO, PMDSA 18th February 1869.

39. Between October 1859 and the end of March 1863 the South Kensington Museum sold 35,942 photographs for a total price of £2264 7s. 8d. See 10th Report of the Department of Science and Art, Appendix N, p.145-6. For a discussion of

photography in the British Museum and South Kensington Museum and the general state of the photography of art in England during the 1850s See the House of Commons Select Committee Report on the South Kensington Museum 1860.

40. V&A, HCD 14th October, 1859.

41. V&A, HCD 12th and 16th July, 1866.

42. V&A, HCD 18th & 22nd April 1870.

43. For an account of the background for this Convention for promoting universally Reproductions of Works of Art for the benefit of Museums of all Countries see Sir Henry Cole *Fifty Years of Public Work*, pp.260-261.

44. V&A, HCD 3rd September, 1867.

45. Letter dated 20th May, 1868 from Julia Margaret Cameron to Cole referring to G.F. Watts' comment that her portrait of Cole was "extremely fine." V&A, HCP Correspondence Box 8.

46. See T. Ledger *A Study of The Arundel Society 1848-1897* unpublished M.Phil. Thesis. Oxford, 1978 and Robyn Cooper "The popularization of Renaissance art in Victorian England: the Arundel Society" *Art History*, Volume 1, Number 3, September, 1978 pp.263-2.

47. V&A, HCD 28th January, 1868.

48. *ibid*, 8th February, 1868.

49. *Art-Journal*, December 1870 p.359.

Abstracts

Henry Cole was one of the key figures in the mid-Victorian art world who first came into contact with photography in the mid-1840s. His knowledge of the medium was strengthened by his contact, through the Society of Arts, with pioneering photographers such as Joseph Cundall. Cole played a central role in the Great Exhibition of 1851 and was intimately involved in the production of the photographically illustrated edition of the Reports by the Juries. In 1852 he became the Secretary of Art at the Department of Science and Art and in 1857 the first director of the South Kensington Museum which became his power base. Cole took an active part in all

the photographic arrangements in South Kensington, negotiating with photographers and supervising photography on expeditions such as the large campaign carried out by Charles Thurston Thompson and Bingham in Paris in 1855. He built up the museum's photographic collection and was involved in the setting up of the Circulating Collection of photographs. Frequently Cole spent his evenings examining photographs at his home and he regularly collected photographs while on his continental trips. Such was the success of the South Kensington Museum's Department of Photography that by the early 1860s it was forced to close because supply could not meet

demand. However, Cole helped formulate an agreement with the Arundel Society which acted as the Department of Science and Art's photographic agent. This agreement produced a number of important photographically illustrated books and a series of Art Workmanship volumes which were used by the provincial Schools of Art.

Henry Cole war eine der Schlüsselfiguren in der viktorianischen Kunstwelt, der erst Mitte der 1840ziger in Kontakt mit Photographie kam.

Seine Kenntnis des Mediums wurde durch seinen Kontakt zur Society of Arts und damit

Pionierphotographen, wie Joseph Cundall verstärkt.

Cole spielte eine zentrale Rolle in der Great Exhibition 1851 und war eng in die Produktion der photographisch illustrierten Ausgabe des "reports by the Juries" verwickelt.

1852 wurde er Secretary of Art bei dem Department of Science and Art und 1857 erster Direktor des South Kensington Museum, was seine einflussreiche Stelle wurde.

Cole nahm aktive an den photographischen Arrangement in South Kensington teil, indem er mit Photographen verhandelte und Photographieren überwachte bei Unternehmungen, wie die grosse Kampagne, die 1855 von Charles Thurston Thompson und Bingham in Paris ausgeführt wurde.

Er baute des Museum's Photosammlung auf und war in den Aufbau der "Circulating Collection of Photographs" verwickelt.

Cole verbrachte häufig seine Abende zu Hause beim Studieren von Photographien und sammelte regelmässig Photographien bei seinen Besuchen des Kontinents.

Dies war der Erfolg des Department of Photography

des South Kensington Museum's sodass es in den frühen 1860zern gezwungen war zu schliessen, da die Lieferung nicht der Nachfrage entsprach.

Gleichwohl half Cole eine Übereinstimmung mit der Arundel Society zu formulieren welche als Agent des Department of Science and Art handelte.

Diese Vereinbarung produzierte eine Anzahl von photographisch illustrierten Büchern eine Serie von Kunstwerkbänden, die von örtlichen Kunstschulen benutzt wurden.

Henry Cole, ein personaggio clé dans le monde artistique du milieu de l'époque victorienne, se lança dans la photographie pendant les années 1840. Son contact, par l'intermédiaire de la "Society of Arts", avec des photographes novateurs comme Joseph Cundall approfondit sa connaissance des techniques. Cole joua un rôle central dans la Grande Exposition de 1851 et contribua à la production de l'édition avec photographes de Rapports des Jurés. En 1852 il fut nommé "Secretary of Art" au "Department of Science and Art", et en 1857 il fut le premier adminis-

trateur au musée de South Kensington, un poste dont il se servit pour consolider sa position. Cole prit une part active à tout ce qui concernait la photographie à South Kensington et dirigeait les dispositions pour les expéditions photographiques comme la campagne importante menée par Charles Thurston Thompson et Bingham à Paris en 1855. Il agrandit la collection photographique du musée et joua un rôle dans l'établissement de la "Circulating Collection" des photographies. Chez lui il passait ses soirées à examiner des photographies et il en collectionnait pendant ses séjours à l'étranger. Le succès du Département de la Photographie du musée de South Kensington fut tel que dès le début des années 1860, il subit une fermeture obligée manque de matériaux. Cependant, Cole aida à Formuler un accord avec les membres de la "Arundel Society" qui agiraient comme représentants photographiques pour le "Department of Science and Art". Cet accord a eu pour résultat de nombreux livres importants avec illustrations photographiques et une série de tomes intitulées "Art Workmanship" (sur l'artisanat dans l'art) dont les Ecoles des Beaux Arts en province se servirent.

Computers and the History of Photography

Note from Jenny Wetton Assistant Keeper for Science, Museum of Science and Industry, Liverpool Road Station, Liverpool Road, Castlefield, Manchester, M3 4JP, England Tel 061-832-2244 Fax: 061-833-2184

This museum has a collection of photographic equipment comprising some 800 items. These have been catalogued onto preprinted cards which contain all the basic information about an individual object. Some of this information is fed into a dBASE III Plus database running on a PC computer. The computer is able to search on any of the fields entered into it and a full or brief print-out can be printed from the data found. In order to save 'space' in the memory, codes are

used on some of the entry points. For ease of use, these are decoded into English for the printout which gives a complete record for the object, as entered on the computer. If any members of the ESHP would like to use the database please contact Jenny Wetton.

Bernardo Riego Amézaga of the University of Cantabria has written to report that he has constructed a database named "Cronos" containing spanish bibliographic references to photography. The database is in dBase III Plus and has around 1000 entries. Bernardo Amézaga is keen to be involved in exchange of computer databases on the history of photography. His address is: Bernardo Riego Amézaga, Director, Aula Fotografía, Centro Interfacultativo Universidad de Cantabria, 3 Planta, Avda. Los Castros, 39005 Santander Spain Tel: 942-20-12-76

Book Reviews

JOHNSON, William S. *Nineteenth-Century Photography - An Annotated Bibliography 1839-1879*, Mansell Publishing Limited, London, 1990 pp.962. ISBN 0-7201-2089-6. £90.00

This is the first of two substantial volumes covering photographic bibliography from 1839 till the end of World War I. It contains nearly twenty-one thousand references to books and periodical articles and will undoubtedly be a most welcome tool to photographic historians. By far the largest section is devoted to an "Artist or Author" category which takes up some 719 pages. Short biographical entries preface the references to some well known as well as lesser recognised photographers. These entries are sporadic and idiosyncratic, the biographical sketch of the Venetian Carlo Naya, for instance, being longer than the two bibliographic references under his name.

The remainder of this monumental work is devoted to special topics which include sections on bibliography, prehistory, history by country, organizations and societies and a small three and a half pages on photomechanical reproduction. While these subjects are of fundamental interest to the photographic historian the sections devoted to them, though useful, are far from extensive or authoritative. One reason for this may lie in the problems of producing multiple indexes which in turn depend on the careful structuring of original bibliographic references. This is an obstacle which might be circumvented through electronic publishing media, such as CD-ROM, linked to a computer. A significant number of scientific bibliographies are now being published in this form. In his introduction the author explains his use of an IBM-PC AT computer to produce this bibliography and the camera ready copy which was sent to the publisher. Since the data is already in a computer such a venture is entirely possible and daily becoming more and more desirable and economically viable.

However, given the desktop publishing approach of William Johnson it is surprising that this book still costs £90.00, a price which is to be regretted since it will surely severely limit sales and do little to encourage publishers to produce such valuable research tools. Furthermore the author "regretfully decided to limit the coverage to English language publications", a point not explicitly defined in the book's title. This makes for some rather noticeable gaps, particularly for the entries for non-English speaking photographers/authors, made even more apparent when it is considered that recent "foreign" language publications are frequently referred to and reviewed in English language books, journals and bibliographies.

The entries for this bibliography are for the major part the result of the indexing of almost sixty periodicals. However, there are inconsistencies in that in the case of several periodicals there are several sequential gaps. Since the author lives in the U.S.A. he has covered American periodicals most extensively and this gives the whole work a decidedly American slant, a fact

which is not clearly indicated in the book's title. However, there are some noteworthy new contributions made by the author such as the listing, under photographer's name, of the wood engraved illustrations after photographs which appeared in the *Illustrated London News*, though some might quibble as to whether these are bibliographic references. Nonetheless, it is not always clear in these entries as to what is actually being referred to. For instance two photographs by Henry Peach Robinson, "A Holiday in the Wood" and "Bringing Home the May" were reproduced as wood engravings (*Illustrated London News* 16th March, 1861 and 28th February, 1863) yet Johnson's entries (R382 and R390) simply refer in each case to "1 ill." and make no mention of the process of graphic reproduction used.

These are minor criticism and only taken in the context of the spirit of the author's statement "Be warned, any bibliography I gather will always contain too much information." William Johnson is to be congratulated in producing an important reference work which will be valued by all those interested in the history of 19th century photography. The second volume of this work will now be awaited with eagerness and one might hope that this first volume may spawn even bigger bibliographies for the history of 19th century photography. (AH)

BARCHATOVA, Y., SABUROVA, T., MIROLUBOVA, G., PETROVA, T., NORKUTE, E., SHIPOVA, T. GOLOVINA, A. YUSKIN, A. *A Portrait of Tsarist Russia - Unknown Photographs from the Soviet Archives*, Dirk Nishen Publishing, London, 1990 pp.260. £25.00. (A translation by Michael Robinson from the German edition *Das Russland der Zaren*, Verlag Dirk Nishen, Berlin, 1989)

The history of early Russian photography is comparatively little known. This is primarily a result of the aftermath of the political events of 1917 which dragged on until the advent of glasnost. This book is intended as an introduction to aspects of the history of Russian photography up to and including the 1917 Bolshevik revolution and is based on images from the collections of the Public Library, the Hermitage State Museum, the State Museum for Theatre and Music and State Central Archive of Film and Photographic Documentary in Leningrad, the State History Museum and State Literature Museum in Moscow and the Central State Archive for Russian Film and Photography in Krasnogorsk.

Russia has for centuries been inextricably linked to Western Europe through cultural and political ties. One thesis central to the texts which accompany the illustrations is that of the attempt made by early Russian photographers to create their own photographic identity. Yelena Barchatova, in her introduction to the book, highlights the fact that while during the 1860s Russian photographers received considerable

acclaim for the images they exhibited, such as in Berlin in 1865 and the Paris Exposition Universelle of 1867, they remained comparatively unknown in their motherland. The first Russian exhibition to give photography a special place did not take place until 1882.

There is in this book a wide variety of evocative imagery ranging from portraiture, topographical and city views to social documentation and photojournalism. Though many of the images show direct similarities to contemporary works in Western Europe - the portraits; the street scenes; the social activities of royalty and the nobility - it is the distinctiveness and diversity of indigenous ethnic types which catches the viewer's eye. All these photographs are extremely well reproduced and many are in full colour. The care and quality of reproduction in Nishen publications is becoming one of its hallmarks.

Though many of the photographers mentioned in this book may be comparatively unknown this reflects the cultural isolation brought about by the political events which have taken place in Russia, and latterly the Soviet Union, since the fall of the Romanovs. Hopefully this book will not only mark the beginning of more published research into the history of photography in Russia but that Russian photography and Russian photographers will be permitted to assume their rightful place in the history of 19th century photography. (AH)

SMITH, Graham. *Disciples of Light - Photographs in the Brewster Album*, The J. Paul Getty Museum, Malibu, 1990 pp.170. ISBN 0-89236-158-1 £27.50

The importance and significance of early photographic albums is one which is difficult either to quantify or to qualify. Very few albums from the first decade of photography exist and of these only a handful belonged to an individual as significant as Sir David Brewster or have such a range of important images. Therefore a monograph on this album, which was acquired by the Getty Museum in 1984, is to be welcomed since it contains images which help document the early history of negative-positive paper photography in Britain.

The Brewster album was formed between late 1842 and some time in the 1850s and contains some one hundred and ninety images by at least sixteen photographers mounted on eighty-three leaves. Most of the photographs are salt paper prints from calotype negatives. The photographers include William Henry Fox Talbot, Hill and Adamson, Nicolaas Henneman, Sir John Herschel and Brewster himself. Every photograph has been individually catalogued and appears in a check list at the end of the book. Similarly every photograph is illustrated in colour.

The checklist is preceded by five short chapters which examine Talbot's invention of photography, the introduction of photography into Scotland and the group of early experimental photographers in St. Andrews. These chapters give both background and historical context as well as detailed information on many of the photographs in the Brewster album. Graham Smith has been able to draw together a substantial amount of information which gives a clear impression of the significance of the photographs in the Brewster Album

and the context in which it was compiled. There is considerable emphasis on biographical detail in this book which certainly underlines the prevailing theme of the "overlapping interests and activities of several intellectual and social groups in Victorian Britain." Yet this album holds significant pieces of information about Brewster's own photographic exploits. In particular one might cite his copy photography. At least seven of the images in this album are copy photographs by Brewster after original photographs by Henry Collen, Talbot and Henneman. Little explanation is given to this or to the importance of the reproduction of works of art which, as Talbot mentioned in his published writings, was one of the most important applications of the calotype. Brewster also saw this and while the image on page 163 of the album has been removed the written caption reads "DB. Phot./ From Drawing by Lady Warwick."

This book is an important contribution to the history of the first decade of negative-positive paper photography in Britain. Furthermore it makes available all the images in one of the most important photographic albums ever assembled. Whether we may ever see other albums such as the Tartan Album or the Adamson Album published in a similar way is unclear. What is apparent is that a notable benchmark has been set. (AH)

SCHAAF, Larry J. *Tracings of Light - Sir John Herschel & The Camera Lucida*. The Friends of Photography, San Francisco, 1989, pp.120. ISBN 0.933286-55-4 US\$45.00

Sir John Herschel holds a central position in the early years of photography; not only did he independently achieve one of the earliest photographs but he solved the problem of fixing the image by the use of hyposulphites, the properties of which he had detailed in a paper published in *The Edinburgh Philosophical Magazine* in 1819. It was this intimate knowledge of the requisite chemistry allied to his researches on light, (his *Traité de la lumière* was published in 1829) which enabled Herschel to grasp the concept and practice of photography so soon after its announcement. Yet, not only are there few photographs credited to Herschel but, as the reader will learn from this fascinating book, he preferred to use the Camera Lucida both to record with photographic accuracy and to use the medium of artistic expression.

We are in debt to Larry Schaaf who with characteristic thoroughness and flair places Herschel's use of the Camera Lucida, and his experiments in photography, in context. It is likely that to many of us, the Camera Lucida is one of many inventions illustrated, and often tantalisingly briefly described, in popular journals such as the *Glasgow Mechanics Magazine*. The products of its use have been much more elusive with Captain Basil Hall's, *Forty Etchings, from Sketches made with the Camera Lucida, in North America, in 1827 and 1828* being the best known source of examples. Apparently the Camera Lucida called for a marked degree of drawing ability on the part of the user if it was to be used successfully. Any artists' aid, by definition, is only that and the contribution called for from the user of early photographic apparatus reflects that eternal equation between the artist and his equipment.

In the *Tracings of Light*, published in the sesquicentenary of the announcement of photography, there are 40 plates of Herschel's drawings with the Camera Lucida. The plates are preceded by a 26-page text by Larry Schaaf, together with an introduction by Graham Howe, the Curator of the Graham Nash Collection to which these drawings now belong. We should be grateful to all three for their individual parts in securing this collection and bringing it so admirably to our notice.

Not only can these drawings be enjoyed for their intrinsic quality and interest, but they alert us to the requirement for a sustained examination of the continuum of use of both artists' aids and artists' manuals. The use and dictates of both have been explored with great interest by the art historian; surely there is still a need to reconcile this area of research with the more traditional view of the chronology of photography, thus reflecting that alliance of the arts and sciences of which Herschel was such an outstanding example. (JLW)

RAY, Sidney F. *Applied Photographic Optics: Imaging Systems for Photography, Film and Video*. Focal Press, Sevenoaks, Kent, England, 1988. ISBN 0-240-51226-X

Applied Photographic Optics offers the most extensive treatment of optics and its practical applications to the visual media ever gathered in one source. Significant advances in imaging technology, applied optics and optical production techniques make this book the one up-to-date reference for professional photographers, photographic scientists and engineers, cinematographers, broadcast engineers, videographers, optical engineers and imaging scientists, as well as instructors and their students in film, video and photography programs. It is an excellent acquisition for photohistorians too. Elementary explanations of processes and principles, which make the book widely accessible, are backed up by hundreds of line diagrams, tables, mathematical formulas and references to other sources. The coverage extends from a highly readable explanation of the principles of the theory of optics to a discussion of the different types of photographic, film and video lenses and an examination of the latest innovations in electronic imaging and optical systems. (LR)

PRITCHARD, Michael. *The Photographic Collector: A Cumulated Index 1980-1985*. ALLM Books, Bushey, 1988, pp.22. ISBN 0-9506784-5-7. £6.00.

The Photographic Collector was launched in 1980 when interest in early photographic images and equipment was still strong. At the time it was thought that this interest would continue at the same high level. The market seemed right for a specialist publication dealing with the field of historical publication dealing with the field of historical photographic, photographic history and the collectors market.

In early May of 1986 Bishopgate Press issued a note to subscribers stating "we are ceasing publication of this journal for the present". The note informed subscribers that they would be informed "whenever subsequent

volumes are (to be) published". *The Photographic Collector* throughout its fourteen issues over five years published a wealth of material on photographic images and, to a lesser extent, equipment. The articles included original research, descriptions of material, news reports, auction reports and reprints of some early catalogues.

The Photographic Collector published over 1500 pages of text. No index was produced which has made searching for a particular article, author or subject especially difficult. For those with an interest in the field or active in research the ability to locate information is essential, hence this index.

The present index has been produced by a photographic historian as an aid to research and to facilitate the location of information. Bishopgate Press are not associated with this publication but back copies of *The Photographic Collector* are available from them at Bishopgate Press Ltd., 37, Union Street, London SE1 1SE.

STEVENSON, Sara and Alison D. MORRISON-LOW. *Scottish photography. A bibliography: 1839-1989*. Salvia Books, Edinburgh, 1990. pp.48. ISBN 0-9512533-4-4. £6.95.

There has been an upsurge of interest in Scotland in recent years in the serious practice and study of photography. Degree courses in photography have been established at the art colleges and the history of photography is studied in both colleges and universities. There are now four galleries devoted to showing photography exhibitions in Scotland and the National Galleries of Scotland has a small permanent gallery for its display. *The Portfolio Magazine* and the Scottish Society for the History of Photography's own *Bulletin* are devoted to showing photography seen from a Scottish viewpoint. *The Scottish Arts Council's Photography Working Party Review* (written by Dr. James Lawson, 1989) expresses the opinion that "there has never been a period of practice as distinguished as the present." It is for this reason that Salvia Books has published this excellent bibliography compiled and edited by Sara Stevenson and Alison Morrison-Low both of whom are well known in the history of Scottish photography field. Three indexes have been included (1) Index of Names; (2) Index of Photograph Locations; (3) Index of Technical Terms. (LR)

LYONS, Robert. *Gentlemen Photographers: The Work of Loring Underwood and Wm. Lyman Underwood. Essays by Carol Schloss and Joel Snyder*. The Solio Foundation/Northeastern University Press, Boston, Mass., 1987, pp.107. ISBN 0-940097-01-X. £26.00.

Perhaps in the development of no other branch of human knowledge, amateurs have had such a great influence as in photography. Important inventions new processes and novel techniques came from amateurs, especially in the period before 1900. Far reaching aesthetic movements such as pictorial photography were started and nourished by amateur photographers, amateurs who were often persons of independent

means, free from financial cares. To this group of wealthy amateurs belonged the Underwood brothers. In his introduction, George C. Seybolt calls Wm. Lyman and Loring "individuals of strong character and active imagination." It was not surprising, therefore, that they were attracted by photography and by occupations which corresponded to their individual inclinations. William Lyman became a much appreciated lecturer on natural history, while Loring derived much pleasure from designing garden-landscapes.

Two essays, written by Carol Schloss and Joel Snyder on the lives of the two brothers and the photographic processes they employed help us to understand their motivations and techniques. The Solio Foundation, established in 1984 to develop and administer exhibitions, publications and conservation projects in photography, has done a useful job by making possible the publishing of this beautifully printed book. Especially the duotone plates admirably render the beauty of the landscape views. The book is a worthy addition to any photohistorical library. (L.R.)

TOOMING, Peeter. *Hobedane teekond [The Silver Journey]*, «Valgus», Tallinn, 1990 pp.159

This, the author's eighth book, examines the early history of photography through its processes and cameras. There are many well known examples which are richly mixed with photographs by Estonian photographers.

The book includes tables giving the chronology of the most important negative and positive processes, the history of the Leica camera with a year by year list indicating the announcements of new models together with a separate flow diagram showing their interrelationship. A mini-lexicon of some of the most important individuals in the history of photography, which includes Estonian photographers and inventors, concludes the book. (AH)

FIEDLER, Jeannine (ed.) *Photography at the Bauhaus*, Dirk Nishen Publishing, London, 1990 pp.362. ISBN 1 85378 0413. £50.00

This monumental volume (I have been carrying it round with me for several days, so I speak from experience) is the latest and largest account so far of photography from the Bauhaus. It won't be the last one, partly because of the richness and size of the Bauhaus Archiv and other collections, but mainly because of the continuing fascination with the enormous and extraordinarily varied photographic material produced by the staff and students of a small German art school that lasted little more than a decade, and had such a remarkable impact upon the world.

The book itself, compiled from and by the Bauhaus Archiv in Berlin for a major exhibition of its holdings, is primarily intended as "a kind of working inventory of the extensive photography collection of the Bauhaus Archiv" and a "valuable base for the future research related to the photography of the Bauhaus". The attempt is certainly made to provide a cross section of the many sorts of photographs available, from snapshots of student life and record shots of products and

architecture to experimental work, student exercises, photomontages, photograms (not many of those are included) and photography in graphic and typographic design - over 400 illustrations from the collection of more than 10,000 prints in the Archiv. The researcher is also helped by the quantity of technical and biographical information provided in the appendices (although the same cannot be said of the comparatively short bibliographical section). Publishers rarely, however, produce large and expensive books only for scholars, and there is inevitably a "coffee table" aspect which almost certainly influenced the selection of the illustrations and the general layout.

The other primary purpose of the book, is to "provide a deeper understanding of the history and the theory of photography at the Bauhaus", and it is much less successful in achieving that aim. The text consists of a number of comparatively short essays of varying quality and by a number of different people. Pictures are described, but there is little attempt at analysis or interpretation beyond the rather simplistic one, repeated somewhat too often, that there is no single Bauhaus style. This is obviously true in the sense that work was produced in a wide variety of forms and for very different purposes, but it is also debatable in the sense that many of the student snapshots, for example, or the photographs of architecture show a marked awareness of and continuity with the experimental "new vision" work of the Basic Course and the workshops.

What the written text lacks above all is any attempt to relate the Bauhaus to the outside world. There are occasional references to other art schools of the period (the Vkhutemas in Moscow and the Folkwangschule in Essen, for example), and to Steichen and Rodchenko, to Constructivism and New Objectivity, but no sustained attempt to relate the photography of the Bauhaus to what was going on elsewhere. Much of the importance of the Bauhaus lay in its cosmopolitan receptivity, the astonishing gathering of staff and students from all over Europe who went on to work all over the world. The aesthetic (and political) debates - conflicts - that characterised the turbulent short history of the school are not analyzed and therefore not properly connected to the international upheavals they reflected. It is, I suppose, a characteristic of archives that they tend to be inward looking, but it is particularly unfortunate that the Bauhaus Archiv should be afflicted with a myopia that contrasts so greatly with the world vision of the Bauhaus itself. (DF)

HALLETT, Michael (ed.) *Rewriting Photographic History*, The Article Press, Birmingham Polytechnic, Birmingham, 1990 pp.50. ISBN 1-873352-00-X. £8.00.

This publication is the transactions of a conference held at Birmingham Polytechnic in September 1989 to celebrate the first public announcement of the invention of photography. There are a total of fifteen articles. These included overviews by H.J.P. Arnold ('Never Mind Photography - How About the Historiography') and Margaret F. Harker ('The History of Photography: Perspectives and Interpretations') Other papers examined lesser-known figures in early photographic

history or pre-history such as Mark Haworth-Booth's 'B.B. Turner: Thoughts of Kempsey Mill' and John L. Wilson 'Voyage to the Penumbra; in Search of the Elusive in Photographic History: Towards a Portrait of Dr. William Lewis'. Particular themes are also dealt with. Keith Adamson discusses 'Itinerant Photographers' while Ray McKenzie examines 'Problems of Representation in Early Scottish Landscape Photography'.

One of the fundamental problems with all conferences is the limited time given to speakers to present their papers. This can, to some extent, be remedied by published proceedings which can act as a forum for a more expanded discourse. Michael Hallett should be congratulated in producing this account of the papers presented at the 1989 Birmingham conference. However, all the papers are short and can do little more than whet the appetite. For instance Robert Elwell's 'Volumes of Hints, Suggestions and Realities' examines British architects' reactions to the work of Francis Bedford and Bisson Frères during the 1850s and early 1860s and at three and a half pages is the longest article in the publication. Whether such brevity was an editorial policy or not it is a shame. All the authors obviously have much to say that is of interest to the photographic historian and the rewriting of photographic history but their essays seem too often to be abrupt and truncated. Hopefully all the authors will use the appearance of this publication to act as a catalyst to produce more extended accounts of their research or areas of interest. (AH)

JAMES, Thomas H., C. E. Kenneth Mees: *Pioneer of Industrial Research*. Photographic Research Laboratories, Eastman Kodak Company. 1990, pp196. ISBN 0-87985-657-2.

Arguably, much of the success of the Eastman Kodak Company is due to the originality, quality and diversity of its research laboratories. Like other industrialists of his time, George Eastman realised that future prosperity came from a range of new products that the customer wanted to buy. Both product development and long-term research were needed. In 1912 he successfully lured Charles Edward Kenneth Mees away from England to set up from scratch a research laboratory in Rochester, New York. Mees had studied the photographic process systematically, following on from the pioneering work of Hurter and Driffield and was working as a photographic chemist for the firm of Wratten and Wainright in Croydon, who manufactured filters and dry plates. Part of the severance deal was that the Croydon company was purchased by Eastman and to this day is remembered in the Wratten range of filters. With him, Mees took his associates Samuel Sheppard and John Crabtree. Mees worked for Eastman Kodak until 1955, and in his active retirement began an autobiography covering the hectic years until 1912, but completed no more. The author discovered this manuscript after Mees' death in 1960 and having worked with him for decades felt able to produce this affectionate outline of a pioneer of industrial research, which was a passion of Mees. The book is full of useful historical technological detail and extracts from Mees'

writings and lectures, for he was prolific in both. Interesting details are given too of the progressive fortunes of the Research laboratory. Scarcely had it been established when World War I intervened and Mees became involved in instruction courses for military personnel in photography. More established when World War II involved America, Mees then took up US citizenship to become more involved in activities concerning the evaluation and supply of equipment and materials. Between the wars the foundation work was begun. In 1920 he anticipated advances in X ray photography, motion picture photography, photo-engraving, aerial photography and colour photography and had products ready for industrial use. Particularly notable is his responsibility for the additive Kodacolor 16 mm cine process and the later work of Mannes and Godowsky leading to Kodachrome. But he also expanded activities, such as setting up a separate emulsion research laboratory and laboratories in England and France. He tried always to meet George Eastman's demands which included the hiring of Rudolph Kingslake and Frances Hamer from England to work on lenses and sensitising dyes respectively. Apparently, Mees and Eastman had an excellent relationship of mutual respect and Eastman backed Mees financially even in the hard times of the depression. His instinct was well founded for solutions to photographic problems inevitably led to new and profitable areas of research for other industries. For example, vacuum pumps developed to dry an anti-halation backing on plates led to the molecular still, useful in vitamin research. Whilst an active photochemist, Mees had an abiding passion for the organisation of industrial research, 'the yeast of business' and he lectured widely to organisations on his fruitful experiences. His publications numbered many hundreds, including many books, but perhaps his best known work is the seminal *Theory of the Photographic Process* first published in 1942 and in several editions since. He maintained strong links with England and the Royal Photographic Society, being the recipient of the Hurter and Driffield Medal in 1924, the Progress medal in 1912 and again in 1952. Mees was among other things, a Director of Eastman Kodak and a Trustee of Eastman House. Loss of a leg in 1951 did little to slow him down and in retirement continued to work and pursue his hobby of astronomy. This book is welcome as one of a very few on personalities of photographic science and full of interesting detail, but almost nowhere is there any criticism of the man nor any detail of the turbulent and controversial times that must have accompanied the formation of a major industrial organisation dedicated to business while underpinned by soundness of its product base. That story is yet to emerge. (SFR)

MORT, J., *The Anatomy of Xerography: Its invention and evolution*. McFarland & Co. Inc., Box 611, Jefferson, North Carolina 28640, 1989, pp224, \$29.95. ISBN 0-89950-442-6.

On October 22, 1938 in Astoria, New York, the inventor Chester Carlson produced the first copy of an original document by a new imaging technology later called xerography, from xeros (dry) and graphein (drawing). After a slow start, this major innovation in information

technology went on to become a huge commercial success and an essential tool for most endeavours. Indeed the revolutionary Xerox 914 office copier of 1959 was arguably one of the most successful business products ever made and many are still in use. The modern plain paper office copier using xerography seems superficially a simple machine because of its necessary user friendliness but internally many advanced and complex technological systems are employed. This book details these and how interlocking advances in science and invention contributed to our modern business machines which deal with both images and text. The author, a Fulbright scholar and a research fellow in the Corporate Research Group of Xerox, has documented the progress of xerographic technology and its diversification. Sensibly he has chosen not to avoid explaining the basic science involved and the merging of disparate technologies while highlighting the contribution of Carlson. Commencing with the progress of the understanding of electricity and electronics up to 1938, successive chapters detail Carlson the man, his invention and the development work by Battelle and the Haloid Company. Carlson was a patent agent and no doubt his idea for a simple method for copying a document was inspired by his daily routines among documents and his access to a vast body of knowledge and experimental details. After his first demonstration, a public announcement was not made until its tenth anniversary in 1948 and over another decade passed before the Xerox 914 machine justified the faith of both inventors and investors. A critical factor was the decision to lease products and not to sell them. Full information is given on the essential basic research into an understanding of the photosensitive materials and processes used, particularly amorphous selenium and the later dual layer organic photoreceptors. A whole chapter details the problems of compounding a suitable developer or toner with all the desirable properties. Having established the technology the author then examines current developments. After a brief history of printed information, the critical conjunction in the 1970s is explained of the computer to provide digitally coded information to modulate a laser beam scanning a page to be recorded by xerography. So the laser printer was born, to culminate in modern ideas of document image processing (DIP). Next, matters such as digital copiers, the transmission of data and the ubiquitous FAX are covered plus related items such as the concepts of optical character recognition, plus digital half-tones and memories. The penultimate chapter brings together the various strands of technology in the topic of desk top publishing (DTP) and related networking. Finally there is consideration of the interaction of invention, technology and business together with a look forward. The book has numerous explanatory line diagrams and half-tone illustrations and is very well referenced. The author has succeeded in producing a history of this important imaging technology that is accessible and understandable to most non-technical readers and relates its importance to everyday life. There is almost no coverage in this book of the strife and struggles in the business world that finally led to the dominance of xerography, but the preface notes that the manuscript was reviewed by the legal and public relations departments of the Xerox Corporation before publication. (SR)

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