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# Visual Communication



Volume 9 Number 4 Fall 1983



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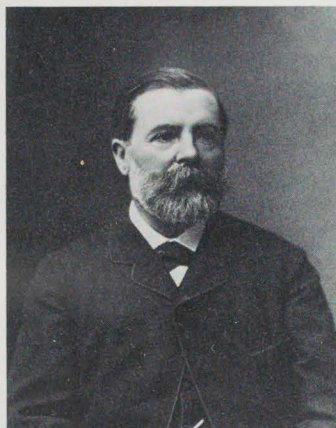
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# Visual Communication



The Photographic Work of E. J. Marey



Clarence H. White Reconsidered



The United States View Company of Richfield, Pennsylvania

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# The Photographic Work of E. J. Marey

Marta Braun

In the nineteenth century, the concept of historical transformation came to dominate the natural sciences. Through the discoveries of geologists, paleontologists, and zoologists, it had been proved that the earth and its inhabitants were not fixed elements in a static order ordained by divine providence. The dimension of time now had to be added to the perspective in which these were viewed. Darwin's *On the Origin of Species* (1859), to take a familiar example, demonstrated that man had a history reaching far beyond what would be accounted for in the Bible, while Lyell's *Principles of Geology* (1830) showed that the history of the earth was a history of continual evolution and change on a hitherto unimagined temporal scale. Nature, then, for the nineteenth-century observer, was no longer perceived as a fixed entity, but as something to be studied as evolving within a continuum of time.

But by the century's close, time was no longer just the container within which the transformation of nature and man occurred. Time itself had become one of the primary objects of scientific investigation. The study of movement, or, to put it more succinctly, the mechanical transcription of movement, played a central part in this investigation. The dissection and recording of the components of human and animal locomotion became a method of stopping time and reducing it to a tangible entity. Translated into images of movement, time became quantifiable in an empirical sense, in the same way that space, translated into linear perspective in the fifteenth century, was thought to be rationalized and made quantifiable. Time, then, was reduced to a measurable system of signs by reducing the language of movement to the method of notation.

The earliest attempts to construct machines that would convert motion into graphs and numbers were synonymous with attempts to forge a new science: physiology. It began in Germany where a group of young scientists, including Helmholtz, Ludwig, and Du Bois Reymond, set out at mid-century to create a kind of organic physics, a new physiology based on quantitative and experimental analyses. In their theoretical framework, organic functions were reducible to physics and chemistry, and as physics and chemistry they could be transformed into visual and mathematical data. Such a transformation required that a mechanical apparatus be substituted for the senses of the observer.

The initial attempts of the Germans were brought to

fruition by Etienne-Jules Marey (1830–1904). Marey was born in Beaune, a town in the Burgundian region of France. He had trained as a doctor in Paris but had the good fortune (extremely rare at the time) to attend lessons in experimental physiology, and it was in this unorthodox field that he decided to make his career. But, although Marey was a French physiologist, he nevertheless found the mechanistic conception of his field, as it was proposed by the Germans, more to his liking than the vagaries of ideas about “vital force” that still held some currency in France. In part, perhaps, this was because Marey was an enormously gifted tinkerer and understood that, within the German framework, physiology could be made into a unique combination of medicine and engineering. To this he dedicated his life, first refining the instruments of his predecessors—sphygmographs and kymographs—and then developing others on his own—odometers, myographs, pneumographs, and so on. These instruments, which he invented to see, touch, and hear for himself as well as mark down what was sensed, were the means by which physiology would become an exact science, the unquestioned equal of all the physical sciences.

Marey's accomplishment, however, lay not only in the invention of instruments and the refinements to those made by others, but in his adaptation of machines used for the most part in other fields and for other purposes. The most stunning example of the latter was his use of the photographic camera. Marey understood that photography, continually modified according to his needs, could be honed into an essential tool for the visualization of motion.

## Marey and Muybridge

In the histories of the photographic investigation of movement, Marey's name is usually coupled with that of Eadweard James Muybridge; they are both known as pioneers in the recording of movement by means of the camera. They were exact contemporaries and may have been responsible for each other's work.<sup>1</sup> Both were involved in the technological or mechanical side of their medium; both investigated the broadest possible spectrum of terrestrial and animal locomotion; the work of both photographers had explosive repercussions in the world of art and science; and finally, although the imagery generated by the two men is different, we connect both their names with the invention of a revolutionary visual language that is still current today.

Perhaps because he was an Anglo-American (and our most widely used history textbooks are written by English-speaking authors), Muybridge is better known than Marey. In fact, Muybridge has been the subject of numerous articles, a successful exhibition, and three full-length monographs (Haas 1976, Hendricks

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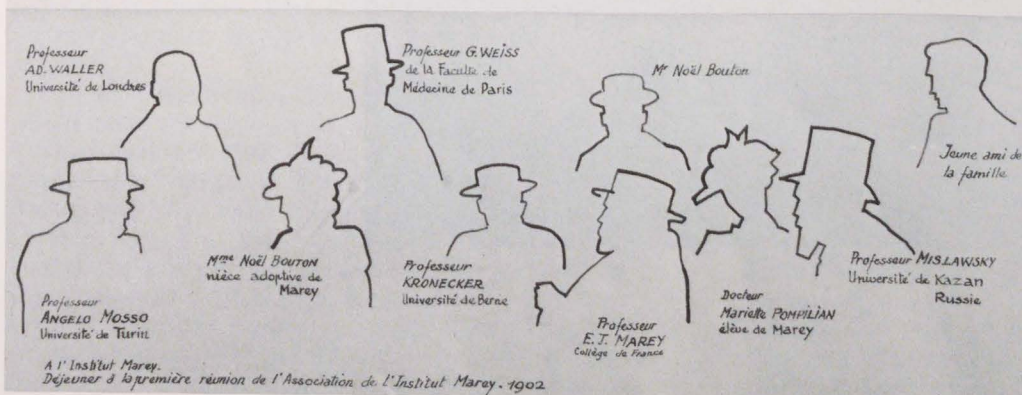


Étienne-Jules Marey (1830–1904). The photograph was probably made in 1869, when Marey was elected to the chair of "Organized Bodies" at the Collège de France. Photograph courtesy of Professor A. Fessard.





Marey surrounded by family, friends, and distinguished colleagues at the first reunion of the founders of the Institut Marey, two years before his death. Photograph courtesy of Professor A. Fessard.





1975, MacDonnell 1972, Mozely 1972). His flamboyant and rather eccentric character (Muybridge is always introduced with the story that he murdered his wife's lover), the connection of his work with Leland Stanford and the early pioneering history of California, and the availability of his prints in a great number of public collections have created a vivid and quasi-legendary historical figure. Marey's photographs have never been available to collectors or museums; they were literally the raw data produced by scientific experiment and as such were kept in his laboratory. Perhaps for this reason his historical picture has always been underdeveloped by comparison. Although he was Professor of Organized Bodies at the Collège de France (France's highest bastion of intellectual achievement), president of the Academy of Medicine, Commander of the Legion of Honor, Esteemed member of the Academy of Sciences, and president of the Institute bearing his name, Marey's life does not seem to be the stuff from which romantic legend is created.

### Marey's Contributions

Marey himself published 281 works, of which 9 were full-length books, yet the only one readily available in English is a translation of *Le mouvement* (1894).<sup>2</sup> His other translated work, *Animal Mechanism* (1874), has long been out of print. No full-length monograph has been devoted to him in any language, and those critical articles that have been written are few compared to the ones on Muybridge. The one recent exhibition of his work, in Paris in 1977, has an excellent catalog and bibliography (Frizot 1977), but it has not been widely available and remains untranslated into English.

Our knowledge of Marey remains limited also because the study of his photography grows out of critical assumptions that accept his technological methodology only as part of a larger teleological history of photographic invention and stress the artistic value of his imagery by detaching it from its original context, which was rooted in positivism and nineteenth-century scientific thought. Thus, no inquiry as to the order in which Marey produced his photographs has seemed necessary.

Until now, the major clues to dating Marey's photographs came from his own illustrated reports of his experiments, which he published in the *Compte-Rendus* of the French Academy of Sciences and in the popular scientific journal *La Nature*. The editor, Gaston Tissandier, was a close friend of Marey's and also was the first to publish Muybridge's instantaneous photographs of running horses in 1878. Marey wrote four books, (Marey 1885, 1890, 1892, 1894) that explained and illustrated his chronophotographic method, but these were written thematically, grouping

together experiments that were often done over a number of years. Also, toward the end of his life (Marey 1899, 1900), Marey rearranged the real chronology of his photographic inventions: in order to provide a logical transition from the fixed plate camera to the film camera, he placed the photographic rifle (which employed a moving plate) between the two in time. Inevitably, some historians have followed his false lead.

Given the comparative obscurity into which Marey and his work have fallen, it was understandably exciting when nearly all his original negatives came to light in January 1979. This was an extraordinary discovery, because at last it became possible to work out a definitive chronological account of Marey's photographic experiments.

### Chronology of Marey's Experiments

All the records of Marey's nonphotographic research into locomotion, as well as his photographic instruments, negatives, prints, and documents, were originally housed in the "Station Physiologique," the physiological station in the Bois de Boulogne on the edge of Paris. This laboratory, created for him by the Ministry of Public Instruction in 1881 and attached to his chair at the Collège de France, was torn down in 1975<sup>3</sup> to make way for the construction of the Roland Garros tennis stadium (France's answer to Wimbledon). After being cataloged,<sup>4</sup> all the Marey material—except for two volumes of prints and some films<sup>5</sup>—was sent to the Musée des Beaux Arts in Beaune. Only 133 negatives existed among all this material.

In 1979, the tennis stadium was slated for expansion and the last remaining building on the site, the Marey Institute, had to be demolished. The Marey Institute had nothing to do with photography. It was a central bureau for the standardization of physiological instruments constructed in 1902 with international public funding. Like the station, the Institute was built on land rented from the city of Paris. It was given Marey's name because he had led the commission that called for the creation of such an institute and of course because he was the preeminent figure in the field of physiological instrumentation in the nineteenth century.

### The Materials

It was under the roof of this building that five wooden crates were found by the wreckers. They contained the manuscripts of his books, the receipts for every purchase made at the physiological station until 1902, a box of films (not by Marey), 550 glass diapositives that he used in his lectures at the Collège, and 1,500



glass plate negatives. Obviously these crates had been taken from the station and hidden at the Institute, although no one knows when or why. The crates were removed to the offices of Professor Albert Fessard in the Collège de France. A neurophysiologist who pioneered the first work in encephalography in the thirties, Fessard also had been the last director of the Institute. He had a lifelong interest in Marey and had been responsible for the dispersion of the material from the station in 1975. It was with his help that I began to classify the material which had been discovered and to catalog the negatives,<sup>6</sup> which involved printing them all.<sup>7</sup> At this point, almost by accident, another, smaller group of Marey's negatives came to light. They were in storage at the Photothèque of Paris, but their provenance was obscure and they had never been cataloged.<sup>8</sup> These were classified according to the system that was set up at the Collège and printed.<sup>9</sup>

### The Negatives

The first group of negatives to be identified was a numbered series of 13 × 18 cm. plates. These are enlargements, made by projection, of the shot that Marey considered the best of each experiment, and the source of all the prints that we know to have been made at the station from 1882 to 1889. The whole series originally must have consisted of 463, which is the number of the last negative found.<sup>10</sup> Including those 48 negatives sent to Beaune in 1975, 295 of the original series remain intact. Some of the missing negatives, however, were described from existing prints that had been made from them. Since Marey had chosen the illustrations for his books and articles from this series, many of the images were known. Others were less familiar, since the prints made from them were never published. The whole group forms a chronicle of the activities of the station, including the installations, machines, and instruments used and the methods and subjects studied.<sup>11</sup>

The rest of the negatives are of various sizes. They are the actual chronophotographic experiments in the movement of men, animals, and objects. Working on the assumption that this size variation was determined by changes in Marey's apparatus and technique, I was able to establish the progressive modifications Marey made to his cameras and to the set-up at the station as well as to determine the existence of a camera he used from 1886, about which he remained silent.<sup>12</sup> These changes produced at least three major groups of negatives, apart from a group of 23 circular and octagonal plates made with the photographic gun in 1882. These groups, with the dates I have assigned to them, are as follows:

Group 1. 55; 13 × 3 cm. plates made from 1882 to 1883

Group 2. 250; 9 × 6.5 cm. plates made from 1883 to 1886

Group 3. 380; 9 × 12 cm. plates made from 1886 to 1901

There were 55 additional negatives of all four sizes found in August 1983 in the possession of the Cinémathèque in Paris.

### Marey as Photographer

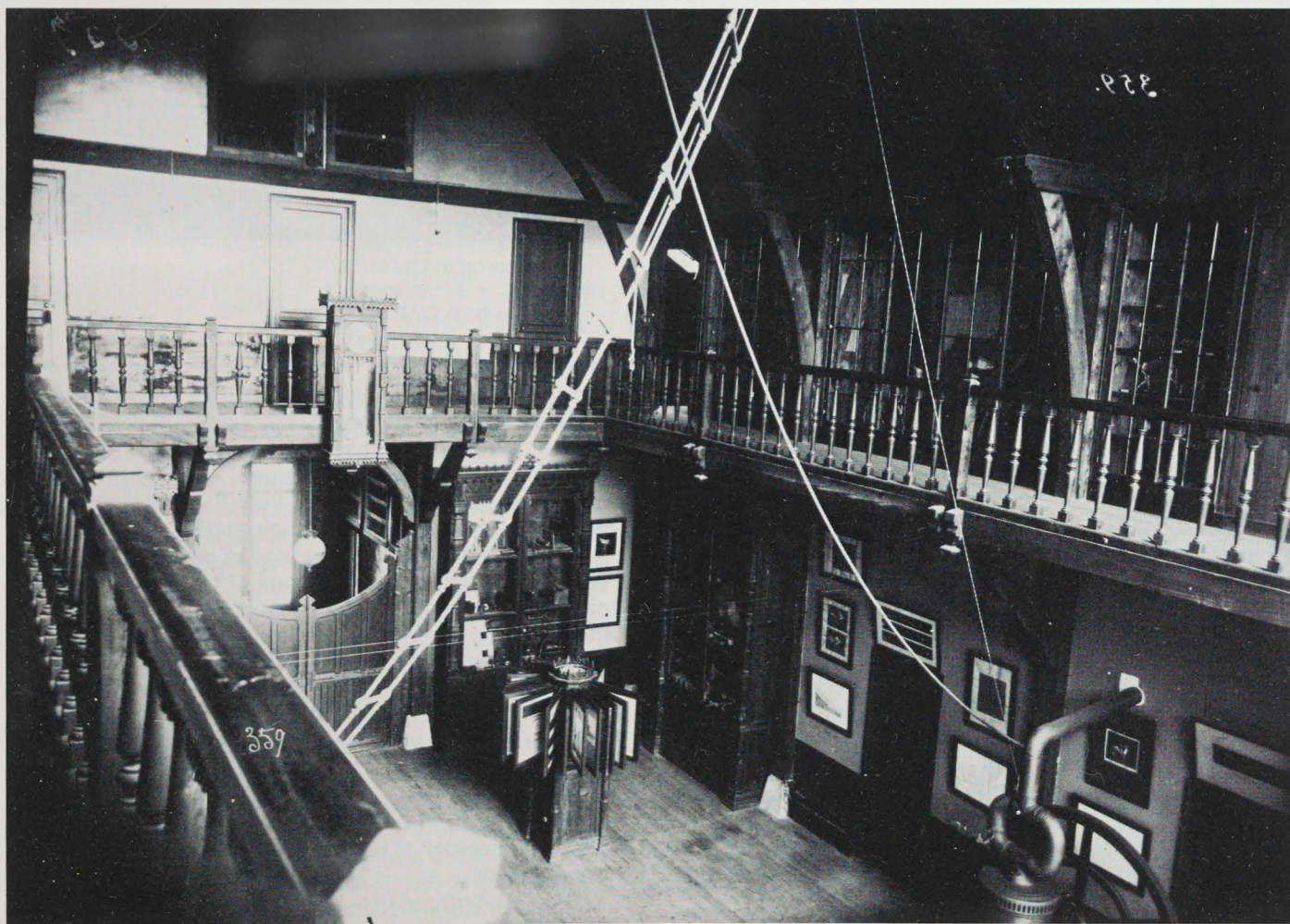
Marey's prephotographic work was predicated on the belief that the machine provided an infallible extension and improvement of the human faculties of observation and representation. Although he had trained to be a doctor, his chosen field was physiology and his contribution to this field was the "Graphic Method": the invention and perfection of machines which themselves gathered the components of movement (imperceptible to the human eye) and translated them into graphic form.<sup>13</sup> This translation of an organic language into a figurative form is the basis of Marey's interest in photography. When he began to make photographs in the early spring of 1882, he was not abandoning his Graphic Method, but simply adding a new machine to it. The camera, which seemed to inscribe in minute detail with absolute precision, left a permanent record without the necessity of laborious handwork. The photographs could be enlarged to life size, and measurements could be taken from the data they furnished. Most important, photography was a method of delineation that did not interfere with the subject's movements and demanded no motive power from the subject.

### The Photographic Gun

Marey's first attempt to construct a photographic machine that would supplant his graphing machines resulted in the photographic gun.<sup>14</sup> Based on a similar machine created by the astronomer Janssen in 1874, the gun incorporated the theoretical basis that Marey saw as absolutely necessary for any photographic analysis of movement: a singular unified viewpoint provided by one camera and one plate. The gun, which incorporated a circular plate moving 12 times per second in front of a lens within its barrel, yielded images that were akin to Muybridge's sequences—12 instantaneous serial photographs.<sup>15</sup> But Marey's subject matter was much more limited than Muybridge's. Of the 24 negatives and 3 positives that were found, 3 are of birds and the rest picture horses and carriages taken from his window in Paris as well as views of waves and rooftops done in Naples. Probably more existed, but not many, for Marey used this gun only until the summer of 1882.

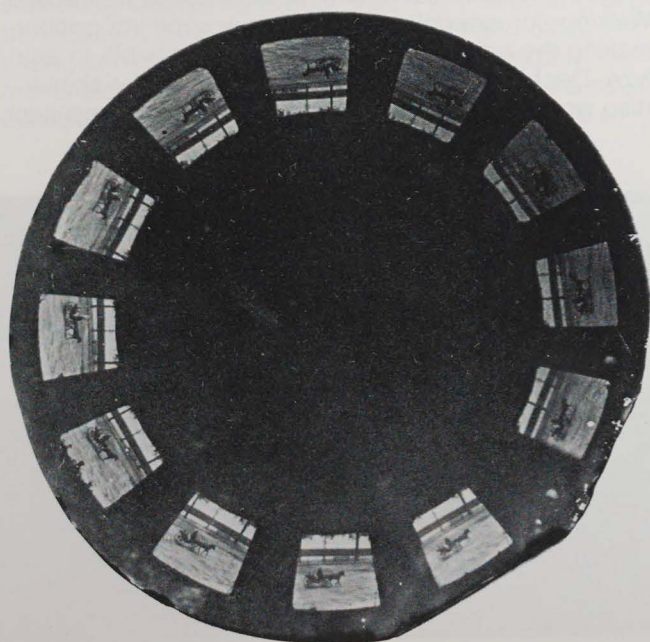
It has been thought (Scharf 1976:64) that Marey



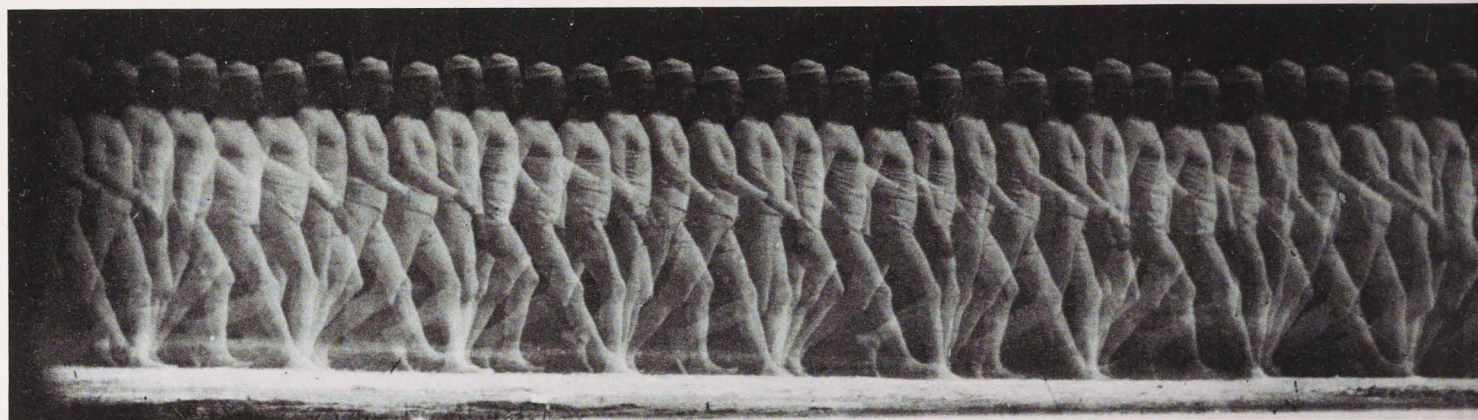


**Figure 1** Interior, Principal Pavillion, Physiological Station (1887). Modern print from original glass plate negative, 13 × 18 cm. Cat. no. IIDd36 (Collège de France).

**Figure 2** Horse and Carriage (1882). Modern print from original glass plate negative made with photographic gun, 7.5 cm. diameter. Cat. no. IVS17 (Collège de France).







perforated these glass discs in order to reanimate them in the phenakistiscope. The mass and weight of these plates would seem to make this notion doubtful. But the stripped emulsions from 6 plates that were found in an envelope with the other negatives may well have been used in this way.<sup>16</sup> The appeal of synthetically recombining the same movement that had been decomposed by the camera was a fundamental one. Whether to control the results obtained by analysis or to furnish a clear demonstration of the phenomena under study, Marey's tendency to synthesize his experiments had been present from his earliest work in cardiology, when he had constructed artificial systems to illustrate each component of an experiment. In a larger sense, Marey, who was strongly influenced in this way by positivist doctrine, believed that the material of a vast synthesis leading to certain all-encompassing and fundamental laws would arise through the isolation, observation, and measurement of the constituent elements of locomotive functions.

### The Single Camera and Elaborations

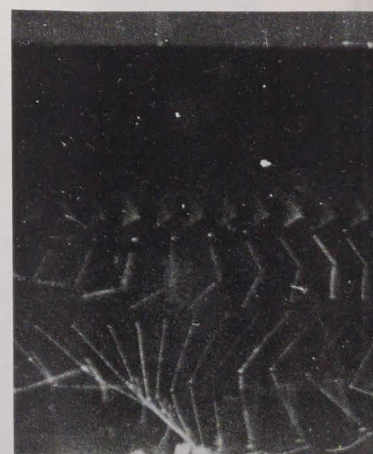
Marey abandoned the photographic gun in the late summer of 1882 for a new photographic system that

provided a kind of synthesis "in vitro": a single camera was constructed that dissected the movement into its component phases and distributed them over the surface of a single fixed plate. The first group of negatives ( $13 \times 3$  cm.) date from this initial phase of what he now called chronophotography. They are mainly of human subjects, but also include studies of horses and birds. In the images of human subjects can be seen both the first try-outs of the method and the gradual resolution of the problems inherent in it. At first, Marey had the subject, dressed all in white, move across a black shed constructed for the purpose. The lens of the camera stayed open while the light was intermittently cut at exact intervals by a slotted disc that revolved from five to ten times per second between the lens and the plate. Thus the motion was registered in equidistant phases, distinctly showing the trajectory of the movement as well as its component parts.

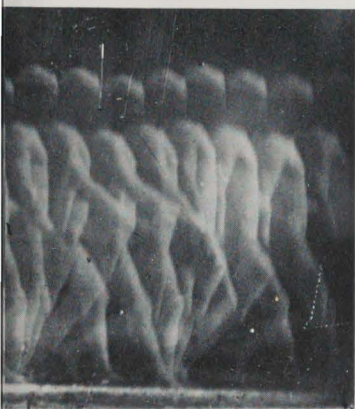
The resulting picture, however, could be confusing when the forward movement of the subject was slow. Walking, for example, caused heavy superimposition, making the articulation of the limbs impossible to analyze. Decreasing the rate of revolutions of the shutter disc would have solved this problem, but the resultant

**Figure 5** Human Locomotion: Run (1883). Modern print made from original glass plate chronophotographic negative,  $13 \times 3$  cm. Cat. no. III Ba15 (Collège de France). The new black shed that Marey had built in the late summer of 1883 was wider and deeper than the one used previously (for Figures 3 and 4), and its back wall was covered with a black velvet curtain 2.50 meters wide. The moving figure

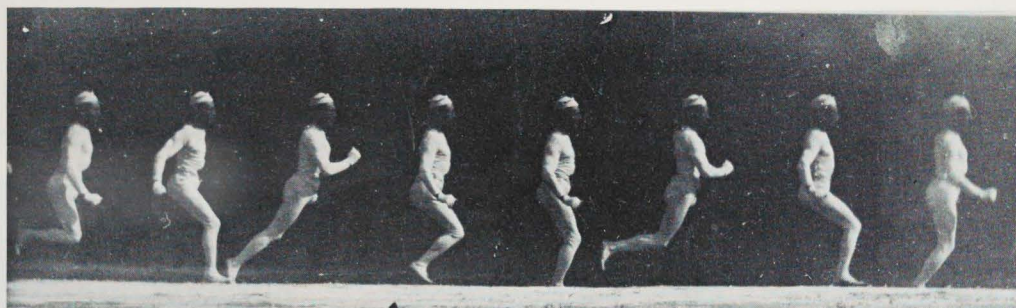
was dressed entirely in black, and thin wooden strips, to which were attached metal buttons, were sewn to the costume.







◀ **Figure 3** Human Locomotion: Walk (1882). Modern print made from original glass plate chronophotographic negative, 13 × 3 cm. Cat. no. IIIBa3 (Collège de France).



▲ **Figure 4** Human Locomotion: Run, Single Leg (1883). Modern print made from original glass plate chronophotographic negative, 13 × 3 cm. Cat. no. IIIBa14 (Collège de France). The subject of

the photograph is Demyeny (as in Figure 3); half of his body is covered in black to diminish the superimposition of the limbs.

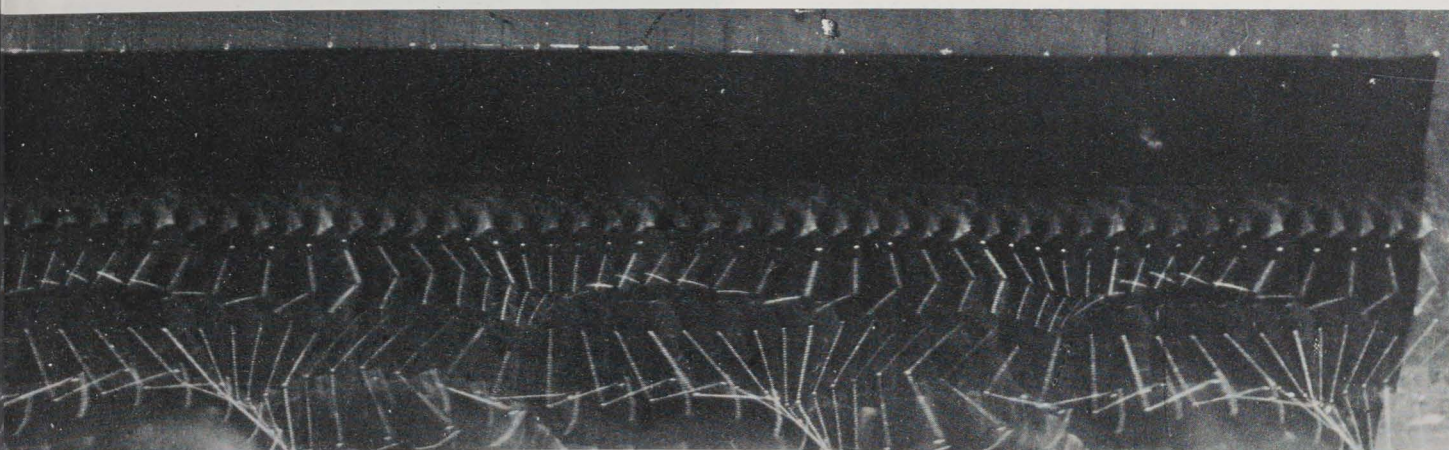
loss of the intermediary phases of the movement would not have been compensated for by the increased visual clarity.

In fact, Marey kept the mechanics of the method intact and began to work on making the subject itself provide the necessary clarity by devising a method of photographing movement in its own right, detached from the performer. He did this by removing those parts of the figure that would detract from clarity. The first step in this process was to dress the figure half in black and half in white, obliterating the distracting parts. Then, because the limbs were still unclear, he reduced the figure to a combination of lines by clothing it all in black and placing strips of wood studded with metal buttons along the legs and arms. The subject was thus, in the literal sense, transformed into a graphic notation.

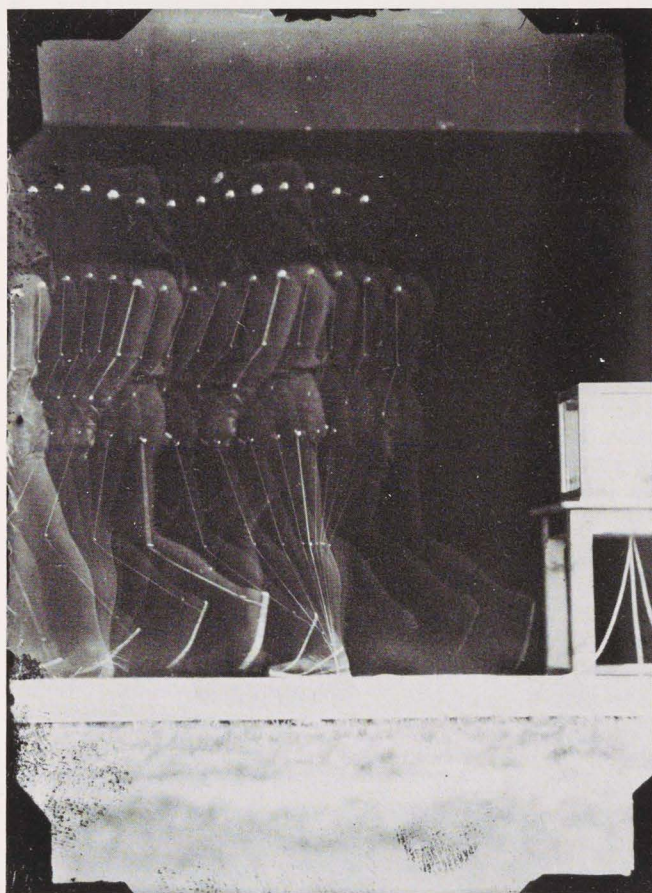
By the end of the following summer (1883) Marey had also built a new black shed. It was wider and deeper than the first and a black velvet backdrop was hung against its interior wall.<sup>17</sup> The second group of negatives (9 × 6.5 cm.) reflects this and other changes made the following year. For the experiments begun in the spring of 1884, Marey had a new camera constructed, which was incorporated into a

wagon. The wagon was set on a rail perpendicular to the black hangar so that the distance from the camera to the subject could be varied. The shutter disc was larger than before—1.10 m. in diameter—and was placed just behind the lens housing. Interchangeable discs with from one to ten slots were made for this camera, and the fifth or tenth slot was larger than the others so that demarcation lines could be inscribed automatically on the negative. The squarer negatives made during this and the following two years are sharper; often the number of slots in the disc shutter and the number of revolutions it made per second are inscribed on the emulsion.

Marey's subject matter now included ballistics: the trajectories of balls and sticks as well as the vibrations of rods were photographed, and he continued to experiment with birds, horses, and, of course, men. Among the men are soldiers from the École de Joinville, the French military academy. They mark Marey's longstanding work with the Ministry of War, where his investigations were used to improve training methods in the army. Marey also photographed his assistants: François Franck, who would take over his chair at the Collège de France upon his death, and Georges Demyeny, Marey's chief aide, whose ac-

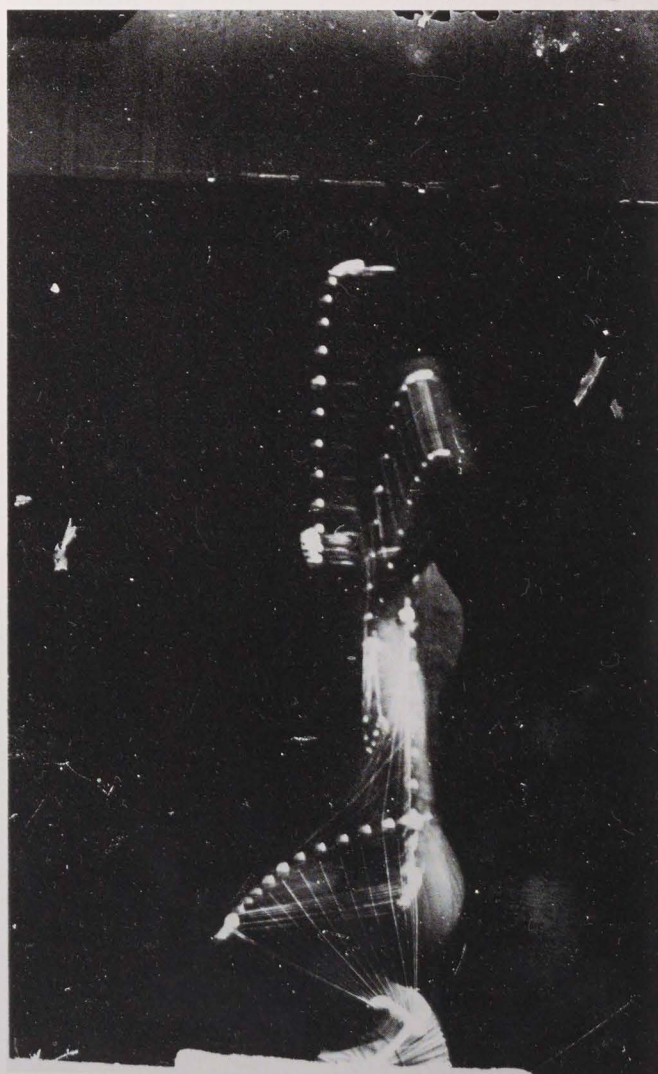




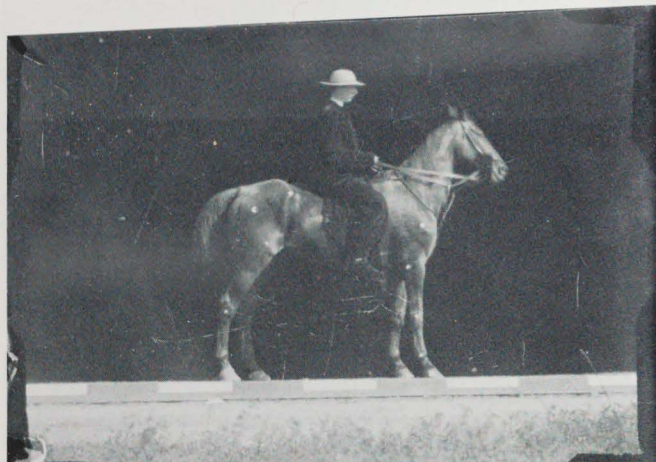


**Figure 6** Human Locomotion: Walk (1884). Modern print from original glass plate chronophotographic negative,  $9 \times 6.5$  cm. Cat. no. IIIBc14 (Collège de France). The metal bands and buttons are now sewn directly onto the costume, and a hood has been added to cover the head. The fifth slot of the shutter disc is wider than the other four, so that every fifth line and button stands out. The subject, again, is Demeny; he is attached to the dynamometer on the right of the picture.

**Figure 7** Human Locomotion: Jumping in Place (September 18, 1884, inscribed on negative). Modern print from original glass plate chronophotographic negative,  $9 \times 6.5$  cm. Cat. no. IIIBd5 (Collège de France).





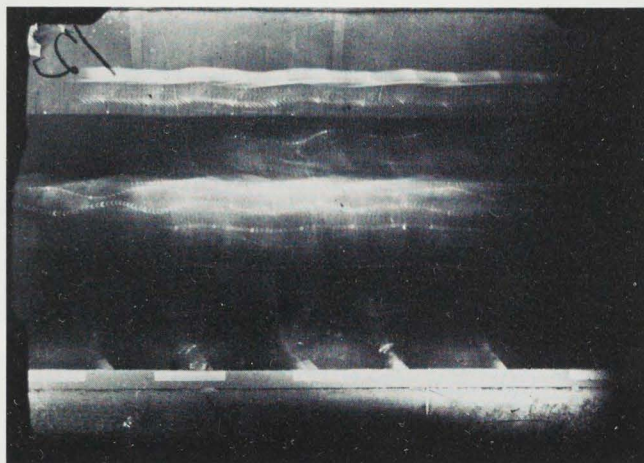


**Figure 8** Horse and Rider (1885). Modern print from original glass plate negative, 9 × 6.5 cm. Cat. no. IIICbD2 (Collège de France).

tivity at the station is described in more detail below.<sup>18</sup> Demeny was responsible for assembling the data produced by the dynamometer, an instrument to measure muscular force, to which the subjects are hooked up in many of these negatives. Another of Demeny's tasks during this period was the compilation of information given by the camera and dynamometer on the amortization of shock in different kinds of jumps and the trajectory of the center of gravity of the body during jumping. The images of these jumpers have never before been seen; they were known to us only through the reproduction of diagrams made from them, which were published in 1885 (Marey and Demeny 1885).

With his photographic study of the gaits of the horse, undertaken during this same period, Marey hoped to verify the accuracy of his nonphotographic work carried out more than ten years earlier (Marey 1873). He had both white and dark animals brought to the station and increased the blackness of the dark horses' coats by painting them with lampblack. Since wooden strips and metal buttons could not be sewn to their coats, he used small bits of paper of varied shapes in order to distinguish their limbs. Elephants as well as horses were treated this way, but because so few negatives of elephants survive, it is probable that they were photographed mainly for the purposes of a comparative analysis. Like the photographs of the jumpers, neither those of the horses nor those of the elephants were considered sufficient unto themselves by Marey—he only published diagrams that were made by hand from the projected negatives.

By July 1886, Marey had begun once again to make changes to his installation. He built a third

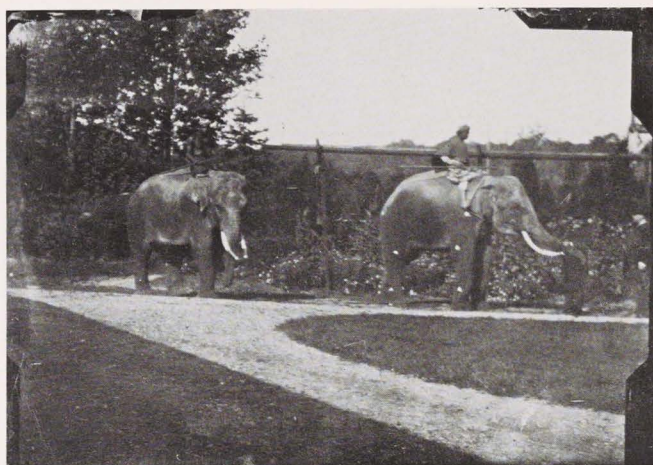


**Figure 8A** Animal Locomotion: Horse, Trot (1885). Modern print from original glass plate chronophotographic negative, 9 × 6.5 cm. Cat. no. IIICbD13 (Collège de France). The horse and rider from Figure 8, in motion.

black shed, making it still deeper, and added vertical and lateral curtains to it that could be used to reduce its dimensions when necessary. A tower was constructed on top of this hangar, built to hold a new camera (which produced a 9 × 12 cm. negative) with which overhead views could be made. These changes can be traced to Marey's ongoing experiments with birds. Marey was obsessed with flight. He believed (inaccurately, as it turned out) that manned flight was indeed possible if the mechanical laws behind the flight of birds could only be ascertained and imitated. His photographic investigations centered on the attempt to capture the trajectory of the bird's wing with the camera, but until this time his attempts had been limited. It was not possible to coat the feathers of the bird and attach papers to its wings; it was difficult enough just to get the bird to fly in a straight line across the black hangar. However, his new camera on the tower enabled him to take his experiments at least one step further. The overhead views it produced could be correlated with lateral views to give an idea of the trajectory of the wing in three dimension.<sup>19</sup> From the information furnished by these photographs, Marey made sculptures in wax and had them cast in bronze. Not intended as works of art, these sculptures stand as yet another mode of synthesis. In 1887, men running and jumping were also photographed from above and again the results were used for sculpture, but after these were made<sup>20</sup> Marey seems to have abandoned the overhead view and the camera was brought down from the tower to replace the one in the mobile wagon.

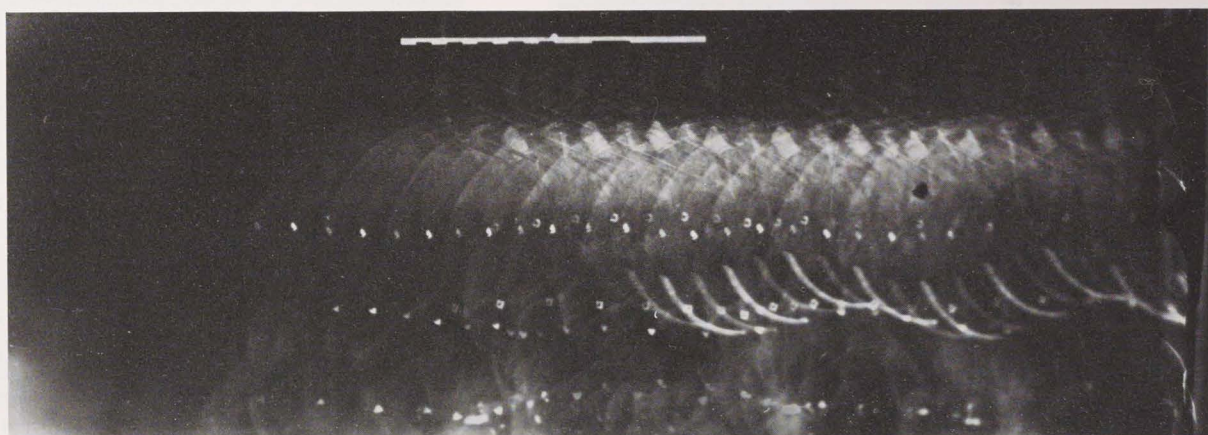
Although he continued to photograph birds throughout 1887,<sup>21</sup> even with all his improvements,





**Figure 9** Elephants at the Physiological Station (1886). Modern print from original glass plate negative,  $9 \times 12.5$  cm. Cat. no. IICh1 (Collège de France). The first elephant has been prepared with white pieces of paper on its joints for chronophotographic study. Marey can be barely made out on the right, holding the elephant's trunk.

▼ **Figure 9A** Animal Locomotion: Elephant, Walk (1886). Modern print from original glass plate chronophotographic negative,  $9 \times 6.5$  cm. Cat. no. IICh9 (Collège de France).



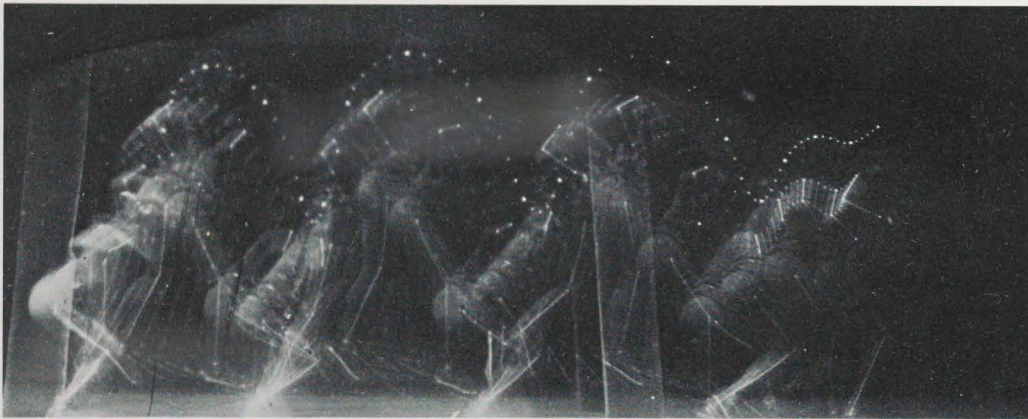
Marey still could not photograph the execution of a movement that displaced only a part of the body in space—for example, a stationary figure waving a hand. As well, only those people or animals that could be made to perform in front of his black hangar could leave their image. Free flight and the movement of wild animals were outside his camera's range. Marey saw his problem. His chronophotography on a fixed plate had reached the limits of what it could do and he needed a new technology, one that would allow him the infinite possibilities of recording unlimited movement. In his search for a solution, Marey devised a camera incorporating an oscillating mirror, which punctuated the exposure by displacing the onward movement of the subject on the plate. With the exception of two negatives in which a man walks and jumps on the spot, the plates that survive from this short-lived method are all of fish and eels—Marey's first foray into aquatic locomotion, done in an aquarium he had constructed for the purposes of photographing its inhabitants.

Attempts to move the plate itself (theoretically by using the photographic gun as the model) were cut short by the advent of sensitized strips of paper on the market in the summer of 1888. These finally resolved his search. He replaced his fixed plate holder

with a bobbin of this paper and constructed a feeding mechanism for the camera that advanced and halted the strips in front of the lens in synchronism with the revolving shutter disc. The first subjects to be filmed with this new cine-camera were, not surprisingly, birds.

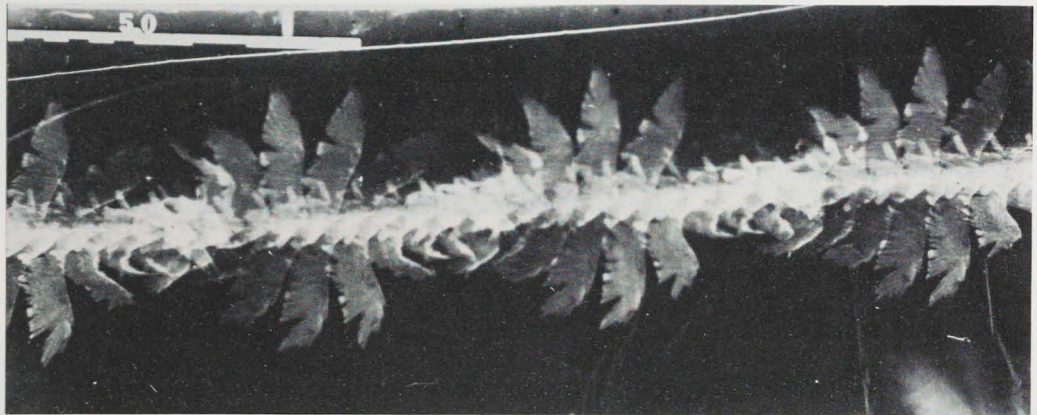
The mechanism that stopped and started the film (at up to 23 times per second) did not do so at equidistant intervals, making synthesis by projection unfeasible at this point. In order to synthesize the movement, Marey cut up the individual images and reattached them to strips, which he then put into a zoetrope. Even the zoetrope, however, could not be relied on entirely. It was too dependent on the subjective sensations of the viewer and was therefore inferior to the fixed plate, which directly delivered the geometric shape of the movement. Thus, while he sought to improve his cine-camera and extend its applications throughout 1889 and 1890, Marey never abandoned his experiments with the fixed plate camera. By 1890 he had developed a "double usage" camera, one that allowed the film rollers and the fixed plate chassis to be used interchangeably. The photographic negatives from this period (group 3 above; i.e., the same size as those done in the previous four years) benefited from the new shutter system created





**Figure 10** Human Locomotion: Repeated Jump (1886). Modern print from original glass plate chronophotographic negative,  $9 \times 6.5$  cm. Cat. no. IIIBf4(2) (Collège de France). The vertical poles visible in the images dating from 1886 are the supports for the new shed and tower which Marey had built in July 1886.

**Figure 11** Flight of Birds: Gull (1886). Modern print from original glass plate chronophotographic negative,  $9 \times 12$  cm. Cat. no. IIICaA16 (Collège de France). The gull has been photographed from above with a new camera mounted on the tower built this year.



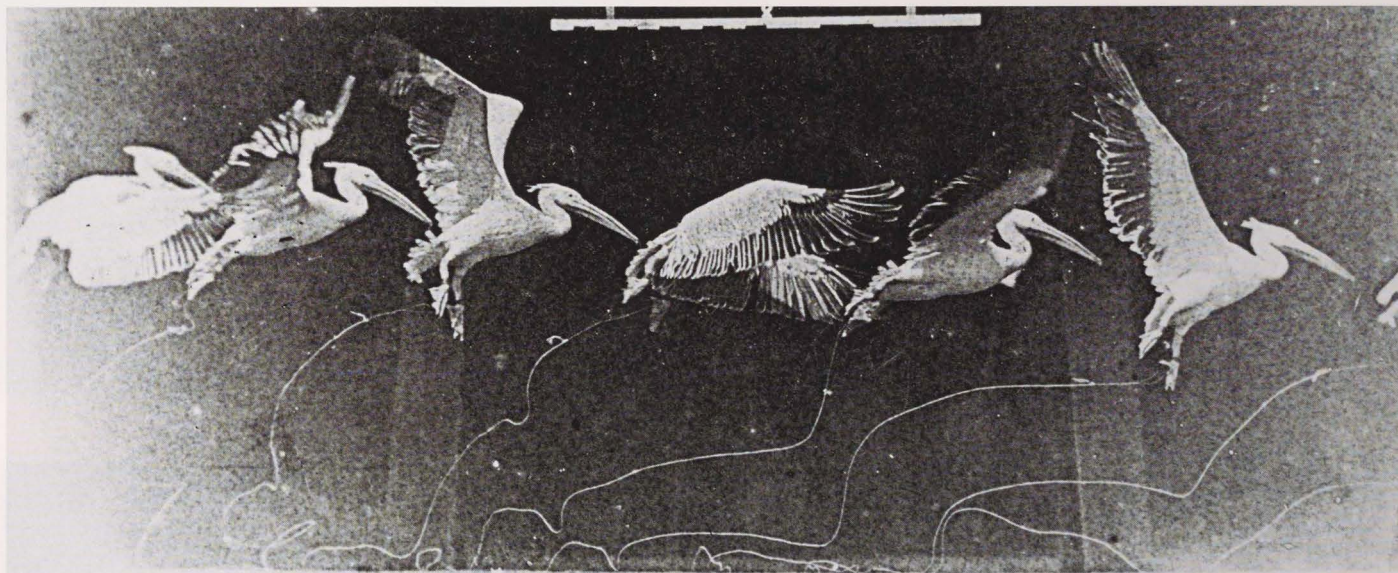
for this double usage camera: a second disc (with one slot), rotating in the opposite direction of the first, was added, and these were now placed directly into the lens housing. The increased clarity and control that this shutter system provided meant that it was no longer necessary to drape the figure entirely in black, and the external form of muscular change in human locomotion was now examined for the first time, in studies of soldiers and athletes (1890–1891), nudes meant for artists (1892), and even the logistics involved in riding a bicycle (1894). The publication of *Le mouvement* in 1893 in France marked the culmination of all the previous work Marey had done in terrestrial, aerial, and aquatic locomotion. After that year, the search for a way of projecting the images made with his film camera seems to have taken up more and more of Marey's time.<sup>22</sup> The last investigations that he undertook with the plate camera, in 1900, however, moved him once again into the world of the inanimate. These were aerodynamic studies, photographs of the disturbances made by projecting planes in a miniature wind tunnel (the first of its kind), and they extended his study of the flight of birds into a study of flight itself. All 71 of the negatives from this work, which contributed so much to the subsequent development of manned flight, survive intact.

## Demény

Although the range of subjects that came before Marey's cameras was inexhaustibly varied, there were also 289 negatives among those found which, I discovered, were not by him and were cataloged apart. They were made by his assistant Georges Demény and were attributed to him either because his special interests determined their subject matter or because they were published under his name alone.

Demény, Marey's closest collaborator from 1882 until 1893 (when they separated bitterly over Demény's patenting of an improvement on Marey's cine-camera),<sup>23</sup> was the executor of Marey's experimental conceptions. He, in fact, was the actual photographer and printer of the images made at the station until 1893. Demény also ran the station alone from October to March every year while Marey was at his winter home in Naples. But Demény also had his own quite specific interests. He wanted to construct a scientific basis for the training of athletes and gymnasts; he was one of the founders of physical education in France. The negatives that were cataloged separately belong exclusively to this subject area and reflect a route of inquiry that was distinct from



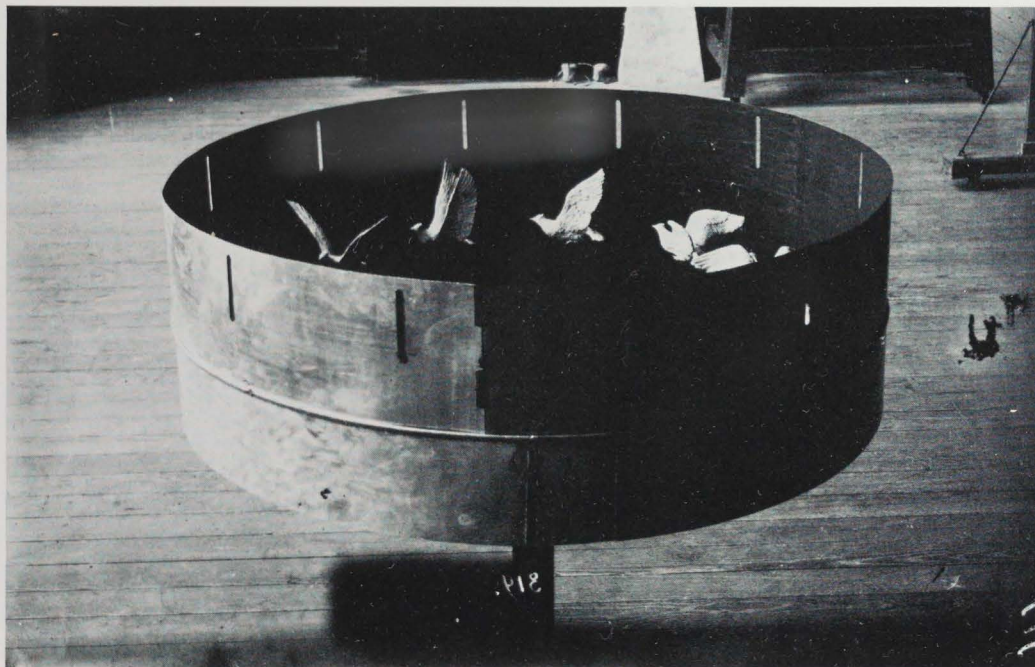


**Figure 12** Flight of Birds: Pelican (1887). Modern print from original glass plate chronophotographic negative, 9 × 12 cm. Cat. no. CaF2 (Collège de France). The strings leading from the pelican's feet are attached to weights in order to secure the direction of the flight.

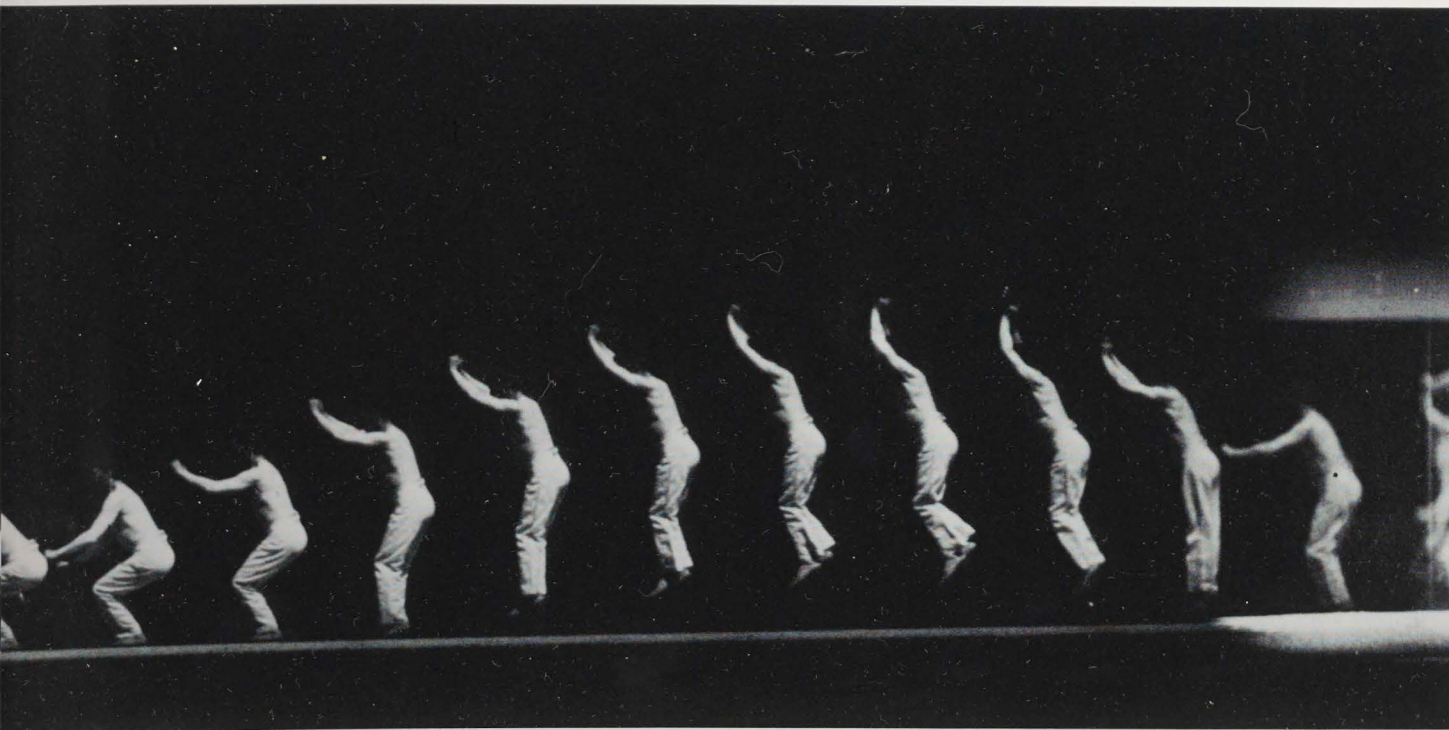
**Figure 13** Human Locomotion: Jumping in Place (1888). Modern print from original glass plate negative, 9 × 12 cm. Cat. no. III Bw2. The chronophotographic disc shutter has been replaced with an oscillating mirror which punctuates and displaces the movement.



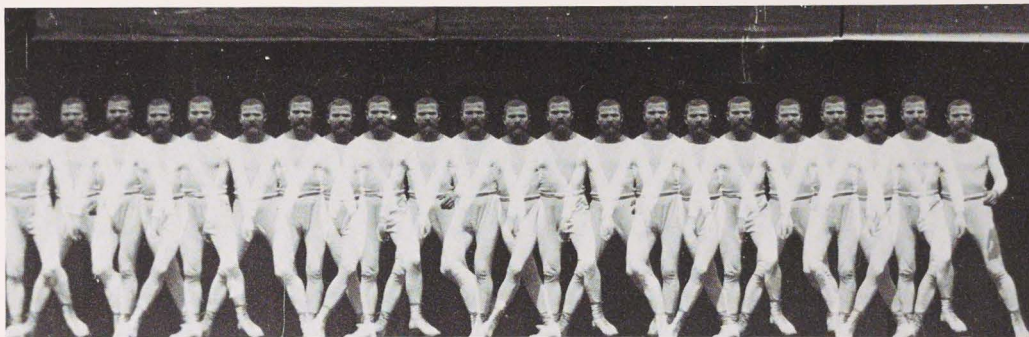




**Figure 12A** Zoetrope, Pigeon (1887). Modern print from original glass plate negative, 13 × 18 cm. Cat. no. IICaB1 (Collège de France). The three-dimensional plaster models were made by Marey from chronophotographs. A working replica of the zoetrope is in the Musée des Beaux Arts, Beaune.







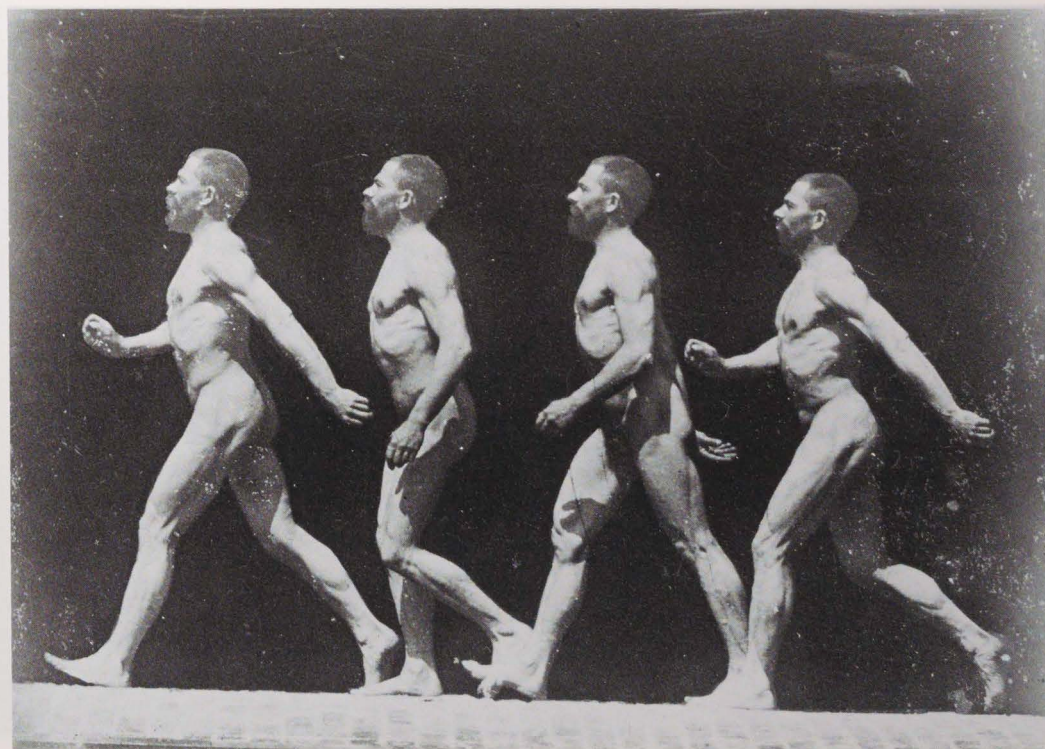
**Figure 14** Human Locomotion: Walking Sideways (1890). Modern print from original glass plate chronophotographic negative,  $9 \times 12$  cm. Cat. no. IIIBj5 (Collège de France).

**Figure 14A** (right) Human Locomotion: Pole Vault (1891). Modern print from original glass plate chronophotographic negative,  $9 \times 12$  cm. Cat. no. IIIBl2 (Collège de France).

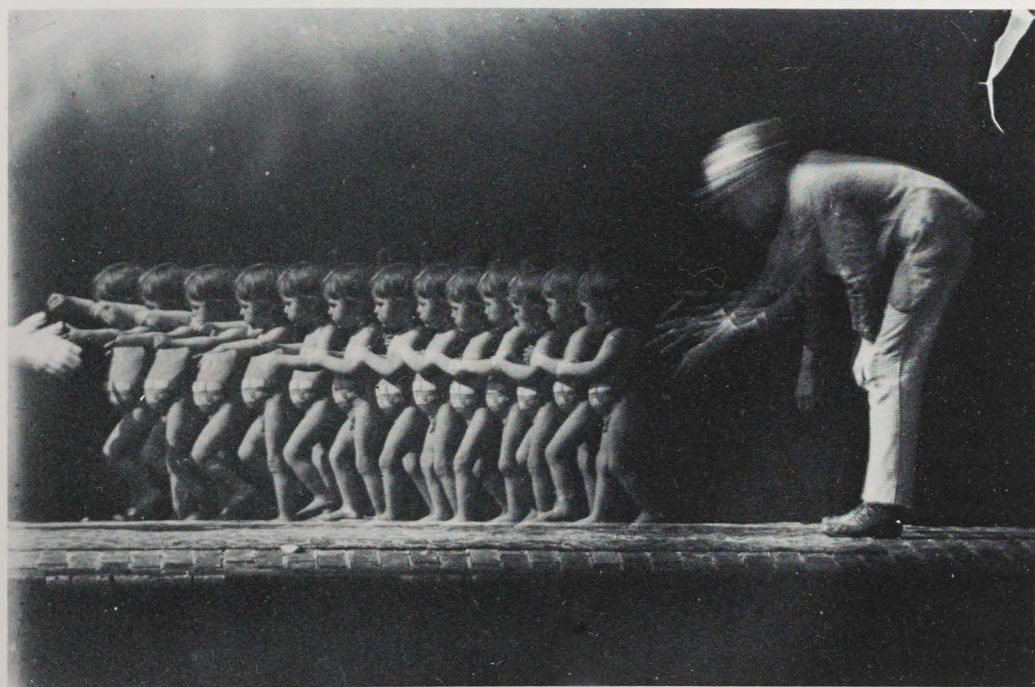
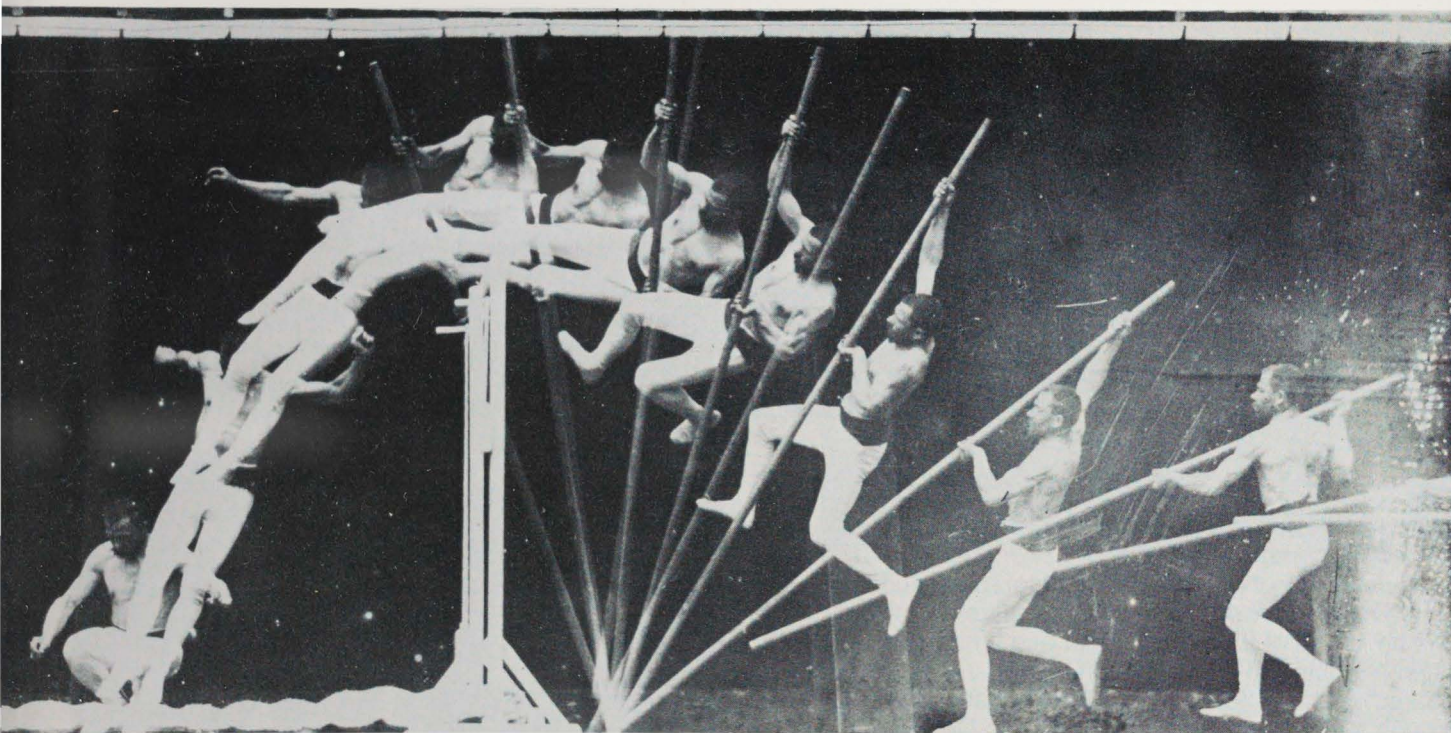


**Figure 15** Human Locomotion: Walk (1892). Modern print from original glass plate chronophotographic negative,  $9 \times 12$  cm. Cat. no. IIIBz2 (Collège de France). This study is from a group of nudes for the use of artists. Others in this group were made on both fixed plates and films with the double usage camera.

**Figure 15A** (far right) Human Locomotion: Walking Child (1892). Modern print from original glass plate chronophotographic negative,  $9 \times 12$  cm. Cat. no. IIIBaa2 (Collège de France). Only two negatives from this session exist; there are no surviving prints, and the study is not mentioned in any of Marey's publications.

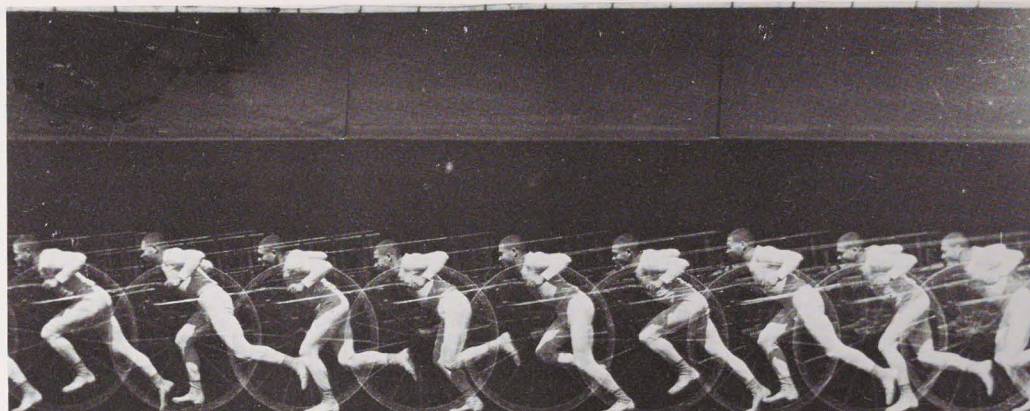








**Figure 16** Human Locomotion: Pushing a Wheelbarrow (1894). Modern print from original glass plate chronophotographic negative, 9 × 12 cm. Cat. no. IIIBaa16 (Cinémathèque Française).



Marey's. They are for the most part instantaneous, not chronophotographic, images.

However, among the chronophotographic studies by Demeny that were found, one deserves comment. It is an image of a lunging fencer and it has always been attributed to Marey<sup>24</sup> even though it first appeared in an article written by Demeny and even though Marey himself had ascribed it to Demeny in *Le mouvement* (p. 179).<sup>25</sup> This picture illustrates the essential difference between Marey's and Demeny's conceptions of portraying motion. Demeny had photographed the figure in such a way as to emphasize only the initial and final form of the movement and to blur the intermediate phases. It is this rendering of the imperceptible as blur that is totally at odds with Marey's endeavors, endeavors that Marey's own negatives demonstrate so clearly. This and other examples of Demeny's activity at the station have still to be investigated thoroughly, as does the very nature of his role there. Now that his negatives have been found, such an inquiry should be made much easier.

## Conclusions

Marey's photographs, like the other products of his graphic method, were made to capture aspects of reality that cannot be perceived with the naked eye. As signs of the unseen inscribing itself, they mark the beginning of the twentieth century's foray into the invisible. To describe all the effects of that foray, however, would mean to construct a new history, one compiled from other histories which, although parallel, are not usually seen as congruent: a history in which Marey is the chief figure. Such an account would perhaps start with the history of cinema, which begins with Marey's chronophotography—the single camera and a slotted disc shutter. The commercialized industry of spectacle that was already in play during his lifetime was, however, not imagined by Marey. His interest was in the recording of what the eye could not grasp, not in the reproduction of what it normally perceived. But high-speed photography and the other scientific applications of film were clearly foreseen by



**Figure 17** Movement of Air Around Inclined Plane (1900–1901). Modern print from original glass plate negative. Cat. no. IIIFa5 (Collège de France.)

him and were already germinating in his laboratory at the time of his death.

The world of scientific history would contribute the maturation of medical technology, which is rooted in Marey's experiments with graphing and photographing machines. Oscilloscopes, electromyographs, and electrocardiographs, to take some examples, are not, of course, conceivable without the prodigious electronic apparatus that is so familiar to us today. But neither would they have been possible without Marey's initial insistence on the dynamic character of the phenomena of life and his belief that machines could be constructed to seize them as they unfolded in time.

The worlds of labor management and aviation would seem to have little in common, but the theories underlying the two are both founded on applications of Marey's research. His method of separating movement from the performer, so that its form as it is described in space could be known, was the starting point for the time-motion studies carried out by Frank





**Figure 19** Georges Demeny. Boxer (1891). Modern print from original glass plate chronophotographic negative, 9 × 12 cm. Cat. no. IIIBaa6D (Collège de France).

**Figure 18** Georges Demeny. Oblique Suspension with Poles (1892). Modern print from original glass plate negative, 13 × 18 cm. Cat. no. IIBb3D (Collège de France).

Gilbreth in the United States in the first part of this century. Gilbreth was a pioneer in the mechanization of labor, making assembly-line production a reality. Marey's system of photographing the movement of a light bulb attached to the limb performing the movement was used by Gilbreth to refine the process of work. When the movements captured by the camera were analyzed, any errors that interfered with speed and productivity could be detected and corrected. Both Marey and Gilbreth studied the body as a machine, but, while Marey aimed to understand the laws governing its functions, Gilbreth studied it to rationalize those same functions and improve their efficiency.

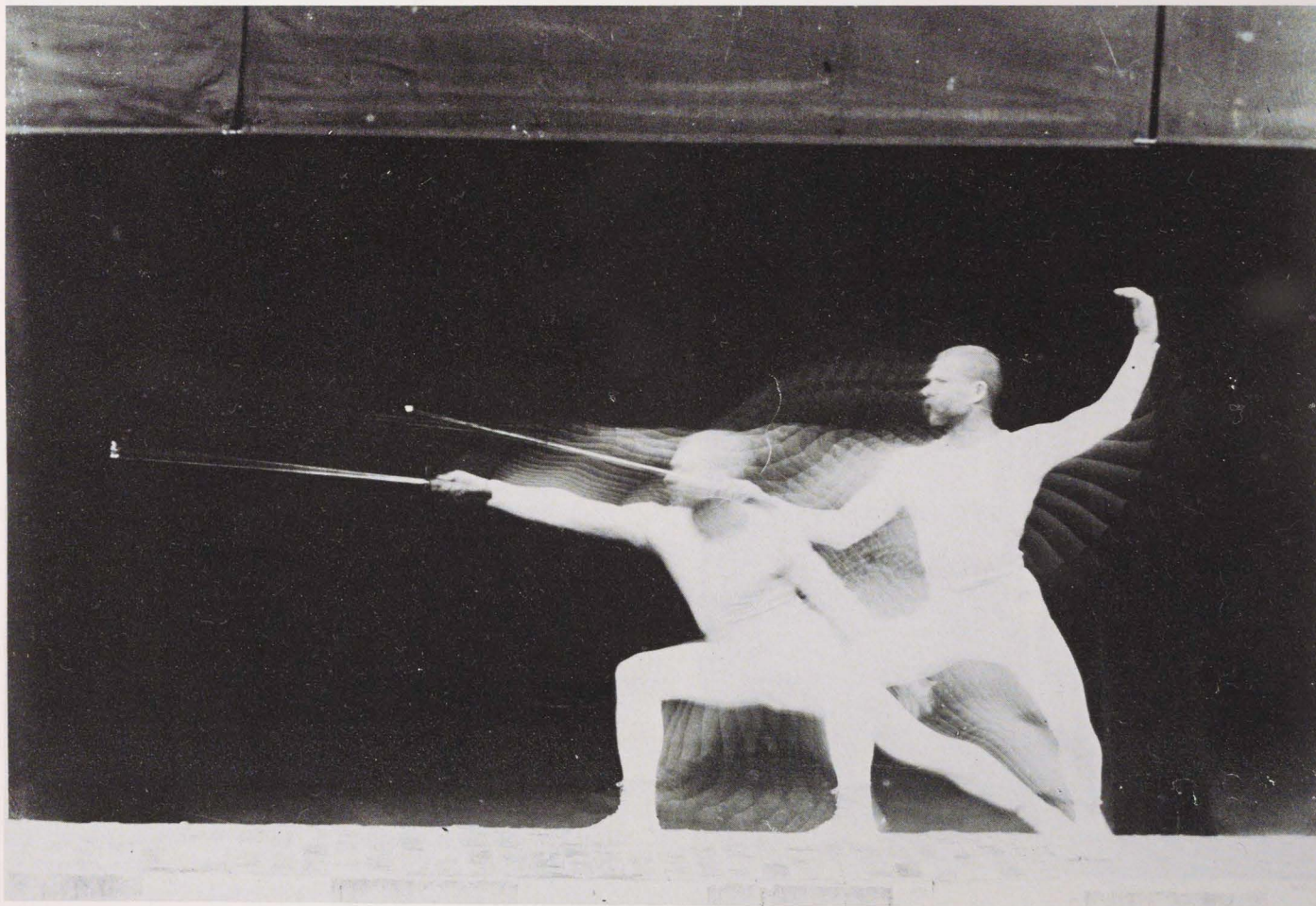
In the field of aviation, Marey's analysis of the flight of birds and his aerodynamic researches provided a common ground for the rationalization of manned flight. The miniature wind tunnel that he had built in 1900 became the model for all subsequent aerodynamic investigations.

While the modern contours of cinema, medical engineering, labor management, and aviation were

being formed by elaborations of Marey's research methods and with extended applications of his chronophotographic analyses, the transformation of artistic perception and depiction was being effected by the images these methods produced. The familiarity of a generation of painters with Marey's photographs and the effects of the photographs on their art have already been described at length (Brun 1975, Crispolti 1972, Giedion 1969, Lista 1980, Rowell 1975, Scharf 1962, 1976). Two distinct methods of approach, however, can be pointed out. For some artists (Duchamp is the best example), Marey's photographs were an acknowledged compendium of figurative imagery that could be directly transposed into painting. In this transposition, the linear repetitive shapes of dissected movement are used as symbols for the interaction of time, space, and matter, and the canvas becomes the locus of their interpenetration.

The Italian Futurist painters also transposed Marey's imagery directly onto their canvases, but they did so while simultaneously denigrating the photo-





**Figure 20** Georges Demeny. Fencer Lunging (1890). Modern print from original glass plate chronophotographic negative, 9 × 12 cm. Cat. no. CAIII Baa2D (Cinémathèque Française).



graphs themselves. Boccioni, who seems clearest in his response, saw his own work as an "intuitive search for the unique form which gives continuity in space." And such a search could not be carried out, he felt, by rendering the "repetition of legs arms and faces as many people have idiotically believed" (Apollonio 1973:93). For Boccioni and his colleagues, Marey's photographs were mere descriptions of movement; they did not *express* the emotional or psychic content of time. Thus, while it is hard to visually distinguish the Futurist descriptions of bodies in motion from Marey's—they both use the same two-dimensional linear repetition of legs, arms, and faces—conceptually, the Futurist program of giving plastic form to the dynamic sensation was created as a negative response to Marey's photographs.

The source of this negation is to be found in the writings of Henri Bergson. For Bergson (and thus for Boccioni, who studied his writing avidly), Marey's images were the perfect demonstration of what reality was not. Bergson denies the fundamental assumption inherent in Marey's methods and manifested in his pictures: that what is real can be made visible and thus known analytically. For Bergson, time, experienced as "duration," is the only reality. And this time cannot be distinguished from its content. It can be neither quantified nor made visible through the depiction of movement. Instead, it is a heterogeneous flux, indivisible and imperceivable by the routes of common consciousness.

Bergson and Marey were colleagues at the Collège de France from 1900 to 1904. They were also part of a group that met to study psychic phenomena, using Marey's instruments to record the manifestation of such phenomena. Bergson never cites Marey or his photographs directly, but it is evident that he was familiar with the work: Marey's imagery forms a recurring metaphor in his writing. He uses it to stand for the futility and incorrectness of all scientific or analytic thought which, "in its futile attempt to reduce time to a series of static moments accessible to separate study, creates fictitious entities, artificially carved out of the dynamic continuity" (Čapek 1971:90).

Bergson's new concept of time (which had its scientific counterpart in Einstein's theoretical considerations of the space-time continuum and was made manifest in literature by Joyce, Stein, Woolf, and the whole stream-of-consciousness movement) simply reframes Marey's work. It becomes the material of closure. That is, it marks the end of an epoch of scientific materialism. It is interesting, however, to see that the visual images Marey first produced, even within a conceptual framework that has proven scientifically and philosophically incomplete, still hold sway today. No other symbolic vocabulary has yet been found to describe movement or, as Marey put it, "the language of life itself."

## Acknowledgment

I would like to thank my colleague Eric Wright as well as Joel Snyder (University of Chicago) and Marx Wartofsky (Baruch College, CUNY) for their patient, unstinting, and invaluable help with this work. I would also like to acknowledge with gratitude the financial assistance of the Social Sciences and Humanities Research Council of Canada.

## Notes

- 1 The exact connection between Marey and Muybridge (and Leland Stanford) is unclear. See Muybridge's letter to Marey in Mozely (1972:117; also 24, 92, and 132n).
- 2 This work was reprinted in the "Literature of Cinema" series by Arno Press in 1972.
- 3 After Marey's death in 1904, the station continued to function as a physiological laboratory under the direction of his students and assistants, and Marey's work continued to be housed there.
- 4 The main component of this inventory (cataloged by Prof. Fessard and by M. B. Marbot of the Bibliothèque Nationale of Paris) was a group of 840 prints—over half of which were duplicates—that had been compiled by personnel at the station into six albums. These albums served as the log books for the station; thus, the prints in them were the only prints made during those years. The prints were contacted from the 13 × 18 cm. negatives described in this article. The albums bore the following titles and dates:
  - I. 1882–1886 Methods and Techniques (present location, Beaune)
  - II. 1882–1886 Methods, Installations and Documents (Beaune)
  - III. 1886 Human Locomotion (Beaune)
  - IV. 1886 Methods and Instruments (Bibliothèque Nationale)
  - V. 1886 Physiological Station (Collège de France)
  - VI. 1887–1889 Various (Beaune)
 Another album, untitled and undated, which remained at the Collège de France, was made by Marey for his personal use and contains the original prints from his earliest attempts with chronophotography as well as prints that document, step by step, the construction of the buildings of the station. The prints are dated from 1882–1883 in his hand. The few negatives that remain from these early essays are discussed below.
- 5 The films were sent to the National Film Archives of France.
- 6 Fessard did not see the catalog completed; he died in February 1982. The negatives, positives, and documents were moved from his office to the archives of the Collège de France, where they remain. Help in the construction of this catalog was given by the archivist of the Collège, Mlle. Christine Delangle.
- 7 The facilities for printing the negatives were kindly provided by M. Sydney Leach at the University of Orsay, Paris, and by Mme. Ida Leach.
- 8 In conversation with M. Pierre Braquemond of the Cinémathèque Française (to which the Photothèque belongs), I was able to ascertain that the negatives had been found on a staircase in the Cinémathèque about 12 years before. No one knows how they arrived there.



- 9 A box of Marey's films was located in the basement of the Cinémathèque at the same time that the negatives came to light at the Photothèque. The films had been given to the Cinémathèque in the fifties by Lucien Bull, a student of Marey's and one of the directors of the Marey Institute. Bull also gave four films to Helmut Gernsheim. These are now housed with the Gernsheim collection at the University of Texas. From a written description sent by Roy Flukinger, curator of the collection, it would seem that one of the Gernsheim films, of a pigeon in flight, is probably the earliest of Marey's extant films. A catalog of all Marey's films will be described in a subsequent article.
- 10 The numbering system appears to be random. Most likely, all the albums noted above were compiled during the period 1886–1889, and the numbers on the negatives refer to the order in which the original experiments were enlarged.
- 11 Eighty-two negatives of the same size were also found. They were not numbered and had never been printed. Many are instantaneous images of graphs and diagrams, and all date from after 1889.
- 12 For a list of Marey's cameras, see Frizot 1977. This camera is reproduced on page 61 of the catalog but is wrongly dated to 1882.
- 13 Marey's graphing machines were constructed around the "Marey Tambour," a pneumatic receptor made of a thin membrane stretched over a drum. The tambour transmitted the vibrations made by the movement of the subject through flexible tubes to a stylus that inscribed the movements onto a revolving smoke-blackened cylinder.
- 14 The photographic gun does not represent Marey's introduction to photography. He had used a camera and collodion plates as early as 1876 to photograph the oscillations of Lippman's electrogalvanometer. See Marey 1876.
- 15 Marey had seen the results of Muybridge's battery-of-cameras system firsthand in the fall of 1881 when Muybridge visited him in Paris. Marey rejected Muybridge's system out of hand as being prone to inaccuracy.
- 16 The gelatine silver bromide emulsion was not perforated, but then it would not need to be. To synthesize the emulsion discs in the phenakistiscope would require placing them behind another disc that was slotted around its circumference and rotating both discs together in opposite directions.
- 17 Seventeen instantaneous negatives of sequential athletic poses were also made in the new shed. These were never mentioned by Marey and it is likely that they were done by Demeny (see below). Prints made from two of these negatives, however, are the last prints in Marey's small album. Two other prints in the same album, also done in 1883, show that Marey experimented with at least two other systems while working with his own chronophotography. Both systems produced disassociated series on a circular plate. The first, a camera mounted by a corona of six lenses, was suggested to him by Albert Londe. Londe was a doctor who used instantaneous photography in the study of medicine at the hospital of La Salpêtrière in Paris. The second system incorporated Marey's own slotted disc shutter, which revolved around a more slowly moving glass plate. There are no existing negatives from either of these methods.
- 18 Franck and Demeny were identified by notations on the negative that also gave the day, month, and year of the experiment. Similar notations were found on four negatives from 1886.
- 19 Muybridge may have been the inspiration for the idea of using more than one camera on the same subject, and Marey had hoped to use three cameras as Muybridge had done. But the expense, so he claimed, was too prohibitive and he used only two. An illustration in *Movement* (Marey 1895:236) shows how three cameras would have been set up if operated simultaneously. Also, the illustration shows a new set-up for the black sheds that were needed for the operation: A second shed is butted perpendicularly to the first in order to accommodate the camera making the oblique views; a velvet-lined trench is dug in front of the first shed for the overhead camera.
- 20 Although Marey himself did the sculptures of the birds (pigeon and gull), he had an academic artist named Engrand do the figures of the men.
- 21 These photographs included ducks for the first time. Gernsheim's date of 1882 for an illustration in his *History of Photography* (1969: plate 248) is therefore too early.
- 22 Marey refused to use sprocket holes and a tooth-and-claw mechanism, which would have been the answer to his problems with equidistance. Even though he knew of Reynaud's 1877 patent for perforated film, Marey wanted to be able to vary the width of his films according to the demands of the subject. So sprocket holes were not a suitable alternative for him. By 1897, Marey had constructed a practicable projector even without using sprocket holes, but the Lumière brothers had given the first public showing of films two years earlier, so that there was no possibility of Marey commercially exploiting his own film system. The complex story of Marey's involvement with the Lumière brothers and with Edison, as well as the contributions Marey made to their work, remains to be told. Marey's place in the history of cinema was the subject of a long polemic in French cinema journals of the 1920s and is briefly described in Hendricks 1961.
- 23 Documentation of this part of Demeny's history is provided by two highly biased accounts, which balance one another: his own (Demeny 1909), and a long diatribe in the *Revue de Jeux Scolaires et d'Hygiène Sociale* (Bouton, Demeny, Marey, et al. 1910).
- 24 Such an attribution was most recently made in the *Art Journal* (Henderson 1981:319).
- 25 Demeny's article with the illustration was published in *La Nature* (1890).



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**Figure 1** Clarence H. White. "In the Orchard, Newark, Ohio," 1902. Platinum print,  $9\frac{3}{8} \times 7\frac{1}{2}$  in. Collection, The Museum of Modern Art, New York. Gift of Jane Felix White.



# Clarence H. White Reconsidered: An Alternative to the Modernist Aesthetic of Straight Photography

Bonnie Yochelson

Clarence H. White (1871–1925) is best known for his turn-of-the-century, soft-focus, lyrical photographs which exemplify the photographic style of pictorialism (Figure 1). White's later career as a teacher of art photography and sponsor of early commercial photography of the 1920s is less appreciated.<sup>1</sup> His best students—Paul Outerbridge, Anton Bruehl, and Ralph Steiner<sup>2</sup>—developed a cubist-derived, art deco style of photography especially suited to the demands of advertising. At first glance it is difficult to see the connection between the gentle idealism of White's works and the hard-edge stylishness of the commercial works of his students. On further examination, however, an underlying artistic philosophy and view of the art-photographer can be discerned in both White and his students. One goal of this article is to elucidate the continuation of pictorialist ideas into the twentieth century.

The second, more theoretical goal is to rephrase the debate between pictorialism and straight photography, viewing the two theories as equally valid artistic alternatives. In 1902 Alfred Stieglitz founded the Photo-Secession, an organization aimed at the promotion of art, or pictorialist, photography. White, a young amateur pictorialist from Newark, Ohio, who had gained national recognition through photographic exhibitions in the late 1890s, moved to New York in 1907 to become a prominent member of the Photo-Secession group. In 1910 Stieglitz and White parted ways, and Stieglitz emerged, along with Paul Strand, in the 1920s as the elder spokesman for straight photography, a theory which favored black-and-white, high-contrast, sharp-focus, "found subject" photographs (Figures 2 and 3). By the 1930s the straight aesthetic was established as the dominant photographic mode; it laid the foundation for the documentary style of the next three decades and formed the theoretical premise for the classic histories of photography by Beaumont Newhall and Helmut Gernsheim.<sup>3</sup> By the straight photography standard, pictorialism was old-fashioned, and White's adherence to pictorialist ideas in the wake of the new approach was considered hopelessly retardataire.<sup>4</sup>

Only recently has the preeminence of straight photography been challenged. Contemporary photographers experimenting with pictorialist devices such as soft focus, manipulated negatives, and handmade papers and with commercial practices such as color, retouching, and studio setups have rejected the doctrine of straight photography. A reconsideration of White's career not only rehabilitates his reputation but sheds light on these developments. Just as White's works and those of his students provide models for commercial and pictorialist techniques, so may his ideas, firmly rooted in pictorialism, suggest a fresh historical and theoretical approach.

## Redirecting Photo-Secession Objectives

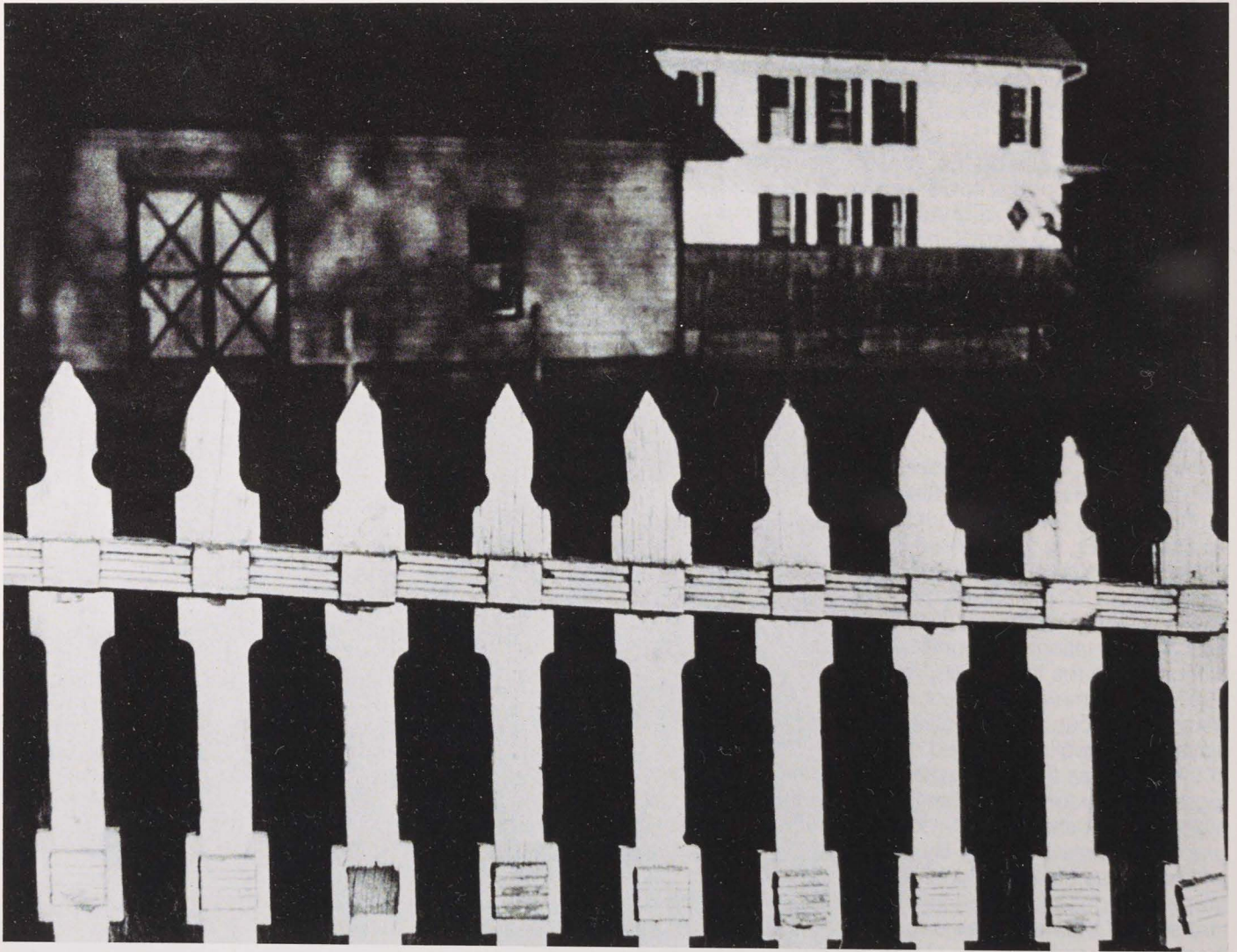
In the course of organizing the exhibition of pictorialist photography at the Albright Art Gallery at Buffalo in 1910, several important members of the Photo-Secession lost confidence in Stieglitz's leadership.<sup>5</sup> These defectors—White, Gertrude Käsebier, Karl Struss, Alvin Langdon Coburn, and the painter Max Weber—grouped together under White's leadership to carry on the cause. Initially modeling their efforts on the Photo-Secession, the group evolved a program very different from Stieglitz's organization. White's own photographic output waned as he concerned himself more and more with the promotion of photography as a fine art. Both Stieglitz and White, from the same Photo-Secession starting point, took gradually diverging paths in the years 1910–1925. Stieglitz's path is well known. White's path, which led to the formation of three interrelated organizations—The Pictorial Photographers of America, The Clarence H. White School of Photography, and the Art Center—deserves more attention.<sup>6</sup>

The White group's first tasks were to find galleries other than Stieglitz's "Little Galleries" to show their work and to publish a fine-art photography journal replacing Stieglitz's *Camera Work*. Several exhibitions of the early teens demonstrate the group's interest in keeping alive the Photo-Secession ambition of showing not only its members' works but the best of contemporary and past photography. In October 1912 an exhibition at the Montross Galleries "illustrating the progress of the art of photography in America" updated the American section of the Buffalo exhibition; sixteen of its thirty-four exhibitors were represented at Buffalo, and it was arranged by Weber, who had hung the Albright show. Two exhibitions at the Ehrich Galleries in 1914 were grander in scope. The first, like the Albright show, was international, including works by Frederick Evans, J. Craig Annan, and Walter Bennington from England, Robert Demachy from France, and Hans Hofmeister from Germany; a young newcomer, Paul Strand, then a soft-focus pictorialist,

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◀ **Figure 2** Paul Strand.  
 "The White Fence."  
 Gravure from *Camera*  
*Work*, no. 49–50, June  
 1917. 6 $\frac{1}{16}$  × 8 $\frac{1}{16}$  in.  
 Collection, The Museum  
 of Modern Art, New York.



**Figure 3** Alfred Stieglitz.  
 "Apples and Gable, Lake  
 George, 1922." Silver, 115  
 × 90 mm. National  
 Gallery of Art,  
 Washington. Alfred  
 Stieglitz Collection.

was also included. Coburn arranged the second Ehrich exhibition, which featured the two nineteenth-century British photographers that the Photo-Secession had recognized as its precursors—D. O. Hill and Julia Margaret Cameron; to them Coburn added Lewis Carroll and Thomas Keith. The Albright Gallery also accepted this exhibition. In 1916 a still more ambitious historical show was arranged, tracing the progress of photography from the daguerreotype onward; it was held at the National Arts Club, where several Photo-Secession exhibitions had been held.<sup>7</sup>

In October 1913 the White Group published *Platinum Print, A Journal of Personal Expression*. Although not as lavish as *Camera Work*, it served the same purposes of providing a forum for debate of photographic issues, publishing the best art photography and publicizing photographic events. Soon renamed *Photo = Graphic Art*, it ran until October 1917, when war made amateur photographic activities difficult. Like *Camera Work*, the new journal published essays on modern art, especially by Max Weber, but unlike *Camera Work* included articles on photographic technique. It was clearly meant to fill the vacuum felt by those pictorialist photographers who lost interest in *Camera Work* after Stieglitz shifted its focus from art photography to modern art.

White's New York group established close contact with the Los Angeles Camera Pictorialists, founded in 1914, which was the precursor of the f64 group. As a result, the works of Imogen Cunningham appeared in the 1914 Ehrich exhibition, and in August 1914 Edward Weston's photographs were published in *Platinum Print*. The journal also announced the photography exhibition of the Pan-Pacific Exposition of

1915 which the Los Angeles group tried unsuccessfully to arrange.<sup>8</sup> In 1917 the New York and California groups formed the strongest chapters of a new national organization, the Pictorial Photographers of America. White was named president and Käsebier, age 65, was chosen a somewhat honorary vice-president. White fared without Coburn, who had moved to England, and without Struss, who had moved to Hollywood. The PPA yearbook<sup>9</sup> replaced *Photo = Graphic Art* and in 1920 became the PPA annual, which appeared in 1920, 1921, 1922, 1926 (a White Memorial), and 1929. The PPA had chapters in seventeen states, and its exhibitions were nationally circulated by the American Federation of the Arts. Admitting both amateurs and professionals, it was an umbrella organization for the local camera clubs from which the Photo-Secession had originally seceded. Open membership was no doubt an effort to resolve the tensions which had arisen in 1910 when the Photo-Secession sought to sponsor the best art photography in the world and at the same time to restrict membership. In these ways, White's group built upon the Photo-Secession model, correcting what it considered the Photo-Secession's defects.

The teaching of photography was an aspect of White's program that was alien to Stieglitz,<sup>10</sup> but one which grew out of White's Photo-Secession contacts. In 1907, the year he arrived in New York, White was appointed the first lecturer on photography as an art at Columbia Teachers College by Arthur Wesley Dow, chairman of the art department. Dow's interest in creating a course in art photography can be traced in part to his own photographic efforts; he was a prize-winning amateur art photographer and used photo-



graphic studies for his paintings (Moffatt 1977:64, 145, n. 198). His choice of White was undoubtedly due to his Photo-Secession friends; Käsebier taught at the Pratt Institute in Brooklyn at the same time as Dow, and Weber and Coburn had been enthusiastic Dow students. In 1908 White also began teaching at the Brooklyn Institute of Arts and Sciences, where monthly PPA exhibitions were later held, and in 1910 he began a summer school course in Maine, probably modeled on Dow's own summer school at Ipswich, Massachusetts.<sup>11</sup>

That White's circle and Dow shared the symbolist tastes for Whistler, the Nabis, and Japanese art has been noted,<sup>12</sup> but the full extent of Dow's influence on White requires elaboration. White became a professional photographer out of economic necessity. Dow not only provided White with a teaching job but with an artistic philosophy which justified and encouraged professional photography. He became White's model as teacher, as promoter of art appreciation for the common man, and as supporter of the application of art to industrial and commercial design. His ideas were a critical factor in reorienting White away from Stieglitz.

White taught photography as a fine art by adapting Dow's book *Composition*. Dow set out design principles, such as opposition, or repetition,<sup>13</sup> gave examples from the history of art, and offered exercises for the student, often asking him to make enlarged copies of the book's examples and then to draw others from nature. In much the same way, White combined specific design problems with general art appreciation in what he called the "project method," defined in a White School brochure as "a definitely graded series of technical and practical problems (which) the student is to perform under individual guidance and direction, . . . supplemented and explained by lectures, demonstrations, print criticism and trips to museums."<sup>14</sup> Specific assignments suggest Dow's technique, such as making a copy of a drawing, painting, photograph, or magazine page in half scale; or making a landscape in horizontal and vertical formats. In this way White stressed both the mastery of photographic technique and the common ground that photographers shared with all graphic artists: the selection and arrangement of perceived data into a two-dimensional pictorial structure.

White also responded to Dow's social aims for art. Dow's attack on traditional academic teaching was not intended to reform the practice of painting but to reform the elitist bias of the traditional fine arts. Inspired by the European arts and crafts movement, Dow hoped his design principles would be applied to utilitarian as well as fine art objects. To this end he drew examples from the history of textiles, furniture, and other decorative arts, and he introduced print-making into his curriculum. In order to reach the

greatest number of people, he focused on the training of art teachers—both Pratt and Columbia Teachers College were technical schools for teachers—and his *Composition* became universal in education schools throughout the country. To the same end, he participated in innumerable art organizations for teachers, professionals, amateurs, and craftspersons, giving lectures, arranging exhibitions, and writing articles.

These aspects of Dow's philosophy—the unity of the arts and the utility of art in daily life—held special appeal for White. By breaking down the division between fine art and decorative art, Dow encouraged White's belief that the photographer could earn his living by his art. It was Dow's inspiration, no doubt, that led to the change in title of the pictorialists' journal from *Platinum Print to Photo = Graphic Art* and to the introduction of a typography column in the latter journal. Dow's belief in mass education and his programmatic zeal were also exemplary for White. White's modest, midwestern origins as well as his populist socialism fostered by his early friendship with Eugene Debs made him especially open to the idea of raising the artistic awareness of the common man. White, like Dow, taught in technical, not liberal arts, schools and joined many art organizations. He was active in the American Institute of Graphic Arts, which incorporated photographs into its exhibitions,<sup>15</sup> and in the Art Alliance, which aimed more generally at uniting art and industry. Both Dow and White addressed amateurs and professionals; their students were potential artists, art teachers, or patrons.

The third facet of White's promotion of art photography was the founding, in New York, in late 1921 of the Art Center at 65 East 56th Street.<sup>16</sup> The center merged seven local arts and crafts organizations: the Art Alliance, the American Institute of Graphic Arts, the PPA, the Society of Illustrators (begun by Charles Dana Gibson), the Art Director's Club (led by Heyworth Campbell of Condé Nast), the New York Society of Craftsmen, and the Stowaways (a social club including members of the other clubs). The goal of the Art Center was the "fusion of beauty and utility," or the bringing together of commercial artists and potential clients. Through exhibitions, lectures, and social events the Art Center hoped to provide a showcase for modern design and to influence public taste. To this end, socially prominent sponsors such as Daniel Chester French, Louis Comfort Tiffany, Charles Scribner, Jr., and Mrs. Harry Payne Whitney helped launch the center. John D. Rockefeller, Jr., provided a three-year salary for the director, Alon Bement, a Dow disciple and photography enthusiast who taught at Columbia and contributed to PPA publications.<sup>17</sup> The PPA held monthly exhibitions which featured older artists such as Käsebier and Arnold Genthe, students such as Laura Gilpin, Doris Ulmann, Paul Outerbridge, and Anton Bruehl; other New York pho-



tographers such as Charles Sheeler and Francis Bruguière; and Californians Edward Weston and William Mortensen.<sup>18</sup> In 1922, 1925, and 1929 the Art Center housed the PPA-sponsored International Salon of Photography.<sup>19</sup> White and his colleagues had clearly found a home.

### The Divergent Aesthetics of White and Stieglitz

During the teens White became an increasingly public figure, and Stieglitz became increasingly private.<sup>20</sup> Stieglitz's public appearances to photographers were sporadic: in 1913, concurrent with the Armory Show, he showed his own works at "291," and in 1916 he showed Strand's; both exhibitions were duly announced in *Platinum Print*. Stieglitz's 1920s exhibitions at the Anderson Galleries were received as the return of the master after a long absence.<sup>21</sup> White, meanwhile, became a father figure for young photographers with artistic aspirations. White's style of leadership, however, could not have been more different from Stieglitz's. Stieglitz was an artistic "bolshevik" and immense ego who sought leadership of a revolutionary vanguard, first in photography with the Photo-Secession, then in painting with Steichen's guidance, and later still in photography with Strand in the late teens and twenties. He would never deign to teach photographic art, which for him was fundamentally irreducible and spiritual. And he assumed a patriarchal stance with his artists, controlling the patronage of their works.<sup>22</sup> By contrast, White was an artistic "democrat" who lacked both Stieglitz's charisma and ego. His approach was self-effacing, flexible, permissive, and practical. Like Stieglitz, he held firmly to a belief in the spiritual core of art, but unlike Stieglitz, he tried to isolate the teachable aspect of photographic art. He was an endless source of encouragement and support<sup>23</sup> and helped his best students by finding them jobs; he appointed Outerbridge and Bruehl teachers at his school, and he arranged Ralph Steiner's first job working for the photogravure company which had produced *Camera Work*.

Although rooted in the same Photo-Secession source, Stieglitz's and White's aesthetic beliefs—their understanding of pictorialism, straight photography, and modern art—grew increasingly incompatible. For the Photo-Secession, pictorialism did not mean a particular style but rather the practice of photography as a fine art and as a means of personal expression. Such was the meaning of pictorialism used by Stieglitz in the title of the Buffalo exhibition,<sup>24</sup> and the meaning that White continued to accept when the PPA was named. Straight photography was simply one aesthetic and technical option available to the pictorialist: the printing of an unmanipulated negative

on platinum paper. In debates that persisted in the photographic journals of the 1890s, a straight print was contrasted with gum bichromate or oil processes which permitted handwork on the negative in the darkroom. A straight platinum print, by Frederick Evans or Stieglitz, was a gray image whose delicate tonal range and minute detail could be recorded only by the camera. A gum or oil print, by Robert Demachy or Edward Steichen, could be colored, could produce a very generalized effect, and because of the handwork could be mistaken for a drawing or a pastel.<sup>25</sup>

In the mid-teens Stieglitz and his protégé Paul Strand began to evolve a new concept of straight photography to explain the dramatic originality of Strand's 1915–1916 photographs, which were shown at "291" and published in *Camera Work*, and of Stieglitz's works, which were shown at the Anderson Galleries in 1921, 1923, and 1924. By the 1930s, when Stieglitz and Strand became more familiar with the f64 photographers, the new position coalesced. To the older idea of the unmanipulated print was added a new approach to subject matter: direct, uncompromising, and confrontational. The untouched negative was no longer a preference but a prerequisite; and darkroom manipulation was seen as an obstruction to the photographer's primary experience of finding a subject. Although Strand and Stieglitz eschewed definitions of style, a preference for higher contrast and sharper focus enhanced the confrontational effect. Pictorialism, according to this view, was a repository of old-fashioned ideas. Its preferences for soft focus and a narrow tonal range<sup>26</sup> and its preoccupation with elaborate craftsmanship were rejected. Most damnable was the pictorialist effort to unite photography with other arts in appearance and in principle. The older idea that a straight photograph looks only like a photograph, not like a painting or drawing, became the central tenet of the new straight photography. The pictorialist's flexibility on this point, particularly in Strand's view, was fatal.<sup>27</sup>

White remained loyal to the older view that straight photography was one option available to the pictorialist photographer. In fact, he and his circle favored straight photography—the unmanipulated negative printed on platinum paper—from the start. The title of their first journal, *Platinum Print*, indicates this preference, as does a review in *Platinum Print* of their 1914 Ehrich Galleries exhibition that called the show "pure and clean . . . indicating a high attainment of what is known as straight photography" (*Platinum Print*, March 1914:6).<sup>28</sup> However, White never rejected alternative styles. In an interview published in the 1921 PPA annual White made clear his continued adherence to the older view. Asked about handworked versus straight prints, he replied:

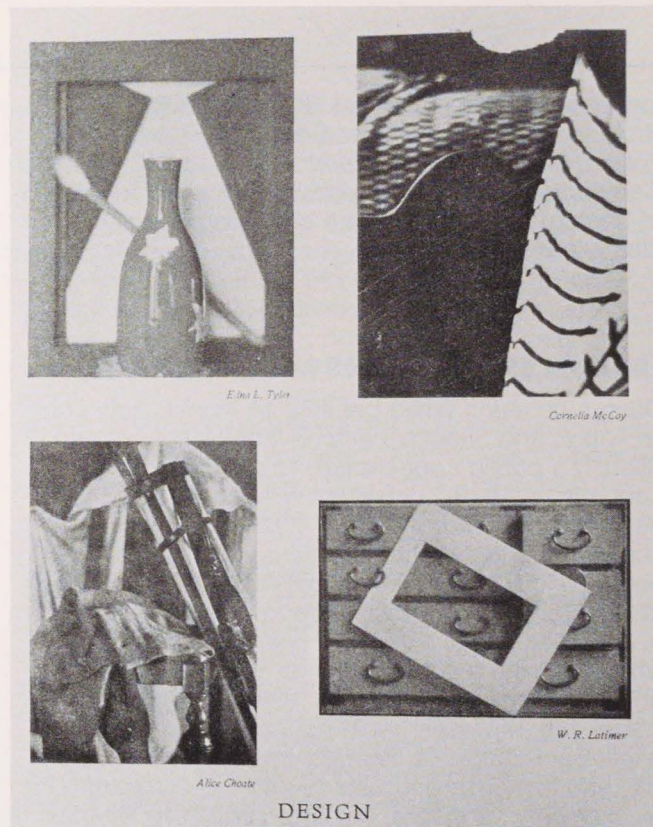


I do not have any objection to anybody using any method that he pleases providing that the result is convincing . . . on the other hand, some of the best and probably more good pictures have been produced by not using them, that is by making the pictures straight. [Moore 1921:6–10]

In the face of the restrictive, supposedly purifying, force of the newly defined straight photography, White retained his belief in the primacy of artistic result by any photographic means.

Stieglitz and White also approached the problems posed by modern European art to American photography in very different ways. Although the modern artists shown at "291" and at the Armory Show are frequently cited as an influence on Strand's and Stieglitz's later work,<sup>29</sup> both photographers minimized this connection. Their campaign for straight photography stressed subject matter over formal considerations and the independence of photographic aesthetics from other arts. Their effort to define photography's uniqueness, however, was itself an expression of modernist aesthetics of the late teens and twenties. Straight photography, like Suprematist painting or International Style architecture, was an aesthetic system which stated the presumably timeless, fundamental principles of a medium and avoided defining the characteristics of a mere historical style. Consequently, the stylistic innovations of straight photography were not explicitly defined. The abstracting and flattening of form which results from extremely high or low viewpoints, close-ups, and odd cropping, and the relation of these devices to cubism, purism, and constructivism, have only now begun to be explored. Instead, the rhetoric of straight photography was metaphysical—concerning the unique powers of the camera to penetrate reality—and moral—concerning the photographer's purity of expression and honest use of his remarkable tool.<sup>30</sup> To discuss the structure of photographs in terms equally applicable to other two-dimensional images denied photography's unique properties and was therefore taboo.

White, unlike Stieglitz, enthusiastically acknowledged that modern painting offered valuable lessons to photography. For just that reason he hired painters to teach the art appreciation or composition classes at his School of Photography. The first art teacher was Max Weber, who was followed in 1918 by Charles Martin, a Dow disciple who was more open to modernism than Dow himself (Moffatt 1977: 122 and n. 286). Weber, whose aesthetics blended French cubism with Kandinsky,<sup>31</sup> stressed the concept of "space-filling," a natural outgrowth of Dow's design principles. Dow had tried to shift the artist's attention from traditional imitation of nature (for the photographer, recording of nature) to the expressive possibilities and intellectual challenges of pictorial construction. Weber's goal was the same, but his pic-



**Figure 4** "Design," exercises by students of Max Weber at the Clarence H. White School of Photography. In *Photo = Graphic Art* 3(1), June 1916. Courtesy of the New York Public Library.

torial models were more adventuresome in their departures from nature. His 1913 *Platinum Print* essay, "The Filling of Space," conveyed his modernist message to the photographer:

The page of the canvas is empty, but pregnant with birth as in space, waiting for the touch of the inspired mind . . . In our choice and elimination lies the very character of our personality, the very quality of our taste and expression. [Weber 1913]<sup>32</sup>

His emphasis on selection gave space-filling a specifically photographic character.<sup>33</sup>

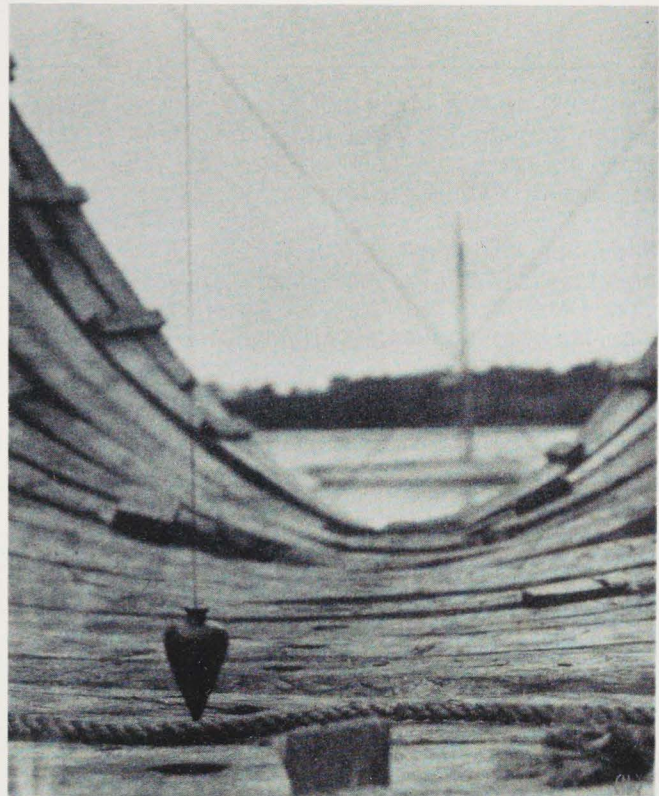
White's idea that a painter could stimulate a new photographic style by teaching modern art to beginners did not succeed. Weber's students' design exercises were published in the June 1916 issue of *Photo = Graphic Art*, with the aim of bringing "as much of the abstract into (one's) expression as the photograph will allow."<sup>34</sup> The students tried to translate the spatial ambiguities of cubist painting into actual still life but then photographed the arrangements in an entirely conventional way (Figure 4). Although Coburn, in his often-cited "The Future of Pictorial Photography" (Bunnell 1980:194–195), commended



these "groups of various objects photographed because of their shape and colour value, and with no thought of their sentimental associations," the works fail as photographic abstractions, especially in comparison to Strand's and Coburn's abstract works of the teens.<sup>35</sup> The photographs lack precisely the kind of selection—of viewpoint, lighting, and cropping—that Weber had hoped for in his call for space-filling.

Despite its failure in design class, space-filling played a vital role in White's own later photographs. In a series of photographs of shipbuilding done in Bath, Maine, in 1917, White created near-abstract compositions, while at the same time retaining the pictorialist preference for soft focus and the narrow tonal range of platinum printing (Figure 5).<sup>36</sup> Thus he mixed older pictorialist devices with the new compositional experiments. Indeed, when asked in 1921 what the key changes had been in the last twenty years of photography, White mentioned both the soft-focus lens, which was invented by his close friend Karl Struss, and the better sense of picture construction, which no doubt for him was due to Weber's influence (Moore 1921:6–10).

White's eclecticism has been harshly judged. By the standard of straight photography, his reluctance to espouse sharp focus and his overt reliance on concepts borrowed from painting indicate a failure of nerve and an unwillingness to depict clearly his subject and to free himself from the artificiality of pre-conceived design principles (Pultz and Scallen 1981:11).<sup>37</sup> This view, however, fails to account for White's own values. He considered the photographer's choice of focus, composition, subject, and method of printing as variables subject to free combination. Although he personally preferred platinum printing and the soft-focus lens, he remained open to any photographic experiment. His undogmatic, heterogeneous approach is reflected in the project assignments at his school. One required three sepia-toned platinum prints; another a photomontage, photogram, or multiple exposure. Others, although designed for technical difficulty, reveal varying aesthetic biases: a photograph of a glass of milk and glass of water on an all-white background recalls the high-key subtleties of pictorialism; three photos of cloth or fur demand a sharp-focus rendering of texture or geometrical patterning (White School brochure). These exercises show White's commitment both to technical versatility and to the ever-expanding potentialities of photographic art. In this way he carried the devices and principles of pictorialism into the 1920s.



**Figure 5** Clarence H. White. "Ship Construction, Bath, Maine," 1917. Platinum print,  $4\frac{1}{2} \times 3\frac{1}{16}$  in. Collection, The Museum of Modern Art, New York. Gift of Mr. and Mrs. Clarence White, Jr.

### White and the Emergence of Advertising Photography

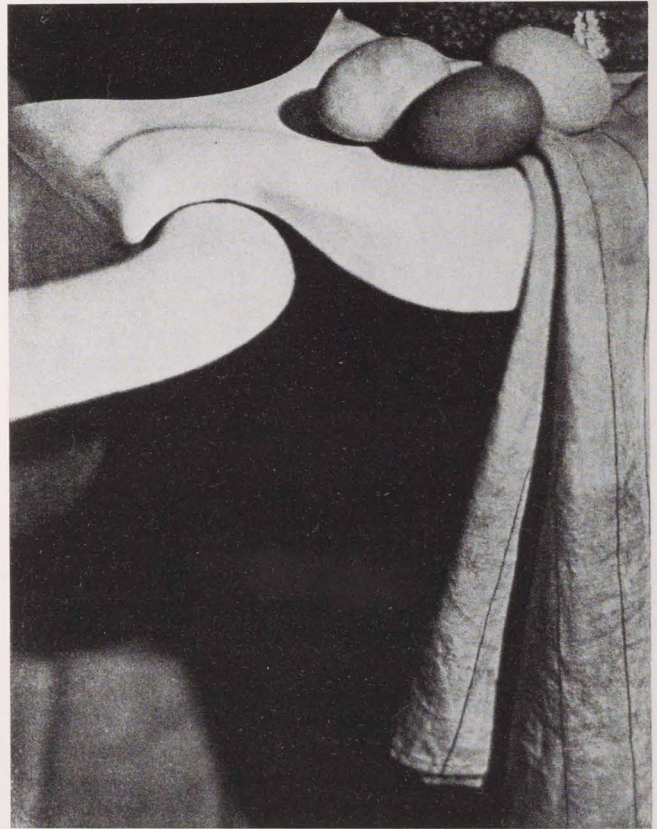
White's belief in the commercial application of photographic art was anathema to Stieglitz and was in fact an important reason for their 1910 estrangement (Naef 1978:182). The legendary stories of Stieglitz's refusal to sell works to "unsuitable" buyers shows his vehement effort to separate art from commerce (e.g., Homer 1977:80). White, by contrast, conscientiously worked to fuse art and commerce, which was the very purpose of the Art Center. The practice of commercial photography in 1910, however, was very different from its practice by the end of White's life in 1925. In 1910 artistic commercial photography meant either the portraiture of Baron de Meyer, Käsebier, and Arnold Genthe or fine art illustration, such as Genthe's *Old Chinatown* (1913) and Coburn's *Men of Mark* (1913), which combined both portraiture and illustration. By the late twenties, photography dominated magazine illustration and advertising; Condé Nast's publications, *Vanity Fair* and *Vogue*, led the field,<sup>38</sup> with White a key figure in this development.



In 1920–1921 a series of full-page “artistic” photographs appeared in *Vanity Fair*,<sup>39</sup> the cultural mouthpiece of Condé Nast. It is very likely that White, whose own “On the Sand Dunes” was printed in *Vanity Fair* in 1915, prompted this series. Since the Photo-Secession days,<sup>40</sup> White had been a close friend of Heyworth Campbell, the art director of Condé Nast from 1910 to 1923, who was also a principal figure at the Art Center. In its December 1920 and January 1921 issues, *Vanity Fair* published a pair of pictorialist, “arcadian” dance photographs by Californians, the first by Struss and the second jointly by Edward Weston and Margarethe Mather.<sup>41</sup> In 1921, it featured several experimental modernist photographs, including “cubistic architecture” by Charles Sheeler, photograms by Man Ray, and light abstractions by Francis Bruguière. Also appearing in 1921 were the works of two White students who by their obscurity support the idea that White was behind this series. The July issue included “Experiments in Modern Photography” by Ira Martin, a PPA officer who became the photographer for the Frick Collection. His light abstractions using cut paper and multiple light sources were derived from Bruguière’s, which had been published three months earlier. In the October issue Margaret Watkins, another White protégé who later became a portrait and advertising photographer, was featured with “Photography Comes into the Kitchen,” a series of still lifes most likely derived from White school design exercises. Her “Domestic Symphony” (Figure 6), which also appeared in the 1922 PPA annual, used everyday objects to create an elegant, curvilinear composition. Its velvety black void at the center is a bold step away from the concern with subject matter, and its musical title recalls Weber’s symbolist-derived concept of formal and expressive correspondences.

All these photographers also appeared soon thereafter in *Vogue*. Their assignments, which featured either architectural and interior designs, theater set designs, or accessory display, took them out of the realm of pure art photography. Some of the results were artless, such as Man Ray’s architectural photographs from Paris [e.g., *Vogue* (April 1, 1928, p. 86)], but some were indistinguishable from works of art, such as Sheeler’s architectural assignments, which sometimes became studies for architectural paintings.<sup>42</sup> These same artists, with the exception of Man Ray, were given one-man shows at the Art Center. White thereby helped photographers show their work and sell it, whether they were his students or independent artists pursuing similar goals.

At the same time that art photographs were beginning to appear in print, the expanded possibilities of photographic product advertising were becoming apparent. The first Art Center exhibition catalog made the connection:



**Figure 6** Margaret Watkins. “Domestic Symphony.” In *Pictorial Photography in America* 3, 1922, plate 77. Courtesy of the New York Public Library.



The visitors will be interested in the recent developments in artistic photography as applied to modern advertising shown in these galleries. It is not impossible to make a beautiful composition of objects which are illustrations in an advertising page of our popular magazines, or in other printed matter, and the American advertiser is becoming more and more aware of this fact. [Art Center 1921]

In November 1919 the journal *Photo-Miniature* devoted an issue to "Marketing Photographs for Advertisers" [15(177):365]. The publisher of *Photo-Miniature* and author of this issue was John Tennant, an old friend of White and publisher of the PPA annuals. He wrote optimistically of a new consumer-oriented world and the "fight to the finish between the camera and the pen, pencil and brush":

The time is ripe for such an awakening on the part of photographers. Ours is a pictorial age. The end of the world war has opened a thousand new fields to manufacturers and advertisers the world over. The(y) . . . are keenly alive to the value of illustration in advertising, and spend unstintingly for pictorial material.

Tennant's analysis is remarkably prescient, for he wrote about modern advertising style before it had begun to appear with any regularity. He distinguished the two older styles—the soft-focus "artistic effect" used for illustration and the "mechanically accurate" style—from the "more modern, more subtle straight style." The modern style was preferred for its ability to "awaken a keen sense of possession" in the viewer. Tennant suggested that the airbrush be abandoned in favor of "modern retouching": straight printing and reflected lighting. When composed with design or pattern making in mind, such works would render textural surface and create what Tennant called a "happy arrangement." Using "straight" in the old, technical sense, he realized that the new style, which was compatible with the design exercises of White's School, involved as much manipulation as pictorialism; the locus of manipulation had simply shifted from the darkroom to the studio arrangement of the subject.

The disadvantages of the two older styles are seen in a 1921 Ivory Pyralin ad in *Vanity Fair* (Figure 7). The soft-lit girl with flowers depicts "the youthful charm of graduation day"; she lends human interest but provides no product information. The comb and brush set at lower right, photographed in a heavily airbrushed and pedestrian manner, is the recommended graduation gift. The viewer must take time to read the caption and associate the product with the narrative. Further hindering the effectiveness of the advertisement is the unavoidably poor quality of the tonal, pictorialist photograph in reproduction.

By contrast, Paul Outerbridge's well-known "Ide Shirt Collar"<sup>43</sup> in a 1922 *Vanity Fair* illustrates the ad-



Figure 7 "Ivory Pyralin Advertisement." In *Vanity Fair* (April 1921), p. 89. Courtesy of the New York Public Library.





**Figure 8** Paul Outerbridge, Jr. "Idle Shirt Collar," 1922. Gelatin-silver print,  $4\frac{1}{2} \times 3\frac{3}{8}$  in. Collection, The Museum of Modern Art, New York. Gift of the photographer.

vantages of the newer style (Figure 8). The sculptural white collar seems suspended against the flat, diamond-patterned floor, which is shot from an overhead, oblique angle. The elegant curve and subtle modeling of the collar suggest the elegance of the wearer. The sharp focus permits the legibility of the trade name inside the collar as well as the neck size,  $14\frac{3}{4}$ , of the slim imaginary owner. In an instant the necessary information and the temptation to buy are conveyed.

In the course of the twenties, these commercially viable still-life experiments became increasingly elaborate through experimentation with artificial light; reflections, mirrors, and the transparency of objects came to be exploited. For example, Outerbridge, in his powder box of 1925 (Figure 9), placed the box in a paper construction lit to repeat or rearrange parts of the shape of the box itself; the box seems suspended in an environment which only it could inhabit. In 1929 Ralph Steiner and Anton Bruehl began collaborating on *Vogue's* Christmas gift layouts. They created visual conundrums that attempt to confuse spatial recession

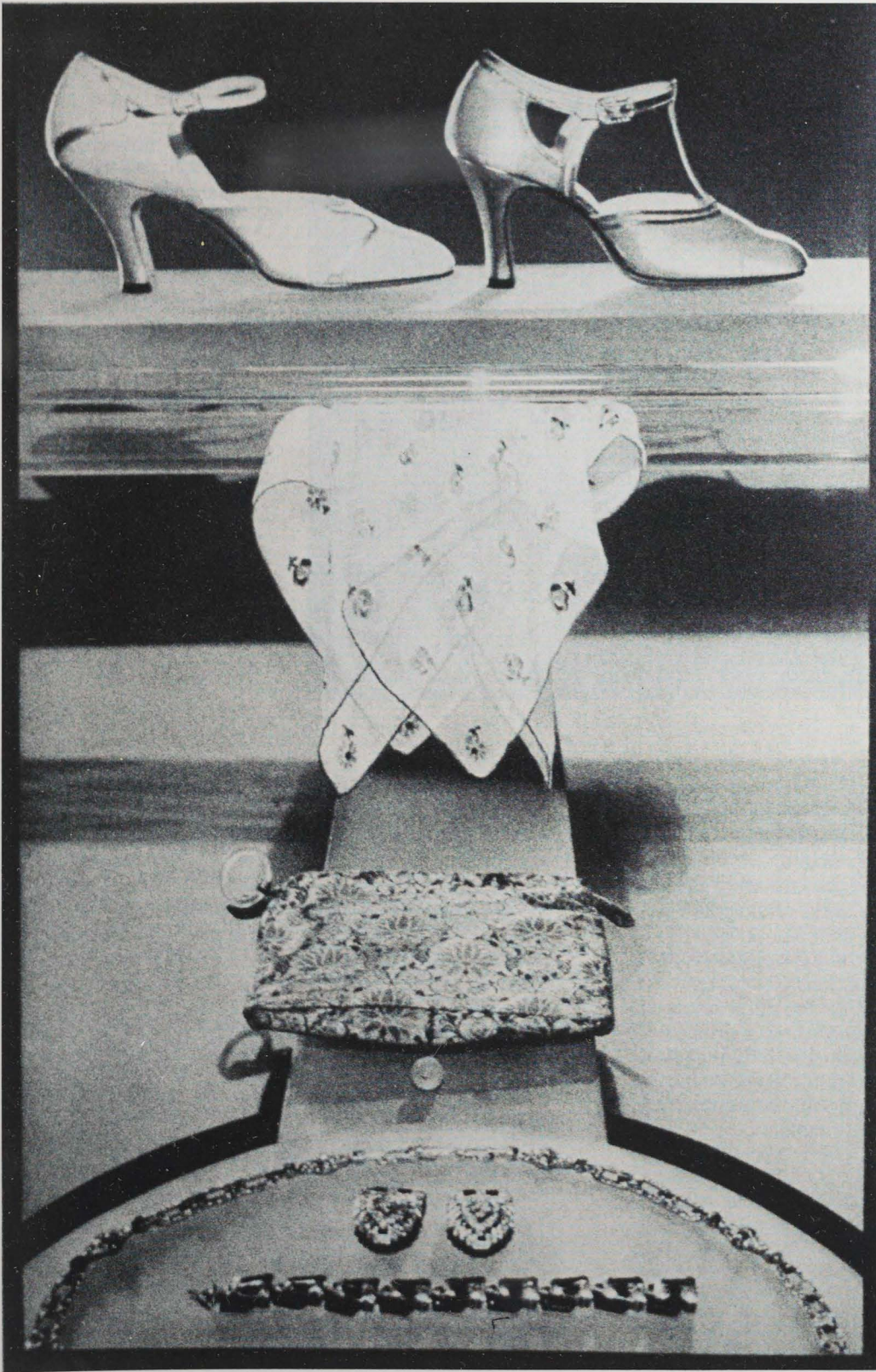


**Figure 9** Paul Outerbridge, Jr. "The Perfume of the Couture." In *Vogue* 66 (November 15, 1925), p. 66. Courtesy of the New York Public Library.

and the flatness of the picture plane. In "For Evening" (Figure 10), for example, Bruehl made a construction which appears vertical on the surface and, at the same time, receding into the background; he deliberately masked junctures within the setup with the objects on display to enhance the spatial ambiguity. While these experiments derive from cubist ideas about space and form, the results are not intended to fragment form or to disrupt reality, but rather to catch the eye and demand a second or third look.

White's contacts and his teaching were crucial factors in the development of commercial photography, and his students were among its pioneers. However, two independent factors were essential to its enthusiastic acceptance and burgeoning growth. The first was the return of Edward Steichen from France and his appointment as chief photographer at Condé Nast in 1923. Steichen, enormously respected for his Photo-Secession work and his connections with the French art world, had virtually disappeared after the war; his reappearance as a proponent of modernism and commercial photography had an immediate and





**Figure 10** Anton Bruehl.  
"For Evening." In *Vogue*  
(May 11, 1929), p. 92.  
Courtesy of the New York  
Public Library.





**Figure 11** Edward Steichen. "Madame Agnès, Who First Sponsored Modernism in Dress." In *Vogue* 66 (October 1, 1925), p. 71. Courtesy of the New York Public Library.

powerful impact. In 1923 Steichen spoke to the PPA at the Art Center.<sup>44</sup> He was asked to what school of photography he now paid tribute and replied, "The worldwide movement in literature, science and all the arts." As to whether photography was an art, he answered, "Why worry? Let it be a good photograph—that is enough." His glamor and success as well as his fresh ideas were not lost on the PPA audience.

Steichen's influence also undoubtedly explains Heyworth Campbell's about-face on the subjects of modernism and commercial photography, a change dramatically illustrated by a comparison of two statements he made to the PPA.<sup>45</sup> In 1922 Campbell violently rejected modernist photographs, finding them symptomatic of a universal cultural malaise:

The weird conceptions and grotesque ideas in back of most of the unsolicited material submitted would make one easily believe that the artists are inmates, or perfectly qualified to be inmates of asylums. . . . Owing to the restlessness of the world situation—wars and rumors of wars, strikes and overtendency toward jazz and slang—there is already, especially in the work of youngsters, too evident an urge to be different, different merely for the sake of being different.

By 1924 he had totally reversed his position. The new style was no longer symbolic of rebellion but a formal means that could serve varied ends, including those of advertisers:

Art is not a thing to be done, but the best way of doing that which is necessary to be done. This brings a tobacco advertisement into the realm of art as truly as the designing of a cathedral.

Campbell claimed that "to attract attention a picture should be dramatic, even sensational, modern, spectacular," and he demonstrated his point with a Steichen photograph of a lily.

The second factor assuring the success of the new commercial photographic style was art deco, which conquered the world of fashion in the late twenties. *Vogue*, an arbiter and monitor of American taste, reflected American Francophile sentiments in the years following World War I. It advocated nineteenth-century French decoration and less enthusiastically reported on postcubist French painting. A 1920 review of the Salon d'Automne claimed that the novelty of modernism had worn off: "Nowadays a shrug is sufficient comment for the most modern of canvasses" (*Vogue*, February 1, 1920, p. 128). This sophisticated apathy toward French modernism persisted until the 1925 Paris Exposition des Arts Décoratifs, which initiated art deco and hit America "like a tidal wave" (*Vogue*, June 1, 1928, p. 80). Art deco presented a modern, cubist-derived style entirely consistent with the ornate elegance and fine craftsmanship of traditional French design.<sup>46</sup> Within a few years art deco styling dominated clothing, furnishings, and the graphics of *Vogue*. A 1928 series of articles on twentieth-century decoration proclaimed that "shop windows, dress-



**Figure 12** Edward Steichen. "A Short Cape Takes a Circular Way Southward." In *Vogue* 67 (January 1, 1926), p. 77. Courtesy of the New York Public Library.



making establishments and advertising [had] all gone modern (*Vogue*, June 1, 1928, p. 80). The mania for modern French design soon led to an interest in Scandinavian and the more rigorous forms of German design (King 1929). Similarly, in 1926 and 1927 the Metropolitan Museum, which likewise had rejected modern painting, held exhibitions of French and then American industrial design, and the Art Center soon followed suit (Richards 1926; Reed 1929).

Art deco contributed to commercial photography's assimilation of modernist stylizations. Outerbridge had created cubist-influenced still lifes used for product advertising before 1925. Steichen, however, did not "go modern" until art deco arrived. He started at Condé Nast in a more old-fashioned style based on Baron de Meyer. Then in 1925 he took his first tentative steps toward geometrical patterning. His 1925 "Portrait of Madame Agnès" (Figure 11) "who first brought modernism to dress" shows that he had yet to learn the secrets of artificial light; as he confessed in his autobiography, before coming to Condé Nast he had never used artificial light, but gradually "there were lights all over the place" (Steichen 1963). His setting Mme. Agnès against a patterned backdrop and photographing her conventionally recalls the failed Weber design experiment of 1916 in which a "cubistic" construction was photographed without regard to cropping or lighting. By 1926, however, he had begun to experiment with light, pattern, and reflection, quickly becoming the most influential practitioner of the new style. In "The Short Cape" (Figure

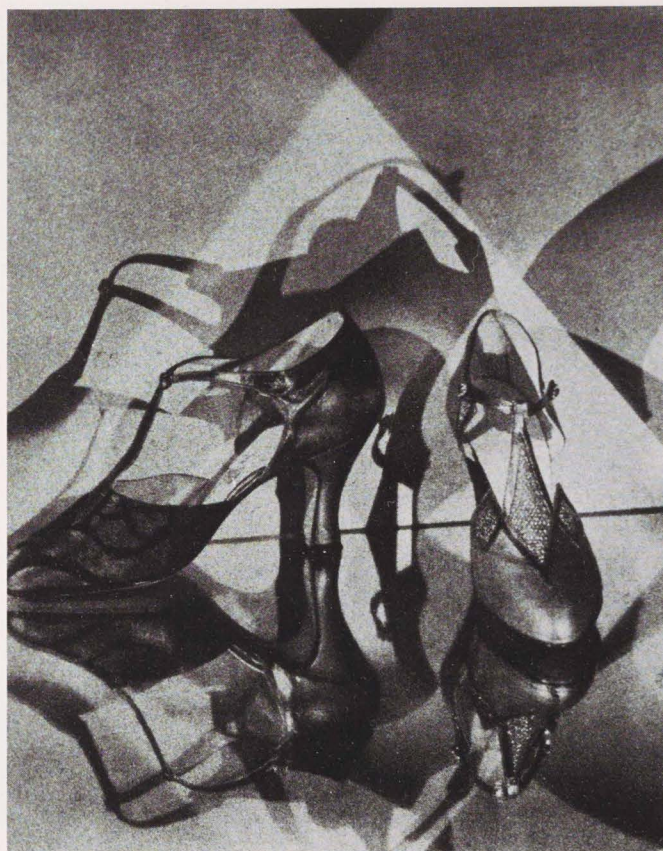
12) a complex pattern of light and shadow functions independently of figure and clothes, a device repeated in the decoration of the model's hat. In the 1927 "Shoes" (Figure 13) the objects are splintered and multiplied by spotlights and mirrors.

Art deco also influenced the style of Bruehl's and Steiner's product displays of the late twenties. Their compositional experiments derive from White design exercises, but their use of higher contrast, sharper focus, and more elaborate geometrical patterning is due to art deco. The inherent geometry of deco objects contributed to the style, as Bruehl's 1929 "Modern Teasets" (Figure 14) demonstrates. The forms seem flattened, tipped-up against the picture plane, and the reflective surfaces add to the patterning of the surface and distort the wholeness of individual objects.

White, who died in 1925, did not see the success of the art deco style of advertising photography that he had fostered. The addition of an advertising section to the 1926 White Memorial PPA annual, which featured works by Outerbridge, Bruehl, Steiner, and Margaret Watkins, was a fitting tribute to his pioneering role. In her introduction to the section Watkins encapsulated the evolution of commercial photography from the point of view of White's students. Photo-Secession gentility and art for art's sake philosophy, she observed, had been disrupted by the influence of modern painting on photography; modern painting offered a new formal approach to art which the photographer could adapt and the advertiser could exploit:



**Figure 13** Edward Steichen. "Shoes." In *Vogue* 69 (June 15, 1927), p. 60. Courtesy of the New York Public Library.



In the days of the Photo-Secession the artistic and commercial photographers were mutually unaware. No devout pictorialist would have deigned to descend to advertising. In their desire to establish photography as an art they became a bit precious; crudeness was distressing, materialism shunned.

With Cézanne, Matisse, Picasso, came a new approach. Soulfulness was taboo, romance derided, anecdote scorned; beauty of subject was superseded by beauty of design, and the relation of ideas gave place to the relation of forms. Weird and surprising things were put upon canvas; stark mechanical objects revealed an unguessed dignity; commonplace articles showed curves and angles which could be repeated with the varying pattern of a fugue. The comprehending photographer saw, paused, and seized his camera! And while the more conservative workers still exhibited photographs beautiful in the accepted sense, strange offerings startled the juries. . . . But the eye of the advertiser was alert. Here were possibilities.<sup>48</sup>

### Assessing White's Perspective

There are various ways to assess the artistic viability of the new commercial photography. Stieglitz and Strand totally rejected both the elegant artifice of the style and the compromise of art to a client's demands. When invited by White in 1923 to speak at the Art Center and the White School, both advocates of straight photography rudely denounced the beliefs of their host and audience.<sup>49</sup> A related reaction was that of Ralph Steiner, who began as a White protégé but espoused straight photography after befriending Strand in 1928. Steiner became a critic of his White training, declaiming the stress placed on art principles and separating his ambitions as an artist from his commercial assignments. Unlike Strand, who believed on principle that commercial photography could not be art, Steiner's choice appears more personal, for he recognized that commercial photographic art was possible. His opinion of Steichen, the consummate commercial success, is remarkably fair-minded:

Many young photographers brought their work to Steichen and asked him how to use their camera for earning a living. Steichen would tell them to wrap packages at Macy's in order to eat, and to photograph in their spare time. He may have realized that what worked for him and made him happy might destroy the talent of others. [Steiner 1978:16]





**Figure 14** Anton Bruehl. "Modern Teasets." In *Vogue* 74 (July 6, 1929), p. 55. Courtesy of the New York Public Library.

A more positive assessment came from Outerbridge and Bruehl, White's protégés. In 1940 Outerbridge described a successful advertising photograph in White's terms: "A sound knowledge of chiaroscuro and a passionate interest in and reaction to the shape of objects devoid of sentimental association is essential to producing the best results" (Outerbridge 1940:58). Bruehl also considered his commercial prints works of art. He told an interviewer in 1951 that "a Bruehl client is given one photograph just as he would be given one painting" (Stagg 1951:26). Both Bruehl and Outerbridge also adopted White's flexible approach to photographic means. While straight photographers in the course of the thirties and forties restricted their craft to sharp-focus, black-and-white silver printing, Outerbridge and Bruehl independently pioneered color photography. Bruehl's color-engraving process and Outerbridge's carbro-process<sup>50</sup> recall the darkroom alchemy of the pictorialists. For both Outerbridge and Bruehl the technical rigor and playful elegance of commercial photography suited their artistic temperaments. Ultimately, however, Bruehl was more able than Outerbridge to channel his art into his commercial work and in the thirties became a major force at Condé Nast. Outerbridge, an eccentric, restless dandy, was simply not a company man, and his most powerful works, the surrealist nudes, were artistically and socially beyond the bounds of 1940s commercialism.<sup>51</sup>

European modernism provides a third perspective on commercial photography as art. Straight photography, with its insistence on the independence of photography from painting, was a specifically American phenomenon. In Europe a freer interchange between modern art and photography occurred. Commercial photography, instead of being rejected as a fatal compromise, was celebrated as a means of escape from the romantic, individualist tradition. Advertising became an exciting option for socially relevant, technological art. In this context White-inspired design exercises and advertising still lifes provoked interest, especially in Germany (Howe 1977:34). Outerbridge's advertisements appeared frequently in German periodicals, and Steiner, Bruehl, and Outerbridge were all included in the historic Deutsches Werkbund "Film und Foto" exhibition at Stuttgart in 1929. There the works of White's students took their place beside works by the f64 group, the *neue sachlich* photographs of Renger-Patzsch and Moholy-Nagy's "photoplastic studies."<sup>52</sup> The enthusiasm was mutual. In 1936 the Art Center held what was probably the first United States exhibition of European advertising photography (Molderings 1978:93).



## Conclusion

A reconsideration of White's philosophy of art offers several lessons for students of twentieth-century American photography. For White, the teens and twenties were a period of gradual transition from the symbolist aesthetics of pictorialism to modernism—from Dow's art principles to Weber's. In this way White, who has been derided as retardataire, presages recent art historical scholarship that emphasizes this same continuous development from symbolism to modernism in early twentieth-century art.<sup>53</sup> Viewing art photography in this light, and shedding the blinders of the straight photography school, has distinct advantages. It permits a frank acceptance of the pictorialism of the early works of Strand and the f64 photographers, and, at the same time, it encourages a consideration of the symbolist aesthetics in the later works of these artists and of Stieglitz.<sup>54</sup> It also encourages the exploration of the links between the cubist and abstract experiments in photography and those in other arts. Strand's abstractions, for example, bear comparison with those of Arthur Dove and Georgia O'Keeffe. Steichen's explorations of pure form done in France in 1920 recall the works of his friend Brancusi. Likewise, many of Weston's Mexican works, such as his simplified, monumental "Excusado" and "Palma Cuernavaca" (Weston 1973: pls. 22, 23) also suggest Brancusi's influence.

White's alliance with the arts and crafts tradition also provides a fresh perspective on the masters of straight photography. The contrast between White's practical aims and the high-art goals of Stieglitz and Strand highlights the romantic, indeed symbolist, orientation of the straight photographers. Recognition of this romantic component weakens the traditionally accepted linkage between Stieglitz and Strand and the documentary photographers of the thirties, forties, and fifties. To be sure, the documentarians shared with these masters an abhorrence of the issue of photographic style and emphasized instead the photographer's direct confrontation with subject matter. But unlike Stieglitz and Strand, the documentary photographers rejected the isolation of the artist from society by submitting their work to the requirements of the FSA and to the national magazines. The documentarians also rejected the isolation of the photograph as a unique work of art by accepting the premise that their works would be reproduced and printed with text. In these ways White rather than Stieglitz blazed the trail.

White's approach also sheds light on the contemporary photography scene. Many contemporary photographers who have turned to photography from painting, video, and conceptual art have disregarded the precepts of straight photography. By freely combining the techniques and goals of other arts with those of both high art and commercial photography,

these photographers have in effect resurrected White's approach. Jan Groover's abstract still lifes, for example, hark back to Outerbridge's; Sandy Skoglund's *tableaux vivants* recall Cecil Beaton's surrealist fashion fantasies; and William Wegman's sumptuous, witty portraits of his dog Man Ray bear comparison with Richard Avedon's portraits and fashion work. Uncovering the overlooked history of modern, commercial photography should help explain and further stimulate these photographers' work. It is ironic that the history of nineteenth-century commercial photography, owing to its "straight" documentary style, has long been granted artistic credibility, while the history of twentieth-century commercial photography, frankly beholden to modern art, has been ignored for its departures from straight aesthetics.

The straight aesthetic gave photography full modernist status, but at a price. Its moral and technical strictures, which created the foundation of avant-garde photography for fifty years, have become constraining. Just as modernism has lost its impetus in other arts, so has straight photography lost its potency for photographers, critics, and photographic historians. The straight view of modern photography posits a standard lineage of masters analogous to the out-dated, formalist version of modern painting which proceeds from Manet to abstract expressionism. It is a view totally ill-equipped to explain the so-called chaos of current art photography. Clarence White's career offers antidotes to these problems. In contrast to the isolation of Stieglitz and Strand, White's network of friends and associates of the 1920s present the picture of a fast-growing, national, indeed international, community of professional art photographers. White's aesthetics, which in their flexibility failed to measure up to the reductive standards of the straight aesthetic, are particularly apropos for postmodernist photography. His 1920 remark—"I do not have any objection to anybody using any method that he pleases providing that the result is convincing"—should be heeded by today's critics, who needlessly fret over the "inherent properties of the medium" and isolate art photography from commerce and other arts. White's faith in artistic freedom is a call for the full acceptance—finally—of photography as a fine art.



## Acknowledgments

My sincerest thanks go to Peter Bunnell, who in a seminar on straight photography initiated my research on Clarence White's later career and the PPA, and to my adviser, J. T. Kirk Varnedoe, whose ideas on photography have conditioned my own and whose encouragement was essential to the completion of this article. I am grateful to Sarah Greenough, whose comments on the manuscript brought into focus many of the fine points of Stieglitz's development. I also wish to thank Paul Shechtman and Laurel Bradley for their careful readings of the manuscript.

## Notes

- Pultz and Scallen (1981) includes a chapter on the White School. The authors present many of the important facts about White, his students, and commercial photography, but their understanding of the style is marred by their applying the aesthetic biases of Stieglitz and Strand. This article hopes to resolve the difficulties of the Pultz/Scallen approach. Also see Yochelson (1982).
- Other well-known photographers who studied with White are Margaret Bourke-White, Dorothea Lange, Laura Gilpin, and Doris Ulmann. They have been omitted from this discussion either because they studied with White for a very short time (Bourke-White took a one-semester course at Columbia) or because they were not particularly involved with advertising.
- Beaumont Newhall's *A Short History of Photography* was in its first form a catalog for a MOMA exhibition of 1936; this exhibition was itself tremendously influential in the formulation of the straight photography aesthetic. Both Newhall and Gernsheim are accomplished practitioners of straight photography. It is interesting in this regard that Gernsheim uses his photographs to illustrate the "New Objectivity" section of one of his surveys of photography (Gernsheim 1962:185-189), associating himself with the German version of the style. A recent, dramatically overt elaboration of the straight approach to early modern photography can be seen in Travis (1979:148). The author's premise is that nineteenth-century, sharp-focus photography adhered to the medium's inherent objectivity; that pictorialism was a short-lived, misguided effort to establish the subjectivity of photography; and that "by the end of the 1920s American photographers had rediscovered the undisturbed clarity of the photographic image."
- Strand's talk to White's students in 1923, which has been published numerous times as "The Art Motive in Photography," is the most explicit condemnation of White's adherence to pictorialism ideas. (It was most recently reprinted in Goldberg 1981:276-287.) Strand's view is reflected in the assessment of White's later work in Pultz and Scallen (1981:11, 42).
- For the best account of the crisis at Buffalo, see Naef 1978:184-201.
- The interrelation of the three organizations is unrecognized; the role of the Art Center in White's program is the least noticed. Scattered references to the White School or the PPA are the norm. Naomi Rosenblum (1978:8, 123) shows a typically incomplete awareness of White's activities. She mentions White's publication *Platinum Print* and the PPA but dismisses them thus: "The group involved in this venture were strange bed-fellows with divergent aesthetic ideas; it is understandable that they could not maintain the same enterprise for long." In her discussion of twenties abstract photography, she mentions White's now-forgotten protégés Ira Martin, Edward R. Dickson, and Henry Hoyt Moore, without establishing their relation to White.
- It may be through A. W. Dow that White's group exhibited at the Montross Galleries, for his work was shown there. The Ehrlich Galleries exhibitions were reviewed in *Platinum Print*; the 1916 historical show was announced in that journal, but I was not able to find a catalog for it.
- For the Los Angeles Pictorialists' involvement with the Pan-Pacific Exposition, see Mann 1977:255.
- The 1917 PPA *Yearbook* outlines the goals and structure of the organization.
- While Stieglitz was never concerned with the classroom teaching of photography, he had a strong commitment to educating photographers and the public about art and photography. His numerous articles of the 1880s and 1890s as well as *Camera Work* and "291" were his educational tools. In a 1902 interview with Theodore Dreiser, Stieglitz spoke of establishing a museum/school of photography, although he never pursued this idea. I thank Sarah Greenough for bringing this issue to my attention.
- It is interesting that both Dow's and White's students were primarily female. In Dow's case this is easily explained; his students were training to be teachers, a woman's profession (Moffatt 1977:83, 94, 101). White's case is a little more difficult to understand. Laura Gilpin, who has said that Stieglitz and Steichen were "not the least bit interested in women photographers," offers the beginning of an explanation (Hill and Cooper 1979:285).
- Coburn's relation to Dow has been well examined (Moffatt 1977:98-99; Pultz and Scallen, 1981:15). For Weber's reliance on Dow, see Moffatt 1977:82-83. White's dependence on Dow is mentioned in Pultz and Scallen 1981:42.
- Moffatt (1977:63) suggests Charles Blanc as a source for Dow's design principles. Blanc's traditional academic principles have been connected with symbolist aesthetics such as Puvis de Chavannes's. Dow's theories reinforce the connection. The question of academicism and White's teaching deserves comment. Strand condemned White's design principles as academic, by which he meant "perfectly dead things" (Goldberg 1981:283). This view is accepted by Pultz and Scallen (1981:43). The history of avant-garde art in the nineteenth and twentieth centuries belies this view; the greatest innovators began with rigorous formal training: Manet with Couture, Matisse with Moreau, etc. White hoped to place photographers within this tradition.
- White's papers belong to Princeton University. Among them are various papers from the Clarence H. White School of Photography. Three brochures are included; none is dated, though all postdate White's death. The description of the project method and all assignments are culled from these brochures.
- In April-May 1919 the American Institute of Graphic Arts held an exhibition of commercial art. All the graphic arts and all commercial uses were represented. White chose the photography section and wrote an introduction. Also associated with the exhibition was Heyworth Campbell.
- The pamphlet "Art Center 1926" serves as an introduction to the Art Center, explaining its membership, activities, and goals.
- Bement wrote an article, "Design," which appeared in the 1925 PPA annual. His views on modern art were conservative and close to Dow's, that is, tentative about modern art after 1900. Bement was Georgia O'Keeffe's teacher; he recommended Dow to her in 1912.
- The most distinguished one-man exhibitions, culled from the Art Center *Bulletin*, are Käsebier, November 1922; Edward Weston, winter 1922; Arnold Genthe, March 1923; Laura Gilpin, January 1924; Outerbridge, March 1924; "Our California Friends," October 1924; Sheeler, February 1926; White Memorial, April 1926; Doris Ulmann, November 1926; Bruehl, December 1926; Bruguière, March-April 1927; William Mortensen, June 1927. These exhibitors practiced all photographic styles; they share the practice of commercial photography.



- 19 The second (1925) and third (1929) salons were documented in the fourth and fifth annuals. A fourth salon took place sometime between 1929 and 1938, when the fifth salon was held at the American Museum of Natural History. The International Salon of Photography continued with near regularity until 1956. The 1938 salon had three sections: pictorial (319 prints), modern (71 prints), and illustration (45 prints). The modern section was juried by Beaumont Newhall, Hyatt Mayor, and Elizabeth McCausland. Newhall wrote the introduction, which states that "the term Modern Photography is here used to define the experimental exploitation of pure photography." The 1936 MOMA show is clearly felt in the essay and selection. The pictorial section of this exhibition is unoriginal, retardataire, and amateur in the worst sense. It is undoubtedly from displays such as this that pictorialism's reputation sank to the depths. In the 1940 (seventh) salon there was no modern section. The PPA by that time no longer tried to embrace all "artistic" photography.
- 20 An important exception to Stieglitz's increasingly private life in the teens was his judging the photography exhibitions held at the Wanamaker department store in Philadelphia from 1912 to 1920. In total opposition to the "291" concept, these exhibitions were huge and included the awarding of prizes. Sarah Greenough brought this puzzling situation to my attention. By the 1920s Stieglitz did become increasingly unreceptive to the work of young photographers. When Ralph Steiner approached him for advice he was told, "I do not help individuals" (Steiner 1978:6). Both Imogen Cunningham and Laura Gilpin said they were afraid to go see Stieglitz, and when Cunningham finally showed him her work in 1934, he was "not at all" interested (Hill and Cooper 1981: 284, 296, 306). Outerbridge took a portfolio to Stieglitz, yet there is no indication that their first meeting led to a second (Howe 1977:10, 1980:11). Walker Evans showed his work to Stieglitz and received no encouragement (Naef 1978:234; Steiner 1978:7).
- 21 The 1922 PPA annual listed Stieglitz's 1921 show as one of the year's important events, noting that "a master has come back" (Moore 1922:12). John Tennant's reaction was ecstatic (Newhall 1982:171).
- 22 See Newman (1981:30–35) for a detailed description of Stieglitz's control over Dove's relationship with Phillips.
- 23 For comments on White's gentle, encouraging manner as a teacher, see White 1977:23–24.
- 24 In Naef (1978:196), Stieglitz's choice of the term "pictorial" is criticized: "It is baffling that Stieglitz would have even used the term 'pictorial' to describe what he stood for at this late date . . . associat[ing] him and his colleagues with what would be the most despised art movement of the 20th century, pictorialism in its late phases." Organized, amateur pictorial photography as it persisted in the 1930s and later is indefensible (see note 19, above), but the exhaustion of pictorialism should not be retroactively applied to 1910.
- 25 The debate on straight photography began in England with P. H. Emerson's attack on the aesthetics of H. P. Robinson in the mid-1880s. *Camera Work* illustrates the transitional stage of the debate, before the emergence of straight photography as a modernist ideal in the 1920s. This middle stage is best illustrated by comparing G. B. Shaw's "The Unmechanicalness of Photography" with Robert Demachy's "On the Straight Print" (Green 1973:62–66ff, 118–122).
- 26 Efforts to define the stylistic preferences of the straight aesthetic in the 1920s is admittedly dangerous. In the 1930s the f64 group definitely established the style: sharpest focus, highest contrast, and use of silver gelatin paper. Stieglitz's and Strand's works of these years show higher contrast and sharper focus than pre-World I pictorialist works, but they did prefer the softness and subtlety of platinum paper, using silver paper at first only because platinum paper was no longer commercially manufactured after the war. In his 1923 talk at the Art Center, Stieglitz railed against Kodak for discontinuing platinum paper (Stieglitz 1976).
- 27 Again, Strand's "The Art Motive in Photography" is his clearest condemnation of pictorialism for its "unphotographic" principles and results (Goldberg 1981:276–287).
- 28 The reviewer was Edward R. Dickson, an amateur and loyal White follower who edited *Platinum Print* and did the routine work generated by White's efforts from 1913 until 1922; Dickson died that year.
- 29 Naomi Rosenblum (1978) points out Strand's contacts with the Arensberg circle and Stieglitz's "291" circle and makes some rather perfunctory comparisons of Strand's photographs with paintings. Because of Rosenblum's reliance on Strand's own philosophy, she does not attempt a thorough analysis of the influence of painting on Strand's works. William Homer (1977:249) makes the general connection between Strand's abstractions and Hartley and Dove. Strand himself reportedly stated that his experiments with abstraction were exercises for him which he abandoned for his confrontation with life (see Goldberg 1981:290). Stieglitz's connections with modern artists and ideas have been extensively documented, but systematic comparison of his works with paintings has yet to be published. See Naef 1978:214, 224 for some useful remarks.
- 30 John Szarkowski (1973:96) clearly explains the moral component of straight photography in Strand's terms.
- 31 A good summary of Weber's assimilation of French influence can be found in Homer (1977:126–138). Weber's art rhetoric, with its stress on the connection of abstraction and musical correspondences, for example, seems to reflect Kandinsky's *On the Spiritual in Art*.
- 32 Space-filling is probably inherited from Dow and his orientalist collaborator, Ernest Fenellosa (see Moffatt 1977:49).
- 33 Karl Struss held on to the concept of space-filling throughout his career. John Harvith (1976:4) associates space-filling with straight photography rather than with modern art, referring to composing in the ground glass before exposing a negative.
- 34 Pultz and Scallen (1981:42) discuss the Weber exercises. Calling them "decorative abstractions," the authors imply that the works are superficial in their approach to cubism. Weber thoroughly understood cubism as well as other modernist ideas; his shortcoming was his lack of photographic knowledge.
- 35 The most significant and earliest experiments in abstract photography were by Strand and Coburn in the teens. Their philosophies were incompatible; Strand saw his work as a radical departure from pictorialism and Coburn saw his as an outgrowth of pictorialism. It should be noted that Strand's abstract works could involve as much manipulation as Coburn's. Coburn's *Vortographs* were made using prisms to splinter forms; Strand's *Porch Shadows* is turned ninety degrees in order to render the subject unrecognizable.
- 36 The same combination of soft-focus, platinum printing, and space-filling is found in the work of Karl Struss, whose aesthetic preferences were closest of all White's colleagues to his own. Although Struss has received some attention (e.g., Harvith 1976; Pultz and Scallen 1981:12), his contribution to modern photography has been underestimated because of his use of the soft-focus lens. He experimented with high vantage points and odd cropping to capture the drama of New York street life as early as 1910, before Coburn or Strand.
- 37 Also see Szarkowski (1973:50); while the author remains sensitive to White's works, his attitude toward White's aesthetics is condescending.
- 38 Frank Crowninshield (editor of *Vanity Fair*), in "Vogue—Pioneer in Modern Photography," June 15, 1941, pp. 27–33ff., wrote that the two Condé Nast magazines discovered and developed more photographers of the first order than any other periodicals of record.



- 39 "The Release of the Hamadryad: a Recent Photographic Study; Made in Southern California by Karl Struss" (December 1920, p. 62). "Hamadryads and Sisters of Narcissus; Camera Studies Made Against the California Hills by Margarethe Mather and E. Weston" (January 1921, p. 60). Sheeler, "Cubistic Architecture in New York" (January 1921, p. 72). "Experiments in Abstract Form, Made Without a Camera Lens by Man Ray, the American Painter" (November 1922, p. 50). Francis Bruguière, "A Modernist Setting for the New Production of Macbeth" (April 1921, p. 46). "Experiments with Modernistic Photography; Ira Martin Attempts to Solve with the Camera Some of the Problems which Confront the Cubist Painter" (July 1921, p. 60). "Photography Comes into the Kitchen; A Group of Photographs by Margaret Watkins Showing Modernist, or Cubist, Patterns in Composition" (October 1921, p. 60). Note that the pictorialist Mather/Weston photograph was in the same issue with Sheeler's "cubistic architecture." Slightly later, Outerbridge was featured with "The Kitchen Table: A Study in Ellipses, Suggesting How the Modern Conception of Abstract Design May be Applied to Still Life" (July 1922, p. 52). This series was from time to time continued. In 1924 Stieglitz's "The Steerage" was reproduced (August, p. 54), as was one of his portraits of Georgia O'Keeffe (July, p. 49). These may have been inspired by his "reemergence" with the Anderson Galleries shows. In January 1931 (p. 56) Outerbridge was again featured with a photograph of a piano titled "Music," which he had made in 1924. The short article accompanying the photograph mentioned that the Museum of Modern Art had recently purchased ten Outerbridge photographs; in 1929 the Metropolitan had accepted his gift of ten photographs.
- 40 Art Center *Bulletin* 6(5) (February 1928); a report on a Campbell talk at the Art Center mentions his association with White "in the days of the Photo-Secession, Little Galleries, and 291." In this talk Campbell reviewed the "old masters": White, Stieglitz, Steichen, Käsebier, and Coburn.
- 41 The interpretive dance of Isadora Duncan, Loie Fuller, Ruth St. Denis, and others, which stressed personal expression and the glorification of feminine beauty, was a favorite pictorialist subject. Arnold Genthe's *The Book of the Dance* (1916), Steichen's Duncan photographs of 1921, and a special dance issue of *Platinum Print* 2(2) (1915) are noteworthy examples of this vogue.
- 42 Sheeler like Steichen was granted more artistic credibility because he was a painter as well as a photographer. His architectural paintings and his photographs were published in *Vanity Fair*. In April 1921, p. 47, a painting based on a photograph appeared, subtitled "Above the Turmoil of New York"; its caption explains that Sheeler considered architecture "purely as an arrangement of planes and angles." In the late 1920s skyscraper photographs appeared in *Vanity Fair* again—Ralph Steiner's in April 1928, p. 58, and Ira Martin's in November 1929, p. 86.
- 43 The "Ide Shirt Collar," perhaps Outerbridge's most famous photograph, is an excellent example of an advertisement doubling as art. Marcel Duchamp realized this in the 1920s. Outerbridge discovered his "Collar," an artful ready-made with a "chessboard" background, on Duchamp's studio wall in Paris in 1925 (Howe 1980:11). This photograph is equivocally discussed by Pultz and Scallen 1981:43.
- 44 Steichen's talk was reported in the Art Center *Bulletin* 1(9) (April 1923), pp. 164–165. Steichen also spoke at White's School on February 15, 1923, according to miscellaneous School notes at Princeton.
- 45 Cf. "On Ideas," *Pictorial Photography in America* 3(1922), pp. 13–14, with Art Center *Bulletin* 3(1) (Sept. 1924), p. 14, a report on Campbell's talk to the PPA. Campbell's conversion came too late; he was replaced by Dr. M. F. Agha as art director not long after Steichen joined the staff (Steichen 1963). White's group, however, carried on with Agha. He and Frank Crowninshield wrote essays for the 1929 PPA annual.
- 46 The French deco designers Louis Suë and André Mare claimed, "No matter what beautiful antique should be in one's home amidst our furniture, it should be received as an ancestor and not as an intruder" (Hunter 1972).
- 47 By 1927 all of its exhibitions were touched by *le style moderne*, and in 1930 it redesigned its *Bulletin*.
- 48 "Advertising and Photography," *Pictorial Photography in America* 4(1926), no pagination; an excerpt can be found in Pultz and Scallen 1981:41–42.
- 49 The text of Stieglitz's talk at the Art Center, which was published by the Center for Creative Photography in 1976, is based on Rebecca Strand's notes and was "corrected and developed" either by their owner Dorothy Norman or by the editors of the journal. "A New York Art Center" was The Art Center. The Art Center *Bulletin* announced the talk in 1922 (1:5) and reported on it in 1:6 (January 1923), pp. 95–96. These dates conflict with the generally accepted date for Stieglitz's rapprochement with White, dated by a letter from White to Stieglitz of October 1923 in the Stieglitz Collection at Yale (see White 1977:28 and Naef 1978:224). Stieglitz's talk at the Art Center occurred on December 4, 1922; it was thus announced in the Art Center *Bulletin*, and Stieglitz mentioned the day December 4 in the published version of the talk. Stieglitz also spoke at White's School before this December talk; in the published account of his Art Center talk he recalls speaking at the White School: "He [the host] told me he had heard me at the Clarence White School. Now anyone who had heard me at the White School must be a hero" (p. 2). For Strand's talk, see note 4. Rosenblum gives further evidence of Strand's desire to disassociate himself from White and pictorialism; he rejected White's invitation to submit to a photographic annual based on the English *Photograms of the Year*, that is, the PPA annual.
- 50 Outerbridge's process is briefly described in Howe 1980:16; Bruehl's in Deal 1976. Outerbridge's book *Photographing in Color* (1940) and Bruehl's book *Color Sells* (1935) of course go into greater detail.
- 51 Howe (1980:18–21) gives an interesting account of Outerbridge's later years and work, emphasizing the unacceptability of his fetishistic nudes. Also noteworthy is the difference between Howe's two publications on Outerbridge; the 1977 exhibition catalog deemphasizes them, and the 1980 coffee table book features them. This change is no doubt in part due to the increased interest in color photography in the last few years.
- 52 The American section of the "FiFo" exhibition was selected by Steichen and Weston. American (excluding *émigrés*) were Berenice Abbott, Bruehl, Cunningham, Outerbridge, Sheeler, Steiner, Steichen, and Brett and Edward Weston. Stieglitz and Strand were not included. Beaumont Newhall, in his illustrations for Ferdinand Léger's 1926 essay, "A New Realism—The Object: Its Plastic and Cinematic Value," juxtaposes a Ralph Steiner close-up of typewriter keys with close-ups by Brett Weston and August Sander (Newhall 1980:233). The same photograph is published in Steiner 1978:5 as an example of the design exercises he did at White's School. This same exercise is discussed by Pultz and Scallen 1981:44. While Newhall places Steiner's close-up in the context of other close-ups which derive from different modernist theories, Pultz and Scallen try in vain to distinguish Steiner's work from Outerbridge's on the basis of White's versus Strand's aesthetics: "Unlike Outerbridge's, Steiner's concern is for the object itself, using only point of view and cropping to achieve the final effect, without dependence on arrangement." This is especially futile, considering that Steiner's photography predates his conversion to Strand's views by several years.
- 53 The 1982 exhibitions on Kandinsky in Munich at the Guggenheim and on Richard Neutra at MOMA both demonstrate a gradual transition from art nouveau and symbolism to early modernism.
- 54 Weston's nature close-ups can be considered in relation to art nouveau ideas about natural forms; a comparison with Karl Blossfeldt's *Urformen* would be illuminating. Stieglitz's use of the term "equivalents" for his late landscapes and cloud studies places them within the orbit of symbolism. These works, as projections of Stieglitz's feeling toward his own isolation and love of nature, also conform to "the northern romantic tradition" (Rosenblum 1975).



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# The United States View Company of Richfield, Pennsylvania (Photo Essay)

Jay Ruby

Portraiture has always been the mainstay of photography in America. However, our need to preserve memories has never been confined to people. Rural and small-town America have been particularly proud of their ability to build and own their own homes. The ability to own a home and pride in that ownership separate Americans from other people in the world. It seems only natural, therefore, for Americans to preserve the memory of their homes in the same way that they are able to keep the memory of their family alive—through photography.

By 1890, dry glass plate negatives and sturdy but lightweight cameras with fast lenses made it possible for the traveling photographer to go to the home of the rural dweller and offer to take a view (see Figure 1). It was both a family portrait and a picture of the homestead large enough to be hung on the wall of the family's living room or sent to relatives who lived elsewhere.

Like the portrait photographer, the view photographer had to compete with the painter for the same market:

To the majority of citizens in the early republic, the ideal American home was an independent homestead attractive enough to encourage family pride yet unpretentious and economical. Itinerant artists, traveling across the countryside on horseback, specialized in paintings that portrayed these very qualities. Such artists decorated the interiors of homes with bright geometric patterns and naive murals and often did a painting of the family dwelling or a portrait of the family members. [Wright 1981:73]

Between 1880 and 1910 hundreds of view companies were formed in the United States. Their operators roamed the countryside with company-outfitted buggies (see Figure 2), taking views of houses. The negatives were shipped back to the company headquarters, where they were developed, printed, and mounted in frames. A few weeks later a salesman would bring the framed view to the family and try to convince them to buy additional copies.

Several men are going through this community and photographing homesteads, schools and most anything you wish to have photographed. ["East Salem Jottings," *Port Royal Times*, Pa., May 23, 1889]

The photographer, who was in this community some time ago photographing, has delivered the pictures. Some of them present a very fine appearance. ["East Salem Jottings," *Port Royal Times*, Pa., May 23, 1889]

We will probably never know just how many view companies were in business since they were most often small enterprises lasting only a few years, owned by people usually engaged in other activities. Salesmen and operators sometimes worked only part-time in the summers. The views themselves, having lost their original meaning, turn up at country auctions valued only as "picture frames." They have not been considered worthy of the attention of most scholars and, like cabinet card photographs, represent an invisible part of the history of photography.

In the process of researching a history of photography in Juniata County, Pennsylvania (Ruby 1981), I discovered the remnants of the United States View Company of Richfield, Pa. With the kind permission of Mrs. Martha Graybill, the daughter-in-law of one of the company's late owners, I was able to examine the workings of one company.

In the towns of Richfield, Pa., and its Snyder County neighbor, Mount Pleasant Mills, five different view companies were operating—The U.S. View, Acme View, National View, and Excelsior View—all probably owned by the same people. In addition, there was the American View Company, which later became known as the American Photo Company. It is slightly incredible that in two tiny hamlets, with a combined population of less than one thousand, so many view companies were able to exist. It gives some indication of how popular these pictures must have been.

The United States View Company was formed by Henry and Newton Graybill and Ellsworth Garman sometime in the late 1880s or early 1890s. The Graybill brothers were in partnership with Garman in a general store in Richfield. Newton Graybill probably learned how to run a view company while working for the Keystone View company (owned by F. L. Landon, 629 Hamilton Street, Allentown, Pa.), and from J. R. Fisher, Mount Pleasant Mills Carte de Visite photographer.

Two sources of information remain to tell us something about the activities of the U.S. View Company: about 400 photographs and Newton Graybill's notebook, which contains instructions to his operators and salesman. They provide a remarkable and rare insight into the workings of a view company.

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Here are excerpts from Mr. Graybill's notebook:

#### INSTRUCTIONS TO OPERATORS:

When first you approach a gentleman or lady, address them with a reasonable amount of politeness and proceed to make your business known at once. Do not act as though you were waiting for their advice. Just say: "I'm going to make a picture of your place for my own use if you do not object."

He or she may ask numerous questions on this point. All you have to do is to assure them, and all this time be making progress toward taking the picture. That is, be looking the place over as though to get the best position while talking, and in an unconcerned way, say: "Did anyone ever make a picture of it?" This will let you know if they ever had it photographed or not. If they have, ask to see it. If it is as good as we can make, do not photograph it. If the picture they have is small and poor and they are willing to let you photograph the place, you may do so.

If the one they have is good, the best way to get out of it is to make a blank exposure and say: "Much obliged for troubling you. Good bye."

When you have decided to make a picture, say to them: "It would improve the picture to have all the family in sight." Don't say this in a persuading manner, but as though it was to their option to stand out or not.

#### HOW THINGS SHOULD BE ARRANGED:

While the family is preparing themselves for the picture, the operator should place the camera in position. See that the window shutters are open, or if the windows are nicely curtained inside, raise some of the windows so that the curtains will show. Place some chairs on the porch or in the yard to make it appear as though the family was setting out. Rocking chairs with ladies always look good on the porch.

By the time the family is ready, you will have all this done. Place the group as near the centre of the picture as possible. The heads of the family in the best place to be seen. Never sit or stand them all in a row. Some sit, some stand. Some lean against the fence or some other suitable place. Have all hats, bonnets and white aprons taken off, and do not have the men photographed with coats off; shirt sleeves and old clothes show bad taste to the operator. See that there are no strangers and hired help in the group before exposing the plate. Always place strangers and hired help so far to one side of the picture that they don't take.

Place the group about one third of the way from the house to the camera as a rule. Be sure that everything is focused sharp. Make the exposure as short as possible. Never have your hand on camera or tripod while making exposure.

When you take names, always take the given name in full as he or she are commonly called. Take the name and number of the slide, give them a hand bill and show them a sample picture with a little explanation, such as price, when it will be delivered, and when they will see it, etc. Always be polite and manly, but have a little dignity and business in your movements.

*Subjects that you shall photograph at my risk:* Farm and town houses; views of houses and barns; barns and stock; family groups; mills; factories of all kinds; school

groups; railroad groups; groups of laboring men whenever they will allow you to arrange them in a proper way to photograph.

*Subjects that you must not photograph unless ordered:* Interiors; rented houses; houses they have pictures of; houses under construction, not complete whether new or rebuilding; houses where the people will not stand out, where the people will not put on a coat or take off their hats; views of mountains, valleys, ravines, bridges, waterfalls, rocks, rivers; old mills and water wheels not in use; graveyards, monuments, churches; fancy stock such as stallions, bulls, dogs, cats, chickens, hogs, sheep and pets of all kinds.

Never expose a plate on anything outside of our regular work until you have given them to understand that it will cost \$1.50 no matter how small or how few. You may make cabinet negatives if they are asked for and you are sure you can make them well. Be careful to have them understand the price before taking, which is: Half-dozen—\$2.00, one dozen—\$3.00, two dozen—\$5.00. Take all the old pictures you can to copy and enlarge. . . . Sales are to be made by the salesman. Operators are only expected to make salable views.

Never expose the plate until the family or all that can be gotten are in the group. Many times you will find it necessary to go to the further side of the farm, blacksmith shop, grocery, or school house to get someone of the family in order to get the group together. This is a very important thing and should be carefully looked after always.

Put up for dinner and over night with the farmers. Never put up at a hotel if you can help it. Always give due bills and never pay cash if you can help it. In giving due bills, never ask a man if he will take a due bill for his pay, but say: "How much is my bill? Well, I'll just give you a due bill for the amount as that is the way we do. Then when the picture is brought, just present the due bill and if you do not buy the picture, the due bill is good for the cash and the man that delivers the picture will pay you for it."

While you are saying this, be writing a due bill on the back of a hand bill and hand it to him without hesitation. If he won't accept it, you can pay him cash. Never put up at a place more than once, as it is in a new place you will secure a sale. . . .

By closely following these directions, you will very greatly oblige

Yours very respectfully,  
Newton S. Graybill

He was equally clear about how his salesmen were to conduct themselves:

#### INSTRUCTIONS TO SALESMEN:

When you first approach a lady or gentleman, introduce yourself by saying: "I am one of the Keystone View Company, and have a picture of your place I would like to show you if you spare me a few moments to look at it, which will not cost you anything." Never show it without a frame; the frame and glass must be well cleared so as to be tasty in every respect.

Also look the same yourself. Be polite and gentlemanly and carry an air of dignity and business. When you meet



a man that has a title, address him as such. Act as though you had something that was valuable and choice.

Always be with the picture until it is sold, then leave as soon as possible. Never leave the picture to be criticised in your absence. Never allow them to take the picture and talk it over by themselves. Follow them up and be in as much of a hurry as would be reasonable.

No matter how poor the picture may be, find some good point in it and call their attention to that. Always ask the highest price first. Have them understand that the picture is of value whether they buy it or not. Do not act as though if you would not sell it that it would ruin the company, but say: "All right, much obliged for troubling you. If at any time you want the picture, write to headquarters for it."

If you happen to have an extra copy along, hold it at its value as much as the others. Don't throw it in as though it was worthless. Always sell the picture you have with you before you ask for reprints, and get your pay. Then try reprints at the reduced price.

Prices to sell by: One—\$1.50, two—\$2.50, three—\$3.00, six—\$5.00, twelve—\$9.00. After twelve sold, 50 cents each.

Prices of frames: 10 × 12—\$1.25, 10 × 12—75¢.

If the surviving views are any indication, the instructions were followed by Mr. Graybill's operators. Well over 75% of the photographs are houses with the family standing in front, hats and aprons off. Figure 3, a view of Mr. and Mrs. Newton Graybill and son Seward in front of their house, can undoubtedly be examined as a view exemplar of the style; after all, an operator does not take a view of the boss' house without great thought.

The photographs show a range of people who wished to preserve their lives. The well-to-do (see Figure 4) and people of extremely modest means (see Figure 5) were photographed, along with small-town dwellers (see Figure 6) and farmers (see Figure 7).

Not all the surviving views are marked as to the name and locale of the customer. Those images which are identified are all from Pennsylvania. Only one view shows a black family (see Figure 8). The need to have the entire family in the picture sometimes made it necessary to represent missing members symbolically by including a photograph of them in the view (see Figure 9).

In addition to covering their major market—views of people and their homes—the U.S. View Co. operators took other pictures. They recorded men at work—railroaders (see Figure 10); ship workers (or possibly owners; see Figure 11); stores and their employees (see Figure 12); and even hotels (see Figure 13). One is reminded here of Neal Slavin's book, *When Two or More Are Gathered Together* (1976). The view which deviates the most from Mr. Graybill's admonitions is a photograph of a funeral wreath for a B&O Railroad employee (see Figure 14).

Most people assumed the stiff pose of the photographer's studio. Occasionally, an operator produced an informal family grouping such as the one seen in Figure 15. The intent of some images is lost forever. We can only ponder at the reason why the women in Figure 16 placed their spinning wheels in the middle of a field or the reason why the group in Figure 17 sought to be photographed as they were.

View companies appear to have lost their appeal rapidly; most were gone by the beginning of World War I. Newton Graybill left his partnership with his brother and Ellsworth Garman and formed his own store in 1901. Probably the U.S. View Company was disbanded at that time.

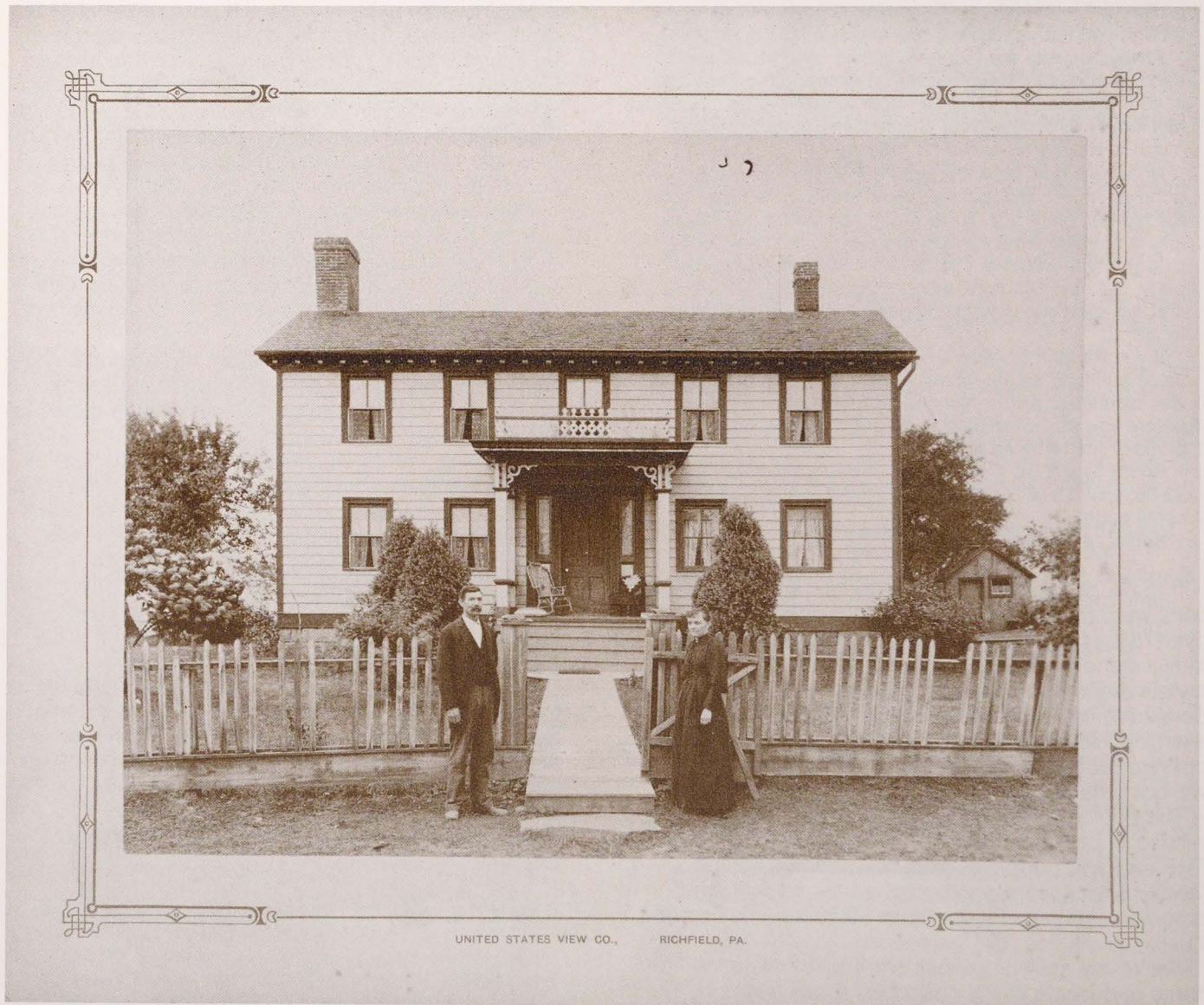
The other Richfield organization, the American View Company, was started by William and Ott Basom. William moved to Charlotte, N.C., in 1899 and then to Oklahoma and Texas, forming branches of the company. Ott stayed in Richfield and continued to operate the company until the 1920s. The Basom brothers made the transition from a view company that took primarily pictures of homes to the American Photo Company, which produced postcard-size photographs of people, homes, and events. Operators now traveled in automobiles instead of buggies (see Figure 18), and the photos were sent directly to the customers through the mail.

By the end of World War I the view photographer found a new means of transportation and a different way to picture homes and farms. He became an aerial photographer who flew over rural communities instead of driving through in a buggy. Joyce DeWolf-North, the daughter of Henry DeWolf, one of the pioneers of aerial views of Pennsylvania, explains:

My father began the business in 1927 and flew in a bi-plane to take the pictures. His "seatbelt" consisted of tying a rope around his ankle and attaching the other end to the seat. He got into the business when a friend of his who was a pilot took pictures around Rochester and then gave the photos to my father. Being a natural salesman he was not one to let an opportunity go by. The rest of course is history. He originally took orders to have the photos taken but now we do them on speculation only, taking all the photos first and then selling them. . . .

Since the founding of the United States, rural Americans have memorialized their loved ones and their most prized possession, their home. The technology changed from brush and canvas to camera; the horse-and-buggy was replaced by the airplane; but the need for these images has remained constant.





**Note:** Unless otherwise stated, the view photographs were 8 × 10 inches on a 10 × 12 inch mount. Figures 1 through 17 are used with the permission of Martha Graybill; Figure 18, with the permission of Celo Leitzel.

**Figure 1** Unidentified couple. U.S. View Company.





**Figure 2** Unidentified. Harry Haas, U.S. View Company operator.





**Figure 3** Mr. and Mrs. Newton S. Graybill and Seward.





**Figure 4** Unidentified family. U.S. View Company.





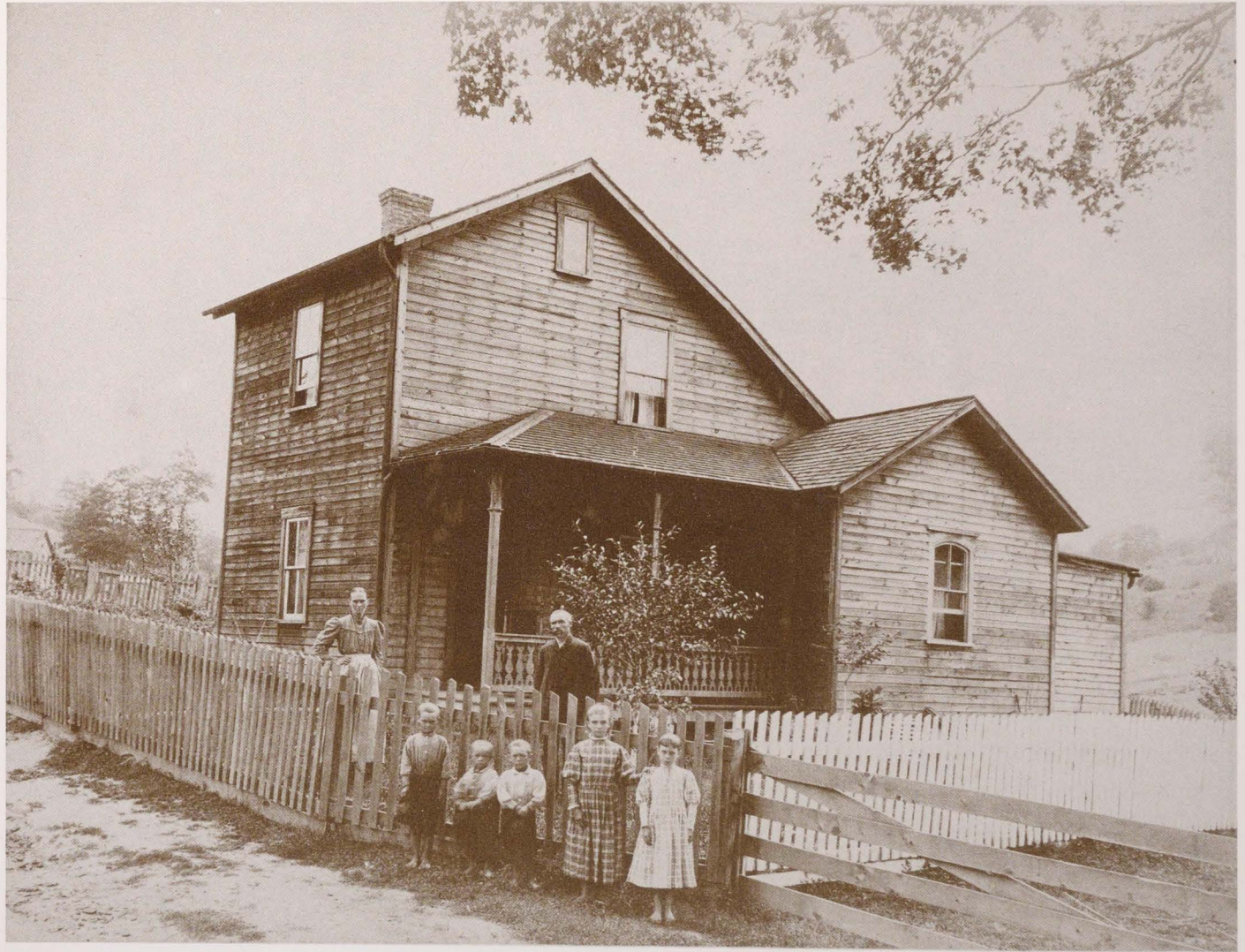
**Figure 5** Unidentified family. U.S. View Company.





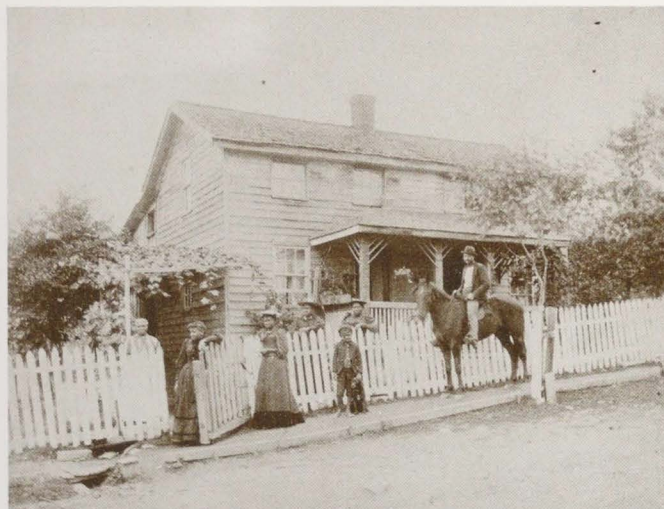
**Figure 6** Unidentified family. U.S. View Company.





**Figure 7** Unidentified family. U.S. View Company.





**Figure 8** Unidentified family. U.S. View Company.

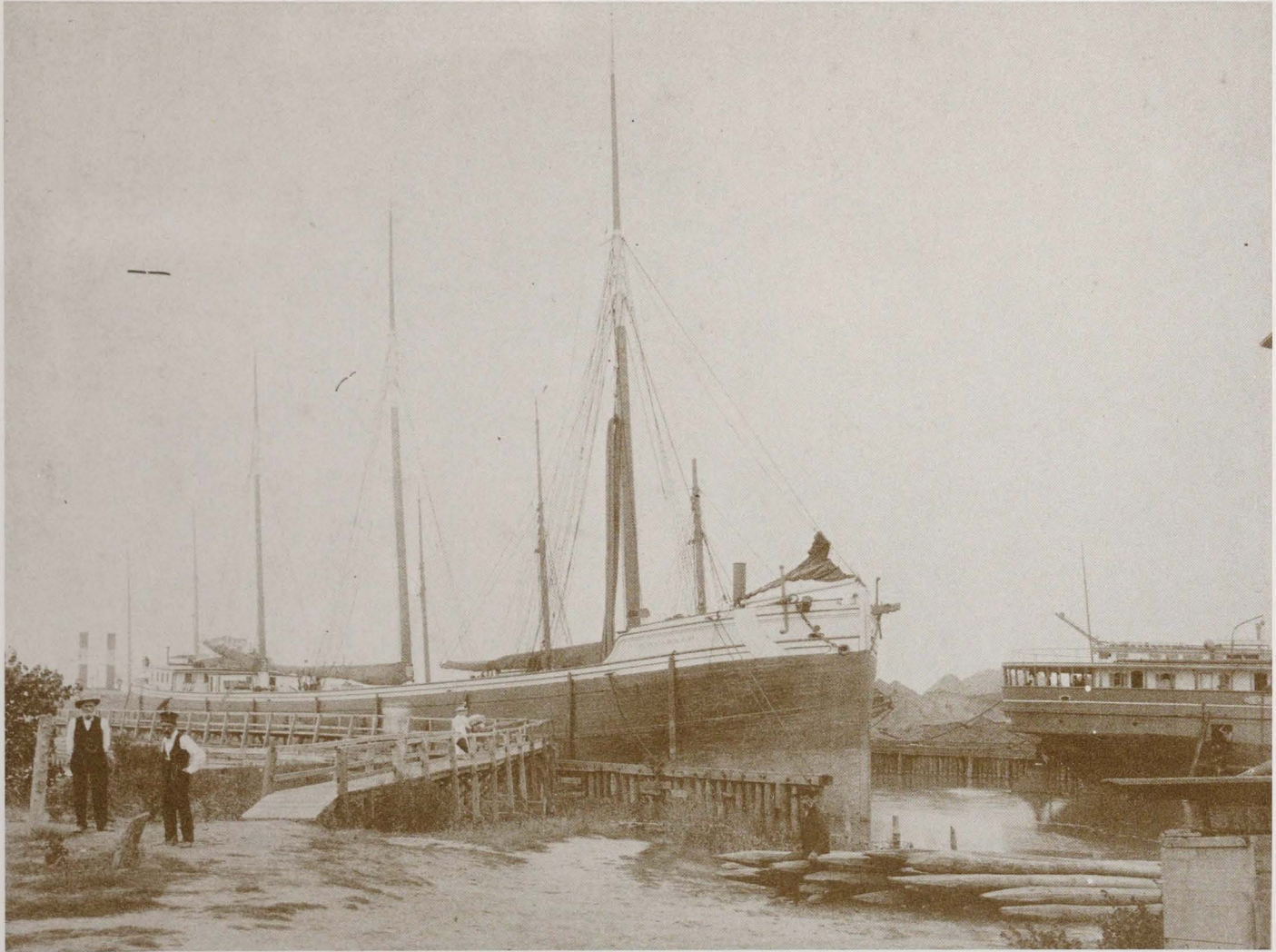
**Figure 9** The Jacob Miller family, Reitz, Pa. U.S. View Company.





**Figure 10** Unidentified group. U.S. View Company.





**Figure 11** U.S.S. *Parker*. U.S. View Company.





**Figure 12** Unidentified group. U.S. View Company.





**Figure 13** Merchants Hotel, Perock Woods, Somerset County, Pa. U.S. View Company.





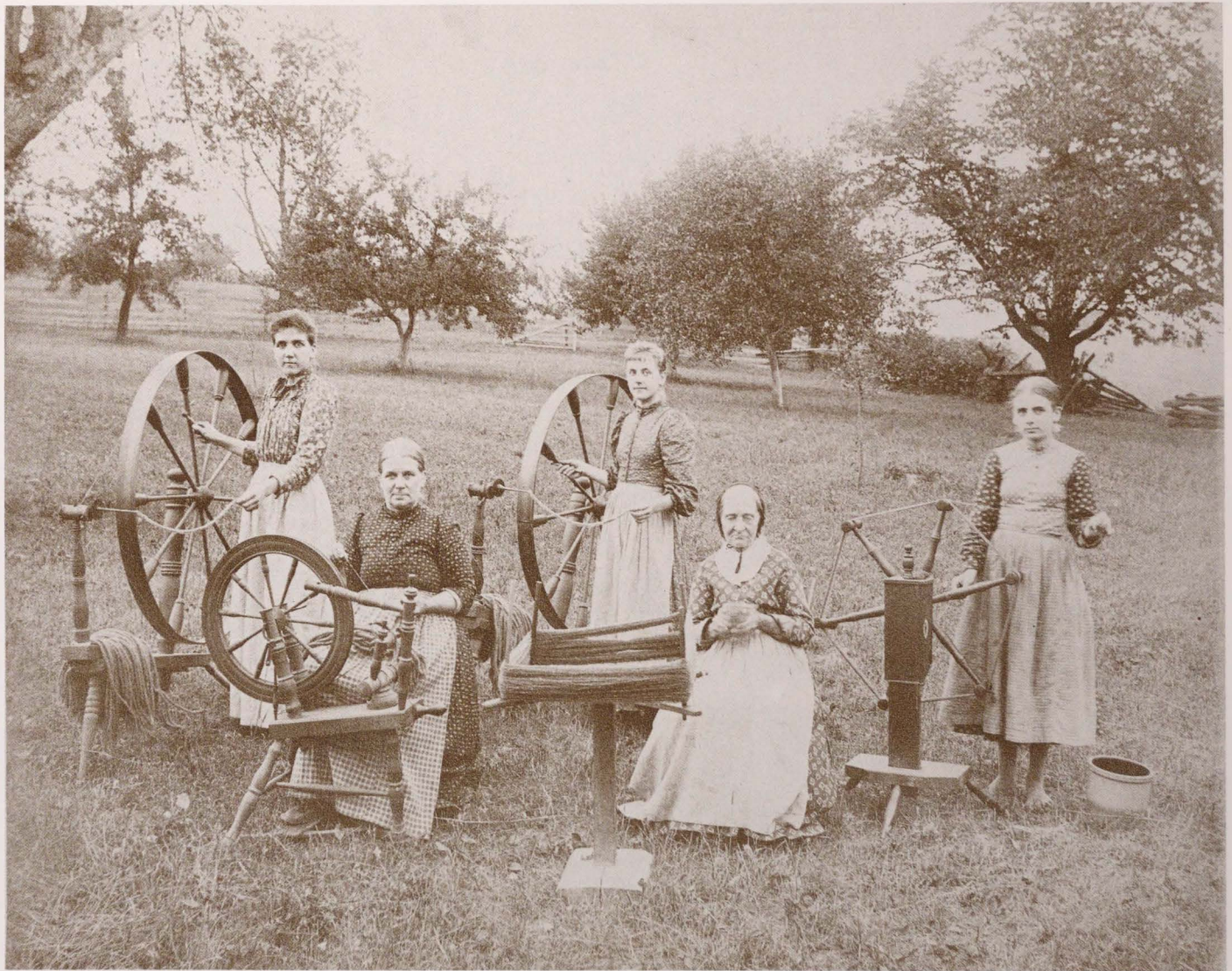
**Figure 14** B&O Railroad funeral wreath. U.S. View Company.





**Figure 15** Unidentified family. U.S. View Company.





**Figure 16** Unidentified group. U.S. View Company.



# Photomaking by "Young Filmmakers"

Frank India, Brian Sutton-Smith, and Michael Griffin



**Figure 17** Unidentified group. U.S. View Company.





**Figure 18** Postcard photographed by Harry Graybill, operator for the American Photo Company, Richfield, Pa.

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# Filmmaking by "Young Filmmakers"

Frank Eadie, Brian Sutton-Smith, and Michael Griffin

In the spring of 1974 we were approached by Rodger Larson and Lynne Hofer of the Young Filmmakers Foundation of New York with the request that we conduct research on their methods of teaching film to young children. Over the prior decade they had had particular success in bringing filmmaking experience to many youngsters in New York, some of whom had gone on to film careers. Their approach to filmmaking had been published in two works: *Young Filmmakers* (Larson and Meade 1969) and *The Young Animators and Their Discoveries* (Larson, Hofer, and Barrios 1973). This article summarizes some of the major findings of our resulting two-year study, which was funded by the Ford Foundation.<sup>1</sup>

## Presuppositions

Our task was to conduct an empirical study of the methods and procedures of the Young Filmmakers Foundation as used in their street-front workshops in the Lower East Side of New York. It quickly became apparent that we were bringing to that task a number of presuppositions. First, given that our own discipline was developmental psychology, we expected to find age differences in children's performances in camera work and editing. More specifically, we queried whether there might not be "stage" differences as well as age differences, that is, nonlinear as well as linear trends. A nonlinear trend might apply as it does in graphics, where young children draw with peculiar freedom, preadolescents show a more confined concern with technique, and adolescents show a burst of creativity (Gardner 1980:148). A linear trend would operate if children simply become more skillful, more complex, and less error-prone with age. Second, we wondered, following a quip by John Culkin,<sup>2</sup> whether "perhaps in film, ontogeny recapitulates montage"—whether, that is, the approach of children might parallel the course of film history: an initial concern for the flow of images without narrative, proceeding to fixed-camera narrative with Méliès, to narrative with multiple camera angles and positions with Porter, then to mobile camera and editing with Griffith and Eisenstein.

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Third, we assumed, following Worth and Adair, that children, like other "aboriginals," might well use the filmmaking opportunity to produce expressions of themselves and their world as they see it" (Worth and Adair 1975:252). Finally, we suspected that mastering film technique might have an impact on particular cognitive processes, bringing about changes in children's perceptual and cognitive performance (Olson 1974, Salomon 1979).

The following account of what we found and how our presuppositions fared starts with a brief description of our methodology and moves to a discussion of teaching variables, to consideration of the impact of physical setting and interaction variables, to film, and, finally, to psychological variables.

The data presented come from various sources involving, in all, approximately 150 child filmmakers and more than twice that number of films. There were three main groups:

1. Ninety-five children, ages 9 to 16 years, were tested and observed in after-school workshops on the Lower East Side of New York. These were lower-socioeconomic-status (SES) Euro-American and Puerto Rican children.

2. Forty-four children, four at each age level, two of each sex, ages 5 to 15 years, participated in a controlled study in which they received standardized instructions on making an animated film and then made such a film. These were predominantly non-Spanish-speaking Euro-American children of upper-middle SES.

3. Twelve children, ages 8 to 10 years, participated in a controlled live film study during school hours at a public school (P.S. 3).<sup>3</sup>

## Methodology

While the project using animation (group 2) represented our attempt to conduct a systematic study under partially controlled conditions, the other two research projects, which are the focus of the discussion that follows, were conducted more in the mode of ethnographic research, with some contributions from psychology. A complete methodological discussion is outside the scope of this article, but, in brief, we used before-and-after psychological testing and interviews. We followed up on children who had quit the project and retested them; we videotaped and observed samples of children during all filmmaking activities; we developed coded observation systems; we collected all the children's products (whether scripts or films) that we could. In addition, we consulted many of the films and records from the preceding five years of the workshop operation. We coded a representative sample of films shot by shot, using a list of some fifty technical variables (camera angles,



distances, editing, etc.). All this material was subjected to factor analyses and various other statistical procedures and is detailed in our earlier report (Sutton-Smith and Eadie 1979).

## Teaching

Although film content was by and large left for the children to determine, their teachers provided a relatively rigorous training in film technique and filmmaking. After a general introduction, almost all children were exposed to a series of equipment exercises (with viewer, splicer, camera in animation, camera in live action<sup>4</sup>), which was followed by instruction in developing a narrative treatment for a first film. For younger and inexperienced filmmakers, teacher supervision and instruction continued throughout the production of the shot list or story board, recruitment of cast and crew, other logistics, filming, editing, and sound dubbing. Teacher involvement, however, declined considerably with the children's age and experience, so that teachers functioned largely as resource people on the later films of older children. A well-worked-out narrative or shooting script remained a prerequisite for equipment use even for the most experienced, however.

Quite clearly, then, what Larson and colleagues took for granted and taught incorporates what Chalfen (1974, 1980) might consider the middle-class filmmaking paradigm—the filmmaker as director behind the camera, manipulating people or things from a distance—rather than the lower-class paradigm—the filmmaker presenting self as actor through the film as medium. In addition, Larson's approach included a concern with careful planning and preparation and an insistence that the filmmaker be responsible for every aspect of the process.

This is, of course, not the only possible approach. There are many alternatives, such as painting directly on film, doing direct filming without prior planning, animating art work, and filming theater, but these were not regularly used by Young Filmmakers, though they have been central for some other teachers (Sutton-Smith 1977). This means that it is not easy to tell, given these various mediations, to what extent these children's films were free expressions of their own way of perceiving the world. The same complexities, which also dogged the work of Worth and Adair (Mead 1975), may be inescapable in naturalistic studies of this kind. As we shall see, however, the children's films reveal much that has a clearly childlike quality.

Early in the project it became clear that, as developmental psychologists, our presuppositions were contrary to those of the professional filmmakers who were teaching the children. Whereas we wanted to see whatever young children could do, the film teachers were more concerned with the more "adequate" work of older children. We were concerned with beginnings, with zero points; they were concerned with outcomes, with final products. Ours was a genetic viewpoint; theirs was an aesthetic one. Whereas they preferred to work with young adolescents, we wanted to find out what younger children could do.

For the two years in which we were involved with the workshops and of approximately 100 children (all volunteers) from the ages of 8 to 15 years whom we observed, only one-third survived the program long enough to make a first film. Of this third, only a very small number were not critical of their experience. Most of them found the teachers difficult and demanding and much of the work tedious in the extreme, at least as recorded in their interviews afterward. This figure suggests that the Young Filmmakers program was run as an "art academy," the kind of place that has historically attracted volunteers, some of whom have the necessary "talent" to undergo the rigorous training processes required in ballet, music, and painting. The Young Filmmakers had modeled their teaching process after what many directors do in filmmaking and had sought to teach apprentices the necessary steps. Although we have no hard data from other filmmaking approaches, interviews with those other teachers seem to indicate that their less rigorous approaches resulted in lower drop-out rates. How this difference in outcomes is evaluated depends on whether one wishes to applaud those who bring new opportunities to children who would not otherwise have them or to discover models of film teaching that will be of general educational usefulness. Clearly, the Young Filmmakers score higher from the first than the second perspective.

## Physical Setting

Prior to our study, the workshop had been conducted out of the headquarters of the Young Filmmakers Foundation at 4 Rivington Street. Most of the child volunteers were native Spanish-speakers (largely, though not entirely, the New York-born children of Puerto Rican parents) and this was their home neighborhood. In that relatively "safe" environment, the children used exterior locations more than they did when the workshops moved to the relatively less safe environments of Ludlow Street and Henry Street, where the children preferred to be indoors rather than outdoors. Of the latter two locations, Henry Street was



nearer to a school and in a residential neighborhood, making it easier for volunteers to attend. Consequently, we found the children at Henry Street to be less involved; we also found weaker relationships between our tested psychological variables (discussed later) and filmmaking. The dropout rate was highest at this location. In the "safer" settings, with as many as seven adults present and a resultant apprenticeship kind of relationship, more girls were present because they reacted more favorably to the "safe" experience than did the boys.

## Interactional Variables

The film teachers were of mixed ethnic background (Anglo, Jewish, Puerto Rican): two were more ideologically interested in the opportunities for political self-expression that filmmaking would bring to these children, and one was more interested in teaching film technique for its own sake. The films produced by children working with this latter teacher were more technically complex than the others. The films of children under the age of 12, however, lacked evidence of ideological concerns regardless of teacher and contained dominantly childlike interests (chasing and fighting), whereas children above that age began to register ideological content (problems of drug usage, crime, etc.).

In the project with twelve younger middle-class children, the female sex of the teacher and the dependent attitude required to learn filmmaking with her were probably responsible for the fact that most of the boys dropped out. Our study itself, however, also had an impact: those children who were selected for the heaviest schedules of observation were also those most likely to drop out.

When films made by Young Filmmakers' students before our research study were compared with films made by children during this study, two major differences were noted: the latter films were set indoors far more often, and they had more sophisticated sound tracks (more sound effects, less popular music). Although the first difference was indubitably due, in part, to the more dangerous and foreign location of the Ludlow Street workshop, the teachers' stated intention to exercise greater control over the filmmaking process may have led them to encourage that films be produced within the workshop, where closer supervision was possible. The second change was probably due to the arrival of a new teacher who was a musician and specialized in teaching sound techniques as well as to the greater general teacher involvement in production.

At one location, there was a knife-wielding incident between some Chinese and Puerto Rican girls who were members of the project. On three occasions all the equipment was stolen. Perhaps not surprisingly, something of a "macho" film culture developed at this location, and most of the films made by girls reflected the same kind of combative and monster content that characterized the films of the boys. In the other projects, with non-Spanish-speaking, middle-class children in a school environment, characteristic sex stereotypes prevailed in the films. In the animation study, with the same toys available to all children, for example, the boys used significantly more war toys and vehicles and the girls used significantly more animals and people.

## Age Trends in Filmmaking

This analysis is derived from forty-three films made by twenty-eight filmmakers in the Young Filmmaker's workshops. We can compare the films of the younger children (7 to 10 years) with those of children ages 11 to 13 and 14 to 16 years. In addition, we can compare first films with later films made by some of the same children. The data cited have undergone factor analyses and regression analyses, although detail is not provided here.

### Ages 7 to 10 Years

By and large, the films of this group are simple, unelaborated narratives. Highly conventional signifying props are used as cues for character identity and locational establishment (e.g., a cap for a policeman, a cape for Dracula, cardboard Martian heads, etc.). There is little or no condensation of time; actions portrayed on the screen almost always take as much time as they would naturally. An extremely large proportion of the films is taken up with walking, running, scuffling, fighting, and going in and out of doors and up and down the street.

The silent film *Story of Dracula*, made by a 9-year-old girl, is representative of this propensity to show certain prominent actions frequently. Its plot is also relatively typical of those of this age group. It is 3 minutes and 20 seconds long and consists of twenty-three different shots. About half the time, characters are shown walking or running around; moving or parading in front of the camera seems to equal the story line in importance. The shot list is as follows:



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### Story of Dracula

- |                              |   |
|------------------------------|---|
| 1. Medium shot.              | Dracula is walking. (Dracula is identified by the mask and cape she is wearing.)  |
| 2. Medium shot.              | Dracula walks in the door.  |
| 3. Medium shot to long shot. | Dracula walks down a hall away from the camera and then turns to face the camera. |

(This walking and establishment of Dracula takes exactly 30 seconds.)

- |                              |   |
|------------------------------|---|
| 4. Medium shot.              | Casketlike cabinet with the lid jiggling (2.5 seconds).       |
| 5. Medium close shot.        | Boy and girl walk out the door.                               |
| 6. Medium long shot.         | Boy and girl walk down the sidewalk.                          |
| 7. Medium shot.              | Boy and girl walk in a door.                                  |
| 8. Medium shot to long shot. | Boy and girl walk down the hallway to the casketlike cabinet. |

(This walking and establishment of the boy and girl takes exactly 20 seconds.)

- |                              |   |
|------------------------------|---|
| 9. Long shot to medium shot. | Boy and girl back toward camera, with Dracula chasing them.   |
| 10. Medium shot.             | Dracula stops at doorway they escape through, turns, and slowly walks back past the camera to the original door (10 seconds). |
| 11. Long shot.               | Dracula (inside) walks down the hallway away from the camera (10 seconds).  |
| 12. Medium shot.             | Dracula stands looking at the camera, then sits down in "coffin."   |

(In this 24-second section, Dracula is parading and posing for the camera.)

- |                               |  |
|-------------------------------|--|
| 13. Medium shot.              | Boy and girl come in door and talk to a woman (mother) (10 seconds).   |
| 14. Long shot to medium shot. | Dracula rises out of "coffin" and walks toward the camera (10 seconds).  |
| 15. Close shot.               | Dracula walks past the camera (3 seconds).   |
| 16. Medium shot to long shot. | Dracula walks up to the boy lying on a bed, leans over him, appears to bite him, and runs back past the camera and away down the hall (9 seconds). |
| 17. Medium long shot.         | Dracula stands in the "coffin" facing the camera, then stoops into the coffin (4 seconds).   |
| 18. Medium shot.              | Girl wakes mother and shows bitten brother (10 seconds).   |
| 19. Close shot.               | Bitten boy (2 seconds).  |
| 20. Medium shot.              | Mother and sister go to door and pull in a boy with a policeman's cap on. He walks over and looks at bitten boy (16 seconds).                      |
| 21. Medium shot.              | Jump cut to policeman and girl who run over to coffin and kick open the lid. Policeman drives a stake into the vampire (17 seconds).               |
| 22. Close shot.               | Mother strokes boy's head. He gets up, and gives her a long hug (13 seconds).  |
| 23. Medium close shot.        | Boy rubs neck and talks to girl (13 seconds).  |



The titles of the other films of this nature suggest that the children cared less about unique or creative plots (they simply borrowed them from each other) than about using the camera to follow movement. Titles were: *Boxing*, *The Cow Robber*, *The Creeper*, *Dracula Kills a Woman*, *House of Vampires*, *Story of Dracula*, *Vampire Who Hides in a Tree*, *Hungry Monster*, *End of the World*, *Desperate Girl*, *The Lost Girl*, *The Murder*, and *Three Girls Who Get Killed*. Filmic behavior—behavior constructed and staged for the film—melts into natural, nonplotted behavior. Often the children seem to be playing with one another and the cameraman, as a participant observer, simply pushes the button on the camera. The same setting is often used for all the action, regardless of what type of event occurs. The same kind of make-believe that allows children to use the same room as a store one minute and a jail the next permits them to use one small area in which to chase the villain around and around.

These filmmakers clearly are attempting to organize actors and impose a narrative structure in a general atmosphere of children playing with one another and conducting what Chalfen (1974) calls "look at me" performances for the camera. The end results, however, are more than simply testimonies to the difficulty children experience in organizing the various aspects of filmmaking. The camera tends to be purposefully directed toward playful activity, moving, chasing, and fighting, and footage of this kind is not eliminated in the editing process. *Movement itself provides a central focus for many of the films*. Shot and sequence structure are centered around attention to movement. Cutting from one stationary object to another is very rare. Cutting from one perspective to another on the same object is virtually nonexistent. Cutting back and forth from long shot to medium shot or to close-up for purposes of directing attention or creating a visual rhythm does not occur. Cutting from one location to another is unusual. Each shot and each shot transition tend to be focused on a movement to or from some point where attention has been or is being directed.

The most common type of shot is a following pan. In several of the films, well over half the shots are connecting and following pans. There are also attempts to match-cut continuous actions and rough attempts to cross-cut the pursuer and the pursued in chase scenes. But none of these are mastered or integrated as thoroughly as the tendency to follow movement as a transition for changing location, introducing characters, and linking the events of a narrative. Thus, the active, physical movements that are so integral to the play culture of children play a twofold role. On the one hand, the activity provides a large amount of the content that the children are interested in showing; on the other hand, it is an element of the structure by which transitions are made and films are sequenced.

The results of our statistical analysis of the fifty-eight technical codes derived from these films are similar to those derived from our descriptive analysis (Griffin 1978). The statistical analysis also draws attention to some characteristics that these films lack. The younger children, compared with those of older age groups, demonstrate a significantly greater usage of high-angle shots (often showing dead bodies on the ground), matched cuts (owing to the large number of extended walking and chase scenes cited above), camera and editing "errors"<sup>5</sup> (unsteady camera work, flash frames, poor framing, unintended jump cuts), spoken narration over film and over titles and credits, natural lighting, and outdoor shots. These younger children make significantly less use of low-angle shots, zooms, synchronized sound effects, dubbed voices, and transition shots. In addition, this group made the shortest films, used the fewest locations, made less use of unusual camera angles and techniques (zooms), and were less varied in their soundtracks. This was true despite the fact that the same equipment was used by all children and that the teachers attempted to teach the same material to all children.

Comparing the earlier and later films made by the same children, we find that films by the youngest children show the greatest change over time. There is the greatest decline in the labile uncontrolled use of the camera and in the total number of "errors." On the other hand, some of this group's most distinctive characteristics are enhanced rather than diminished by experience. These young children show even more concern for the use of external settings for their camera work, especially as evidenced through their establishing shots and the use of natural light (older children decrease their use of these techniques with experience). They continue to construct extended scenes with few transitions and with even more matched cuts. They show an increasing use of cut-aways as a means of developing a plot or focusing on details. In addition, narration continues to be used frequently, instead of more sophisticated (dubbing, synchronizing, etc.) sound techniques.

There is, then, evidence here that, with teaching, these younger children improve (make fewer "errors") but continue to emphasize their own "stagelike," action-oriented approach to filmmaking. Only these young (ages 7 to 10 years) children show characteristics resembling those of Chalfen's (1980) Stable Pattern I (characteristic of his black-American lower-class samples). Note that the films of young middle-class Euro-American children have had the same characteristics, except that the girls did not generally portray violence. The films of the older poor native Spanish-speaking and black-American children do not share these characteristics. This leads us to conclude that children over 10 years of age, taught in terms of the middle-class, "young filmmaker" para-



digm, give up Stable Pattern I characteristics in favor of the conventions they have been taught.

But those younger children who are not so susceptible to adult norms stay under the sway of their own action-oriented play norms. We might conclude that Chalfen's older, lower-class black-American groups would also have shifted their techniques if pressure of the kind applied here had been applied to them. In a sense, by giving them as much leeway as he did and by working with well-established peer groups, Chalfen allowed peer group norms to dominate in his situation. His middle-class group, which was only an aggregation of individuals rather than a well-established gang group, was more susceptible to industry norms. Of course, there is nothing to indicate our very youngest group might not have shifted, with further teaching, from their own distinctive viewpoint toward the more conventional one of older children. Still, for the year or two of this project, they held firm.

### Ages 11 to 13 Years

This age group is more heterogeneous in the content of its films than the earlier one and also shows a much greater concern with technique. In one group of films, the major concern is with some special piece of trickery in camera or editing work. Although the narrative may be no more complex than in the films of the younger children, the possibility of manipulation seems to have induced a more conscious organization of formal elements. Thus, in *The Cookie Show*, by a girl of 13, the narrative consists of nothing more than a girl sitting down to play with a deck of cards only to have the cards disappear and then reappear when she looks away. The initial sequence, which shows her walking into the frame, getting herself a drink, and sitting down to begin a game of solitaire, merely sets the stage for the cards to be pulled off the table so they can pop back onto the table after the next cut. This disappearing and reappearing sequence is followed by our heroine fainting, as viewed by a whirling camera, and the film is over. Yet even though the film has only ten shots, the use of this technical illusion requires a more careful construction of direct cuts than was displayed in the films of the younger group.

*The Magic Stick*, by a boy of 11, and *Twin Magic*, by a boy of 12, are similarly constructed around the cut necessary to pop objects and people in and out of the frame. The narrative in *The Magic Stick* consists of a boy finding a stick that will make things disappear, then using it to eliminate people, objects, and finally (by mistake) his friend. *Twin Magic* is more involved. In it, the same actor plays two characters and there is an explicit attempt to moralize about the abuse of power. After a skilled magician teaches his twin brother the secrets of his magical powers, the

brother abuses those powers by making too many people and objects appear or disappear. Because of the abuse, he forfeits his powers.

In a second group of films, children of this age level seem to seek more realistic film action, moving away from a reliance on overt signifying props, printed narratives, or special effects. These films are more clearly fictive in the sense that they are more carefully controlled constructions, and in most cases their direct derivation from a particular film genre is clear. Titles are *The Addict*, *Bag Full of Sorrows*, *The Detective*, *A Friend in Need*, *Kung Fu*, *Mary's First Friend*, *The Picnic*, and *Stop before Starting*. The notion of creating a film for an audience seems to be an important influence. The action of the film is more completely and consciously manipulated. It is not affected so much by natural play activity: the filming frame is not confused with the play frame.

For example, *The Detective*, made by two 12-year-old boys, is a naturalistically staged film with a simple plot. In this film, as in *Kung Fu*, *A Friend in Need*, and others, kung fu-type fighting seems to be particularly popular. The film begins with a typical following pan of a boy strolling along the sidewalk, and this sets the pace for a very movement-oriented film. Thirty-five of forty-two shots in this film contain following pans. It, again, has many of the characteristics of the younger films and is structured so that a great deal of fighting can be shown. But the attempts to provide a natural-looking stage for the actions is evident, from the office-type appearance of the police station to the use of a lobby and a set of revolving doors to portray a hospital. The narrative structure is like that of a typical television show, but the plot elaboration television might present is replaced by fight sequences. The film can be characterized with the following scheme:

1. Hero is introduced.
2. Hero meets villain (fight sequence).
3. Villains are locked up.
4. Villains escape (fight sequence).
5. Villains challenge hero to take revenge (fight sequence).
6. Villains defeat hero by ganging up on him.
7. Hero finally vanquishes villains (fight sequence).
8. End.

*A Friend in Need*, by a 12-year-old boy, has a very nearly identical structure.

1. Heroes are introduced (they are followed as they run).
2. Heroes help someone being beaten by villains (fight sequence).



3. Heroes practice their kung fu (fight sequence).
4. Villains take revenge by capturing one of the heroes (fight sequence).
5. Other hero comes to his rescue (fight sequence).
6. Villains are defeated.
7. End.

The third group of films by children in the 11 to 13 age group shows an influence of television genre and a desire to be clever or funny. In some cases there is a self-conscious resistance to taking the filmmaking seriously, and in these cases parody is the common product. For example, *Channel 6 News*, by a boy of 11, is a 30-second parody, with "Bert Beautiful" giving a special report. There is a facsimile of a news studio, including table, chair, map, cup of water, and Channel 6 News logo. There are four shots, all stationary: one of the logo, two of Bert Beautiful, and one of a Washington correspondent. The framing of the reporters is conventional.

*A Night of TV Watching*, by a boy of 14, is a series of parodies of several different television shows, with an incredulous and/or disgusted viewer changing channels. While the content is determined by the particular program being mocked, the form seems most influenced by the attempt to condense several different parodies into a short period of time.

*The Bionic Kid*, by a boy of 13, is an attempt to duplicate the bionic themes and special effects of television shows like "The Six Million Dollar Man" and "The Bionic Woman." The end product is more a caricature of its television counterparts than a parody or replication of them.

The statistical analyses of these films show, as expected, that this age group makes fewer "errors" (in five of the seven categories coded) and longer films than the younger group and that they use fewer camera angles per shot but more point-of-view shots (in which the camera acts as the eye of the person). More interesting, however, is this group and the younger group are at the extremes on many characteristics, with the 14- to 16-year-olds taking an intermediate position. When all nonlinear age differences are considered, these two younger groups are ten times as likely as any other two to show the greatest contrast on the available variables. The relationship between them is largely, then, of a nonlinear or "stage" character. In general, if the earlier group was largely focused on action, the middle group is largely focused on technique, which is very controlled and includes difficult elements such as voice and sound effect synchronization and transition shots.

### Ages 14 to 16 Years

The films of these older children more successfully control and manipulate the medium for a meaningful purpose. They are the most fictive products in that they clearly have been consciously constructed for an audience. In none of these films has candid behavior simply been recorded or have shots been put together in an unintentional or uncontrolled fashion. Conventional continuous-motion editing seems to be mastered, and more creative editing is often displayed. Plot and sequence structure still rely heavily on television and movie models, but attempts to make more personal statements are common, and the films tend to go beyond duplications of a television genre. Special effects are used with a meaningful purpose within the overall structure of the film and do not become the central focus.

*Time*, by a boy of 15, addresses conflict between "real" time and the manipulated time of film. The filmmaker's narrative—in which a boy who has to be home by a certain time is continually delayed by freak mishaps—creates a sense that a great deal of time has passed, even though the film is relatively short. Each shot is purposefully organized. The various vehicles the boy rides—a ferry, a train, a van—and the scenery outside are shown in carefully constructed reversal cuts from inside to outside and back again.

*I Can't Get Started*, by a boy of 14, is about a lonely and destitute young woman who wanders around the city, sleeps outside, gets caught shoplifting, and sits and stares, simulating depression and loneliness. The soundtrack consists mainly of songs sung by the blues singer Billie Holiday. There are back-and-forth close shots when the woman talks to the store detective. There is a liberal use of the zoom lens for establishing scenes. Continuous-motion cutting is used to follow the woman as she moves within a location. Cuts are used to change location. A long dolly shot is constructed by the camera on an escalator. The movement of character is the central focus of the entire film, but the movement is manipulated for the purpose of the film, rather than the film being structured by the movement.

The statistical analyses show that these older children make even longer films and even fewer "errors" than both prior groups. There is more indoor filming, more diversity of distance and angles, and more zooms and points of view that are content-related techniques.



### Summary of Age Differences

The progression we have noted seems to be from a very loose style focused on playful actions (7 to 10 years), to a very controlled, precise style focused on effects and trickery (11 to 13 years), to a flexible, complex, and content-related style (14 to 16 years). The only shifts that were consistent across all three age levels were a decrease in "errors" and increases in the use of the zoom lens and in film length. The major changes that came about as a result of experience for all age levels (when first films were compared with fourth films by the same filmmakers) were *reductions*: in camera movements, in the use of conventional camera (medium and medium-close) distances, in camera and editing "errors," and in the use of the sound techniques of voice-overs and pop recordings. These variables, although they are important, do not constitute the major part of the variance in this study. The simplest explanation for them is the continued application of teacher pressure to learn minimal competences and to avoid "error," although we cannot say whether that learning was facilitated most by teachers, peers, or personal feedback from the films made.

One type of explanation for these "stage" differences involves the kinds of cognitive and social shifts that are known to occur around the age of 11: the greater theoretical capacity that children acquire as well as a greater concern for the way others might perceive their work. While this kind of developmental theory seems relevant to the shifts from the younger to the middle group, it does not explain what happens with the oldest group. There is no prior reason for expecting this group not to continue the linear progression of changes shown by the 11 to 13 age group. The character of film skill acquisition has more explanatory power here than do theories of cognitive and social development.

Thus, the lack of mastery of a new film skill often constrains its use by beginners. While children in the youngest group remain relatively unaffected by their lack of expertise, continuing to use the camera as a vehicle for recording their own play, those in the intermediate group definitely show such constriction on their road to mastery. The older children apparently master these skills more easily and so can exploit them more flexibly. A long-standing evaluation of children's development through graphics similarly contends that there is a shift from spontaneity in those under 11 years old, to technical concerns in the pre-adolescent, and a return to creative uses in the middle-adolescent period (Gardner 1980). As Gardner says, in the middle period "children are seen as sinking into the doldrums of literalism. . . . this interest in accuracy overwhelms the child's behavior" (Gardner 1980:148-149). He suggests that this is probably due

to the decreasing use in school of graphics and the increasing use of words as the major mode of communication.

While there is a fairly rigid following of certain rules of camera work and editing by 11- to 13-year-olds, so that they can control these techniques, the content to which the techniques are rigidly applied is itself varied. Films involve both technique and content, and it appears that either one can be concentrated on at any one time. The intermediate age group, then, actually displays no loss of creativity in an area they have already mastered (words, ideas, and narratives for the movies) but rather a literalness on the camera and editing levels. Perhaps the theory of preadolescent literalness or expressive sterility needs to be reconsidered in terms of the distinction between medium and message and in terms of the level of general experience the child has with a particular task when encountering its subskills.

### Psychological Measures

The children submitted to a battery of psychological tests and interviews prior to beginning their workshop experience. Months or years later, they were followed up with exit tests and interviews, and those children who had dropped out were also located for similar assessments. Here we can only summarize these results.

### Selection Variables

The children who came to the workshop as volunteers were undoubtedly different from others who did not come. To begin with, the boys and, even more strikingly, the girls were of higher than average intelligence for their culture groups.

When the volunteers were themselves divided into those who stayed with the workshop and those who dropped out, we found that the dropouts (a) were of lower IQ (performance) but (b) had higher scores on the Torrance Figural Test of Creative Thinking. Those who stayed to complete one or more films (a) had higher scores on the Wechsler Intelligence Scale for Children (W.I.S.C.) Picture Completion Subtest, (b) had higher scores on the W.I.S.C. Object Assembly Subtest, (c) had better memory for films that had been observed being made in New York, and (d) were more often the youngest of a small family or the eldest of a large family than from other possible birth orders. All differences were statistically significant.

It was a shock to us to discover that those who dropped out were already somewhat more creative, in terms of displaying the labile free associational competence required by the Torrance test. But when we look at the characteristics of those who stayed on in



the program and consider the analytic competences required by the tasks of camera work and editing as well as the dependency required in order to garner information from the teachers, the finding makes more sense. The literature shows that firstborns (and, possibly, large-gap "last borns") are superior to other children in their use of affiliation. Their long and closer apprenticeship with their own parents seems to pay off when they must work with other adults (Sutton-Smith and Rosenberg 1971). It also makes sense that they may also be predisposed to perceive things more analytically, as the tests suggest (picture completion and object assembly).

The extensive interviews yielded very little, but the item that differentiated those who stayed in the program from those who did not appears to indicate somewhat greater memory of past film-related experience and, therefore, perhaps greater motivation toward filmmaking as an experience. While there are probably many other perceptual, cognitive, and characterological variables that might be relevant to the full picture, the differences we found are sufficient to suggest that filmmaking as an art form "selects out" those who have special traits and abilities.

We doubt that these predispositions qualifying the group that stays for training are sufficient to explain much of the content and form of filmmaking itself. It is certainly possible that there are differences *within* the successful group in these and other as yet unexamined psychological properties that would help to explain the films that are produced: this kind of thinking is found in psychodynamic theories of art. But given the fairly stereotypic content and structure of the films, we have some doubts as to its importance in this project, except in evaluating the more idiosyncratic and complex work of some of the oldest age group. When one is dealing with highly talented or genius mature artists, small-scale psychological differences might well be critical; when one is dealing with a fairly normal, if not average, population of children, that need not be the case. It is our judgment, therefore, that the psychological predispositions qualifying the children for entry and continuance in filmmaking in the present project do not have much to tell us about the filmmaking that then takes place.

### Impact of Filmmaking Experience

We deal here with what can be called the psychological or educational impact of the filmmaking experience on those who participate. It has long been held that forms of art have valuable educational effects upon the learners. There is, unfortunately, little systematic empirical evidence that this is indeed the case, although the anecdotal evidence seems to be abundant.

In general, we expected children to show improvement on the performance aspects of the W.I.S.C. after their filmmaking experience because the tests are analogous in various ways to the cognitive organization required in making either live or animated films. We expected improvement as well on the Witkin Embedded Figures test, in which subjects search out hidden figures in graphic presentations, because the process of editing sometimes takes hundreds of hours of disembedding the subtle cues that indicate appropriate frames for cuts. We thought that these hundreds of hours of persistent inner direction ought to have some effects on tests of experienced locus of control also.

In analyzing changes in test scores over time, we separated the effects of the actual completion of the full set of filmmaking operations from the effects of simple presence in the workshop environment. Significant changes in the cognitive measures proved to be related (in different ways) to the number of films produced and to the amount of time spent in the workshop. A single test—the Block Design subtest of the W.I.S.C.—showed a significantly larger increase for those completing at least one major film than for those completing no films over the initial four- or five-month period. The locus of control measure also showed a significant shift for this group.

The one significant effect of merely participating in the workshop was on the Embedded Figures Test scores. While most groups showed gains on this test, the gain of those children who stayed in the workshop at least four months was significantly larger than that of those children who dropped out or who did not participate.

When the particular year of attendance was considered in the analyses of amount of participation, the interaction of the two was significant in a majority of cases. The differences involved large gains for those who attended the workshop the first year but not for those who attended the second year, when three burglaries resulted in the loss of some films, forced temporary closings, and resulted in the move to a less desirable but safer location. This effect was particularly striking for, again, the Embedded Figures Test was due almost exclusively to the girls in the groups. This may indicate that girls, who consistently score lower than boys on this test, were profiting more rapidly than boys from their experiences.

The fact that the children did not differ initially on the measure of embedded figures but did differ on measures on picture completion, object assembly, and on the Torrance creativity tests and differed ultimately on measures of picture arrangement and embedded figures implies a fairly complex arrangement of competences. The predisposing competences of object assembly and picture completion appear to facilitate the analogous learned compe-



tences of disembedding figures, block design, and picture arrangement, the latter being more specific to the filmmaking task.

These are unique findings in the literature of psychological aesthetics and offer the promise that similar findings are possible in other expressive areas. They imply that particular kinds of art experience have unique formative effects on psychological development. The literature on games and play has established that similar formative effects result from the mastery of their expressive systems (Sutton-Smith 1972).

## Conclusions

The present empirical study of the work of professionals from the Young Filmmakers Foundation teaching in workshops on the Lower East Side of New York between 1974 and 1976 allows the following conclusions. First, despite the difficulties of disentangling teacher influence from child perspective in work of this naturalistic kind, it is very clear that the youngest children, at least, showed a stagelike proclivity to persist with their own interests and camera techniques, despite the emphasis by teachers on what they considered to be more sophisticated forms. In some sense, at this age the children's "message" superseded the adult form of the medium. The teachers were successful, however, in many respects in reducing filmmaking "errors."

Second, it seems that these younger children were motivated largely by their own play interests in action, although we have not considered here the possible effects of exposure to cartoon mass media, in which a focus on insistent action is also a primary value. The films of the middle group of children seem susceptible to the interpretation that popular films may have provided the major exemplars. Here indeed the medium (as trickery and parody) seems to have become the message. In addition, their great concern with technique rather than free expression was not inconsistent with the age changes noted in previous work on graphics (Gardner 1980). Their humor and creativity in parody films, however, might imply that what we actually find in filmmaking with multiple codes is that newly learned codes are constrained (camera and editing techniques), while well-established codes (of words and imagery) are more freely expressed.

Finally, we do seem to have provided very considerable evidence that the persistent exercise of a medium can lead to important impacts on various measures of perceptual, cognitive, and characterological competence. Perhaps the relatively poor results from prior research have been due to the limited nature of the exposure of subjects to the medium under consideration.

## Notes

- 1 We thank Lynne Hofer for persuading McGeorge Bundy that the Ford Foundation should fund this kind of research. We register our appreciation also to Oleg Labonov and Richard Kapp of the Ford Foundation, who were so helpful throughout all the phases of the grant.

Some 50 students helped with this project by way of video coding, data analysis, language coding, interviewing, testing, and film coding or as observers. While there are too many to list here, we would like to single out our secretary, Karen Hansen, as well as Frank Barraca and Peter Lazzaro for their special assistance.

During the entire project, of course, the teachers—Susan Zeig, Pedro Rivera, Jerry Lindhal, and Carlos Baez—as well as the Young Filmmaker directors—Rodger Larson, Lynne Hofer, and Jamie Barrios—played a primary role.

- 2 Symposium on Child Made Films, Lake Minnewaska, New York, April 1977.
- 3 See Sutton-Smith and Eadie (1979) for a discussion of the means of recruitment at the larger workshop. Peer contact was probably the most common. Participants in the twelve-child study were volunteers from among subjects in a larger study of the development of narrative competence at an elementary school in Greenwich Village. In both cases all expenses were borne by foundation grants to Young Filmmakers or by the research budget.
- 4 With very few exceptions, all work was done with super-8 equipment.
- 5 What are called "errors" is based on a contrast with the older children who do not do these things as much (unsteady camera work, flash frames, poor framing, unintended jump cuts). While it is possible that these characteristics represent distinctive aspects of the younger child's perception of the world, it is our judgment that they do not, that these are not deliberate actions and that they would not do them if they had the choice. We may contrast these "errors" with the other unique young child characteristics that increase rather than diminish with experience: external settings, few transitions, more matched cuts, cutaways, etc. The former group of "errors" was disparaged by the teachers; the latter was not.



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## Reviews and Discussion

**Christian Metz.** *The Imaginary Signifier: Psychoanalysis and the Cinema.* Bloomington: Indiana University Press, 1982, 327 pp. \$22.50.

**Stephen Heath.** *Questions of Cinema.* Bloomington: Indiana University Press, 1981. 257 pp. \$22.50 (cloth), \$9.95 (paper).

**Reviewed by Ian Duncan**  
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"Just after Marx, just before Freud," declares Stephen Heath in the opening chapter of his book, "we have a certain power of cinema." In other words, Marxism and Freudian psychoanalysis may claim joint interpretive privilege for the discussion of cinema because all three institutions emerge at, are constituted by, the same historical moment. But what the critic often neglects to take into account are his own conditions of discourse. The institution of textual criticism from which he speaks also appears on the academic curriculum at this historical moment.

Neither of the present studies, by Heath and Christian Metz, really faces the problem of its own social and historical status. This is not so much the lack of a certain trendy self-consciousness as symptom of a larger rhetorical problem, involving the relationship of the text to its subject and to its readership. Both Metz and Heath represent the strenuous methodological blend of semiotics, psychoanalysis, and (in Heath's case) Marxism which dominates current theoretical discussion of film texts and the institution of cinema. Such a "film theory" presents familiar paradoxes with a new urgency: while the literary tradition and the fine arts are the property of an educated elite, for whom the critic performs an acknowledged (if controversial) mediating function, film is still a "mass media" form. The territorial division between its social operation and the activity of the academic critic is almost absolute; as a result, "film theory" has tended to frequent the interdisciplinary shelter of "cultural studies," in which less attention is paid to New-Critical analysis of the text in and for itself than to the possibilities of sociological extrapolation.

This is no doubt as it should be; but the situation raises an important question for both books here, especially Heath's, which purports to be Marxist and thus makes extracurricular, Utopian gestures. Does film theory (as distinct from journalistic criticism) chart its own province of self-legitimizing discourse, or a larger area of concern; can it tell us something about the cinema and ourselves, rather than about itself?

Christian Metz's is both the more elegant and more self-contained of the enterprises considered here. Since the 1960s Metz has been the most influential of the French semiotic film theorists; in the essays collected in this book (1973–1976) he modifies his earlier phenomenological formalism with an emphasis on Freudian psychoanalysis, particularly Jacques Lacan's powerful version of it. The two major essays in the book attempt to construct a theoretical model for cinema as psychophenomenological apparatus, first by describing the psychoanalytic ground for the operation of the cinematic signifier—film as text and institution composed of certain formal strategies and codes—and then by exploring the relationship of primary (unconscious) and secondary (linguistic) orders in the process of signification, through the mediation of psychoanalytic and semiotic-rhetorical terminologies. If, as Metz argues, cinema provides privileged access to the primary, then his critique and redefinition of the terminologies ought to tell us something about the primary order and modes of secundarization. The primary-order attentions of psychoanalysis and the secondary-order attentions of linguistics cover together the entire semiotic field; thus Metz aspires to a theoretical construction of the signifying operation itself, at a general level.

Metz begins with a strong account of the psychological operation of film. This depends on the bold assumption of a structural correspondence, if not homology, between the conceptual model of the perceiving ego and the topographical apparatus of the cinema. Metz argues that the power of the cinematic experience lies in the phenomenological status of the screen as "other space," which constitutes the viewer as "transcendental subject" by establishing its activity in a dimension separate from him. In the movie theater, the radical separation of the spectacle (as record, trace, representation of an absent scene) means that the viewer can only take part as detached and all-perceiving eye, a kind of technological realization of Emerson's "transparent eyeball," a figure for an absolute and unconditioned act of seeing as a site for the spectator, in which, indeed, the spectacle is conditional on the act of seeing. Thus, the spectator is constituted as phenomenological "first cause," secure in the authority of his look so long as the film maintains (as it is codified to do) the coherence of that look as intelligible construction of the world. Metz supports this by reference to Lacan's famous "mirror-phase" theory: the mirror phase represents the subject's entry into discourse, that myth moment (the infant held up to the mirror sees itself and its parent) when objectification of the self and the other establishes once and for all the presence/identity of the self in terms of the other. The cinematic screen becomes a sophisticated mirror, in which narrative is the enactment of spectator identification through filmic look, its codes of closure restoring the self against the other as "pure act



of perception." Metz identifies this illusion of perceptual mastery which the film exists to create and to legitimate with the Lacanian realm of the "imaginary": that ideal space of ontological wholeness and freedom. Stephen Heath is to criticize André Bazin's formulation of this as phenomenological idealism (pp. 42–45), arguing that the perceiving ego is not preexistent and autonomous but is in fact constructed by the cinematic apparatus as a condition of the latter's function. The only way to avoid theoretical circularity at this point is to go on to consider the cinematic apparatus in terms of its constituting "real conditions of society and men." However, Metz does not pursue this emphasis in these essays, exposing himself to a similar criticism.

Metz's description so far corresponds with standard structuralist accounts of narrative and its ideological operation. He argues that the cinematic regime enjoys special power, invested in its explicit separation of spectator from spectacle: the latter, the object of scopic desire, is an absence vividly and concretely rendered as presence (the peculiar verisimilitude of the photographic illusion). Metz's account of this is persuasive and turns out to be a more "scientifically" elaborate version of Coleridge's pithy description of the psychology of theatrical spectacle as "willing suspension of disbelief":

In order to understand the fiction film, I must both "take myself" for the character (= an imaginary procedure) so that he benefits, by analogical projection, from all the schemata of intelligence that I have within me, and not take myself for him (= the return to the real) so that the fiction can be established as such (= as symbolic): this is *seeming-real*. Similarly, in order to understand the film (at all), I must perceive the photographed object as absent, its photograph as present, and the presence of this absence as signifying. . . . (p. 57)

Metz's terms, here as elsewhere, tend to suggest a sophisticated Freudian-Lacanian mythological or allegorical schema, in which castration is the figure for the subject's real "lack," the phallus his imaginary object of pursuit along the chain of signifiers that constitute his discourse, fetishism the substitutive impulse by which he continuously reconstructs himself in terms of the other. Metz adopts this system in the attempt to achieve a "psychoanalysis of the cinematic signifier," rather than elaboration of yet another set of terms for allegorical closure upon a signified: the fiction film is the arena of discourse in which the categories of imaginary, real, and symbolic continually play against, shift into one another. Unless we accept the global authority of these terms, and their (nevertheless) more overtly allegorical extensions, however, the theoretical enterprise risks reducing itself to an exercise in self-legitimation. Metz, intelligent and scrupulous as he is, does not always escape this risk.

Having established correspondences between film experience and states of dream and fantasy, Metz goes on in the second movement of the book to examine the relation in the signifying process between the orders of the primary (unconscious) and secondary (linguistic). He does this through a long and detailed inquiry into the constitutive terms of both orders: those of psychoanalysis on the one hand, and those of rhetoric and structural linguistics on the other. This allows Metz to explore the possibilities of homology between them in a coherent theoretical structure, and to define the theorist's "enormous question" to be that of "the deep-structural grounding of the cinema as a social institution." Following Lacan's claim that the unconscious is structured as a language, Metz takes the historical repertoire of the "figural" to be a codification of "the driving forces that shape language." Operations of metonymy and metaphor (Metz gives an interesting account of how these figures have acquired their special authority) describe the force field between primary and secondary levels. If the key issue, in other words, is the relation between the conscious and unconscious, then there must be "a semiology of the primary" in order for psychoanalysis and linguistics to have anything to say to each other; in terms of which, film, as established earlier in the book, occupies the privileged site of "the most vital meshings of primary and secondary."

At this point the theorist runs the risk of setting apart the primary or unconscious as indeed "primary," a realm prior to and thus transcending discourse: the realm of signifying origin. Metz avoids this, and the consequent, taxonomizing lure of the hierarchical, by following Lacan's abolition of the traditional dualism between an instinctual-transcendental primary and a social-discursive secondary. Lacan's influential rereading of Freud has replaced the latter in the massive epistemological movement away from the nineteenth-century ontological dualism between latent, essential, generative "depth" and manifest, expressive, disseminated "surface"; Lacan holds that "the unconscious is always everywhere present," as discourse, interface with the other, that there is no categorical division between primary and secondary, only "degrees of secundarization." Hence, Metz's historically scrupulous interrogation of terms concludes by collapsing binary oppositions (condensation is "a displacement effect"), dissolving false homologies (between "metaphor/paradigm" and "metonymy/syntagm"), and identifying dissymmetries, categories which overlap, terms which inextricably define each other. Metz's "comparative typology of semiological systems" sets out "four main types of textual concatenation," not as a taxonomy of categories into which the textual instance may be slotted, but as "contact points": the four terminological poles (metaphor/metonymy, paradigm/syntagm, primary/secondary, condensation/displacement) define "operational affinities"



rather than homologies and establish the "symbolic matrix" across which signification may be traced as trajectory, process, and operation rather than disposition of fixed units.

We might make the objection that Metz's exhaustive and ingenious schema exhibits a purely synchronic authority: that it occupies its own autonomous theoretical space and is not equipped (in these essays at least) to deal with the contingencies of the diachronic, of history itself. Despite local exorcizing gestures, the shadow of a retotalizing phenomenological formalism haunts Metz's study, since he does not in the end consider cinema "as a social institution" to any significant extent, nor does he return his model to the actual historical instant and its field of conditions and effects. This brings in a major rhetorical contradiction: despite the Lacanian frame of reference, Metz's emphasis tends to suggest that psychic "deep structures" do in fact form the determining ground for the social institution of cinema. This at the very least begs the dangerous question of priority. In the end, I am tempted to read Metz's typological matrix as self-validating, a monument to its own very considerable methodological finesse. Metz does not demonstrate his model by any detailed, large-scale application to the historical, specific instance; the few examples of analysis he does admit are few and desultory.

It is left to Stephen Heath to describe the historical-political dimension of Metz's "psychoanalysis of the cinematic signifier." Ideology is the transforming term which allows Heath to undertake a genuine extension of Metz's theory (in which the term remains a rhetorical feint). Heavily influenced by Metz, Heath pursues the synthesis of Marxist and Freudian terms established by the Frankfurt school, and his theoretical working models are up-to-date Althusserian. Thus, ideology is defined as that "real instance in which the imaginary is realized"—the same ideal area of Metz's account. Lacan's emphasis upon the problematic formation of the subject in discourse has allowed an effective Marxist appropriation of his psychoanalysis, through the radical historicization of such terms as "discourse" and "subject." Heath gives the following characteristic paraphrase of Metz's account of the "willing suspension of disbelief": "ideology works over the symbolic on the subject for the imaginary," where the imaginary is the site of resolution of the "specific contradictions of a particular socio-historical moment" (Althusser), established by the signifying operations of the film (the symbolic).

Heath's synthesis of Metzian semiotic-psychoanalytic and Althusserian Marxist terms is generally persuasive. He follows Metz to describe "narrativization" as the codifying principle of this ideological process: narrative as a formal economy of psychic energies, the investment, play and closure of desire, containment of the movement of the signifier, construction of the intelligible and coherent for the subject.

Historically, "novelization" is the principal narrative enterprise of a bourgeois culture, in which the fiction of the subject's identity is constructed by the relation of his codes of individual meaning to those of social determination. These ideas inform Heath's local accounts of filmic language and codes, narrative space, sound and image, sign-in-process, etc., which often demonstrate a Barthesian acuteness. Heath's descriptions of specific films in these terms (by Hitchcock, Nagisa, Oshima, Welles, Snow) are often brilliant. His exemplary reading of *Touch of Evil* (Chapter 5, "Film, System, Narrative") allegorizes the film text as a narrative containment of "real" social contradiction: the conflict between "law" and "personal problems," definition of the place of the woman, object of desire, with respect to the law. Heath is right to recognize that much of the power of this film resides in its recognition (and partial, knowing repression) of its own textual excesses, contradictions, and perversities that resist and subvert the narrative containment. This undermines Heath's general, polemical principle, which tends, as we shall see, to make the text more ideologically monolithic, less discursively playful and deconstructive, than it is.

Heath defines the key formal principle for the film's narrative-ideological operation with the infelicitous metaphor of "suture," derived from one of Lacan's seminars. "Suture" is the hold of the narrative upon the subject, the symbolic binding of the two upon the site of the imaginary. This is the term of the strategy of semantic gap-filling and narrative closure, the movements of identification and objectification which constitute and fix the subject within his discourse (for Lacan, the subject is always "an effect of the signifier"), which provide the site for the imaginary as fiction of the subject in the symbolic.

Behind this rather dizzying terminology, the basic theoretical tenet is that the ideological power of film derives from the persuasive force (in the conditions described by Metz) with which its narrative is able to play upon the spectating subject and construct for him the illusion of his own identity as a fixed, stable, coherent psychic area within which the displacing and deconstructing contradictions of the social real are resolved. We have made the anti-idealist critical return to the Kantian definition of the experience of art as the site for freedom, identity, meaning, etc. Heath exalts the concept of suture as much more than another local code, as in fact global signifying principle, the central operative term of all narrative. The concept is actually very close to some of Eisenstein's discussions of montage as central signifying principle, in particular to Eisenstein's later definition of the imaginary power of montage (raising the subject to a state of "organic" and coherent being through "synchro-



nization of the senses"), rather than to his earlier revolutionary and deconstructive emphasis (see Eisenstein 1942, 1949).<sup>1</sup>

Heath's long chapter "On Suture" (pp. 76–112) forms the theoretical center of his study. Much of it charts the ground of Lacanian psychology which underlies the whole book; the real issues of the Lacanian contribution remain formidable and remote from many readers, partly because they are so uncompromising. But this is not the only reason for the problems that readers may have here. While the subject is itself difficult and beset with an extremely technical terminology, Heath's account of theoretical principles is much of the time exhausting and opaque to the point of unreadability. I can see no compelling or even interesting reason for the book's overall stylistic truculence: a text that surrenders English grammar for turgid parataxis, or constructions that read like literal translations from the French, rife with bad puns and appeals to the authority of etymology (an idealist-essentialist notion of language if ever there were one). These mannerisms are unfortunately characteristic of this kind of criticism; indeed, the unintentionally self-parodic effect of much of Heath's jargon offers just the material for an easy and fashionable dismissal of the whole enterprise. We do not even find the wit and high spirits with which some of the French deconstructionists conduct their polemic against readability, let alone the lucid elegance of a Barthes or Metz.

The complaint is not, I think, just fastidious and aesthetic, but bears upon a serious rhetorical error, compromising one of the main impulses of Heath's argument. We may regard a critical enterprise such as this to consist of three rhetorical stages: first, the framing of theoretical postulates, of a "matrix"—the almost exclusive concern of Metz's book. Second, the application of the specific analytical instance; Heath provides a number of intelligent examples (which derive as much from the methodological disciplines of Cambridge practical criticism as from anywhere else). Third, for the Marxist who will have no dealings with the Kantian realm of free artistic autonomy, the gesture beyond the text, the Utopian prescription. It is here that most of the problems of Heath's procedure (and of much Marxist criticism) come to the fore.

The Utopian imperative: the critic, having described the ideological bindings of actual film performance, must call for "new relations of film performance"—Goddard's aim "to make films *politically*" meaning not just a deconstruction (in itself, indulgence in a bourgeois-anarchistic "formal crisis of codes") but a reconstruction of the cinematic signifier. Transformation of the political signified alone is sentimentalism (Chapter 11); signifier relations themselves must be redefined. Heath's position must be extreme, by its theoretical terms, for if Suture and Narrative are the formal principles of ideology, then quite simply "there can be no radical narrative film" (p. 172). Local evictions of the

imaginary admit substitutes; as Heath points out, we quickly renarrativize, and thus naturalize, elements of "rupture" and "excess" in a film in order to "make sense of it." Two points: first, the total displacement of narrative and its imaginary that Heath seems to be proposing may likewise achieve no more in practice than the substitution of another imaginary, at a subtler remove. To read a text is to experience a series of displacements, no radical, once-and-for-all displacement; a new reality of the "text without ideology" seems the ultimate false consciousness. Second, more practically, Heath would have the ultimate refusal of intelligibility itself. This sounds bold, and is supported with appeals to Barthes' formula for *jouissance-through-boredom* (boredom frees the reader from the thrall of textual closure into the interminable signifier-play of his desire, etc.) (Barthes 1973). However, Heath lacks the playful irony with which Barthes (never himself boring) forwards this call. The calculated alienations of the new "structural-materialist film" Heath privileges may indeed dissipate the fiction of subject-identity, offer no false refuge from the real, but few viewers in the present or foreseeable future apart from an elite of Marxist intellectuals will want to savor boredom-as-freedom. Christian Metz subscribes to the old Aristotelian pleasure principle—he likes going to the movies—and he himself articulates Heath's problem, that of the possibility of effective political intervention across and against the extraordinary power of the filmic imaginary. Heath seems to set forth a puritanical refusal not only of the opiate pleasures of the system, but of the system itself. But how effective can any discourse be which seeks to remove itself from the always-compromised communal systems of discourse and meaning? The Marxist must respond to his own utilitarian principles. To privilege the unpleasurable and unintelligible, to duck out of discourse, is to award oneself peculiar and private aesthetic election. This country's foremost Marxist critic, Fredric Jameson, confronting the Utopian challenge, claims that the only possibility for optimism must reside within the collective, the renewal of discourse within discourse, the individual perspective somehow subsumed to a collective transcendence (see Jameson 1981). This of course begs all sorts of questions, but the alternative is to remain within the impossible circularity of the issue of "false consciousness." Heath's emphasis does not escape this; there is in the end something not-so-paradoxically both anarchistic and totalitarian about his apocalyptic rejection of narrative system itself, just as there is about his style and its informing assumption that one must belong to a hermeneutic elect in order to be able to read it (or even tolerate it). It seems to me that his principles commit him to an excessively deterministic view of the operations of a text, seeing its ideo-



logical hold as absolute and inescapable; conversely, he underestimates the polysemous subversiveness of the signifier, the presence in the text of not just one monolithic discourse, but many, whose contradictions and redundancies open the space of our limited but nonetheless viable "freedom."

It is a pity about the obstructive style, because the book offers, beyond these complaints, many intelligent and forceful indications for inquiry into the operations not only of cinema but of all textual institutions. Heath concludes, much as Metz does, with the call for a new historiography grounded in the analysis of social productions and relations; despite local suggestions, this is not realized, and I again suspect that a theoretically informed practical instance of such a historiography would be more convincing and stimulating than the theoretical formulations. But, after all, the book is entitled *Questions of Cinema*, and those that Heath raises deserve close attention.

Within their common area of address, these books suggest different discursive contexts: Metz's speaks comfortably from the mandarin throne of French criticism confident of its cultural centrality, while Heath's is more heterogeneous and uneasy, aware of its emarginated and contradictory status in a Britain where all voices are those of class strife. This may yet turn out to be its strength, given greater rhetorical control. At the moment, in response to these latter contradictions, I am left with a discouraging sense of the remoteness of these highly specialized and skillfully wrought productions even from the average university-educated filmgoer in Britain or America. Time will tell whether they are a genuine vanguard staking out inaccessible territory for future intellectual colonization, or a lost patrol in the wilderness of its own discourse.

### Note

- 1 Eisenstein is perhaps insufficiently acknowledged as the pioneer of this kind of inquiry; his investigation of the psychological-affective base of cinematic signification through the montage principle is very close to the Metz/Heath enterprise.

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**Svetlana Alpers.** *The Art of Describing: Dutch Art in the Seventeenth Century*. Chicago: The University of Chicago Press, 1983. 273 pp. \$37.50.

**Reviewed by David Carrier**  
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Suppose that in some unimaginable disaster the Italian and Dutch paintings of the National Gallery are mixed together. Your task is to separate them again into two groups. The obvious procedure would be to call Annunciations, Crucifixions, and Judgments of Solomon Italian, and genre scenes, still life works, and landscapes Dutch. Asked to justify this procedure, one could contrast the interests of an aristocratic Catholic and a bourgeois Protestant society. Depictions of flower groupings or young ladies receiving love letters are not suitable for altarpieces. For art historians, as Alpers explains in her introduction, this seemingly simple classification involves some value judgments. Histories of Italian art trace its developing naturalism and locate the texts it narrates. But Dutch seventeenth-century art doesn't progress toward naturalism, and it is an art of description. "Most . . . Dutch pictures are composed of subjects gross, vulgar, and filthy," William Collins wrote in 1817; and this view, Alpers points out, is also that of its champions, as when Fromentin praises it as "the portrait of Holland . . . faithful, exact, complete, life-like, without any adornment" (quoted in Haskell 1976: 205; Fromentin 1981:97). When the authors of the Pelican history refute this claim that Dutch art "is nothing but a mirror of reality" by reference to the Dutch naiveté and awe before reality, and to the formal and expressive qualities of their representations, we are unconvinced (Rosenberg et al. 1972:240; Fry 1927). If it seems unfair to thus judge Dutch art inferior merely because art historians have a hard time talking about it—suppose literary critics concluded that the greatest novels are those most readily analyzed—perhaps even the ways we speak of pictures bring out our anti-Dutch prejudices. A deep picture, we say, tells us more than we see just by scanning its surface; a merely attractive image is, literally, superficial.

Alpers's learned and highly ambitious book aims to change the rules of this game. Instead of applying the standards of an art of narration to Dutch art, let us seek novel criteria demonstrating how it is, on its own terms, fully the equal of Italian painting. Just as Saenredam, Metsu, and Vermeer are not painters doing poorly what the Italians do well, so her defense of them should not be measured by the standards of Panofsky's or Wölfflin's accounts of Italian art. Of course, no account, however novel, can change the



rules entirely, and so when Alpers speaks of locating "a certain cultural space that was occupied by Dutch images" (p. 8), we can place her account. She wants to show how Huygens's interest in camera obscura images (Chapter 1), Kepler's model of the eye (Chapter 2), Bacon's concern with practical knowledge (Chapter 3), and specifically Dutch interests in mapping and texts (Chapters 4 and 5) relate to the visual qualities of Dutch art. There are no real Dutch equivalents to the Italian artist-theorists Alberti, Vasari, and Leonardo, and so inevitably the connection between these theories and Dutch art must be somewhat indirect. Huygens's description of camera obscura images makes the same point as Reynolds's later account of Dutch painting (p. 12). Though the Dutch artists showed no active interest in Kepler's optics, "we might . . . consider Vermeer's *View of Delft* an exemplification of that theory" (p. 35). Though Bacon's theory produced no painting in England, "a country without any notable tradition of images," studying his writings "can help deepen our understanding" of Dutch art. Like "the Dutch art with which we have linked it," he replaces a concern for narrative with an interest in description (p. 109). As my italics indicate, what is problematic here is understanding the connection proposed between these texts and Dutch painting. Here is an imaginary parallel case. Suppose I analyzed post-Impressionism by reference to the philosophies of Peirce and F. H. Bradley without claiming that the painters knew anything about these English-speaking authors. Such a theory, of course, might provide a suggestive way of looking at Seurat or Gauguin; it would not place their work in its original context. As an art historian, Alpers wants to do more; she aims to ground Dutch art in a "specific cultural ambiance" (p. 32).

Perhaps she can make up for the lack of Dutch writing about painting by direct appeal to visual evidence. Dutch interest in a Keplerian rather than Albertian perspective may show us how to see the pictures themselves. Rejecting the familiar contention that Vermeer's images show evidence of his use of the camera obscura, Alpers proposes that in a more general way his work displays that "notion of artifice" (p. 35) found in Kepler's account of the retinal image. Alberti treats pictures as windows through which observers actively look; for Kepler, they are like retinal images which we passively observe. The Dutch image, like a mirror, reflects what is already there. We can compare Alberti's vanishing-point perspective, which requires a viewer, with the distinctively Northern distant-point construction where "there is no framed window pane to look through. . . . [the picture] is itself identified with pieces of the world seen" (p. 56). Analogously, a map is an image without viewer (p. 138). To see a map is not to look down upon a

city or landscape from some imagined window in the clouds; hence the characteristically Dutch concern with mapping.

This argument is very interesting and complex. For the epistemologist, certainly, there is a distinction between the observer viewing the world through a window and the retinal image whose relation to any observer is unclear. But how does this window/retinal image contrast relate to the distinction between art that narrates and art that describes? The contrast, it might seem, is in how the painter presents his space, not about what he depicts within that space. Furthermore, since the two kinds of perspective produce optically equivalent results, even that claim could be excessive. What we have are not two different, incompatible theories about perspective, but two ways of constructing possibly identical images. So, when Alpers redoes the familiar contrast between a Northern art of textures and surfaces and Italian painting of objects and space, we need to add that such a contrast is not equivalent to the difference between the optics of framed windows and retinal images. To suggest that Van Eyck leaves "the frame and our location . . . undefined" (p. 45) is puzzling; like his Italian contemporaries, he composes with bilateral symmetry. Alpers's contrast between Northern deconstructions of the figure, the showing of multiple images of the same figure, and the Italian depiction of many figures (p. 59), and the suggestion that Saenredam's church interiors are "an aggregate of views" (p. 51), rather than "a fictive, framed window through which we look into the church interior" (p. 52), are perhaps similarly problematic. As she recognizes by treating Giorgione as a Northern artist, and Leonardo as combining Italian and Dutch concerns, the notion that Italian painting is an art based on single vanishing-point perspective is at best a useful idealization; few actual Italian pictures are more than approximations to that ideal. To Saenredam's church interiors we might juxtapose Panini's, which differ, perhaps, roughly as Dutch churches differ from Italian ones. The statement that Dutch use of color in drawings involves treating paintings as like retinal images could also be applied to many Venetians; noting that Caravaggio too did not draw (p. 38) is puzzling, since he surely is a paradigm of an artist of narration. There seems some danger of opposing Dutch painting to an Italian art exemplified in too few Italian works. Finally, Alpers's analysis is not always visually convincing. Like Michael Fried, she can be too ingenious. Is representing an organ in a church interior characteristic of a culture in which it is being "seen, not performed, bearing witness rather than dramatizing an event" significant? Surely in depictions of church interiors such a visually prominent object would appear.



All of these questions occur in Alpers's analysis of Velázquez's *Las Meninas*, for her a synthesis of the normally incompatible approaches of Northern and Italian art. It is "at once a replication of the world and a substitute world that we view through a window frame" (p. 70). Foucault and John Searle have recently claimed that the painting is inconsistent, the king and queen reflected in the mirror on the back wall occupying the same position as the viewer standing before the picture; as their critics and Alpers note, they calculate incorrectly (Alpers 1983). The mirror is not at picture center; hence the royal couple are not standing where the viewer must be. Alpers's proposed identification of "the inconsistency with the presence of two identifiable and incompatible modes of pictorial representation" is puzzling. These systems are not two ways of describing the optics, only one of which is consistent with the geometry, for the picture can consistently be described in the terms of an Albertian window. From where Velázquez stands, he can see the king and queen whom we, but not he, see reflected in the mirror behind him. Consider an optically similar example from everyday life. I look through a window and see you on the other side; you can see what is invisible to me, behind me, as I can see the mirror behind you, and so not visible to you; and that mirror may allow me to see the things behind me I cannot see directly. Here I am not claiming to "solve" this very mysterious painting, but only asking why the contrast between two kinds of picturing can help us understand it.

Some problems come from that endlessly difficult subject, perspective. The "objective" test is whether at the right viewing point a picture duplicates the light pattern from the scene it depicts (Carrier 1980). But of course few pictures satisfy this rigorous standard, and we do not view even them from a fixed vantage point. But to ask whether a perspectival representation shows the world as it really looks is, as Gombrich has urged, to pose an unanswerable question. A moving viewer or one looking with two eyes through an Alberti window violates these conditions, which can be met only by viewing through a peephole. (Such a device is discussed by Alpers, but it is a Northern artwork [pp. 63–64].) Adopting different, successive viewpoints on a window gives an aggregate of views, while a motionless camera obscura produces an image consistent with the optics of single vanishing-point perspective.

Why does the window but not the camera obscura presuppose a viewer? Certainly the scene to be seen through the window exists whether or not there is a viewer, as the camera obscura image is there, whether or not viewed; admittedly, the Alberti window requires that the viewer's position be marked, but the same is true of the camera obscura since viewing from an extreme, glancing angle would produce dis-

tortions. In a very suggestive footnote, Alpers relates this account to arguments about the status of photography, whose ultimate origins, she urges, lie in Dutch art (pp. 243–244, footnote 37). Photographs are often found inartistic because they are not composed but produced mechanically. As Gowing (1970:27) points out, Vermeer's images, which were dismissed before photography as seeming unnatural, today are sometimes criticized for being merely photographic. But the suggestion that either Dutch paintings or photographs passively show the world as it is needs qualification. Genres like the erotic photograph or the family portrait always compose in light of some cultural tradition. The recent issue of *Studies in Visual Communication* on gay art, with its contrast between Wilhelm von Gloeden's Sicilian boys mimicking classical nudes and a genre of photography, Lesbian couples, for which we lack such a preexisting model, is suggestive here.<sup>1</sup> Similarly, when Gombrich reminds us that when flowers in winter were luxuries, still life images of them were much valued, we see how such genres please in virtue of their visual content (Gombrich 1963:104).

Perhaps this contrast between Italian and Dutch art can be clearer if stated another way. In narrative pictures the goal of composition is clear; the image must present clearly a story, allowing us to identify quickly the major actors and to determine what they are doing. But in descriptive art the whole notion of composition becomes somewhat problematic. We praise a still life painter for his care in arranging flowers, but he, unlike an artist painting a *Marriage at Cana*, does not by his arrangement of objects itself give information. So, one way to look for the composition of descriptive paintings—here Meyer Schapiro's famous account of Cézanne is an obvious model—is to seek in such works an implicit narrative (Schapiro 1978).

To treat the contrast between Alberti windows and the camera obscura as merely explaining how the Dutch and Italians present their space perhaps presupposes a form-content separation itself derived from Italian art. Bringing in now Alpers's account of the Dutch Baconian interest in crafts, we might connect Dutch paintings with an interest in describing the infinite variety of everyday things which are interesting just because they can be depicted. For the Dutch, she tentatively suggests, pictures are not just illustrations of texts because visual images themselves were a kind of language (p. 93). One side to her revisionist art history is the discussion of images which ordinarily art historians would think too minor to be worth study. Not only Saenredam's paintings but his engraving of allegedly miraculous images found in an apple tree tell us something about Dutch visual interests (pp. 80–82). A left-wing critic of T. J. Clark complains that even for him "popular prints . . . are made to serve the analysis of the always more comprehensive



meaning of a painting from the Louvre" (Rifkin 1983:36). One possibility, suggested by Alpers's account but not explored by her, would be to argue that our belief in art history as the story of great masterpieces is merely another side of that Italian ideal she criticizes.

Her "Epilogue: Vermeer and Rembrandt" raises this question about quality judgments. By definition, great artists are exceptional, and so saying that Rembrandt provides "a critique of the art of describing from within" (p. 222) while Vermeer exemplifies its assumptions is a tidy way of comparing them. But if these are the two great artists of the period, we are left with a tradition containing only one great exemplar; however fascinating Saenredam, Metsu, or Cupy, nobody would juxtapose them with many painters of description—with Leonardo or Caravaggio or Poussin or Piero or. . . . The claim that Dutch painting is separate but equal to Italian art seems not established. (Might we suggest that just as Dutch perspective deconstructs the centered observer before the Alberti window, so it calls upon us to give up the belief that an artistic tradition must be centered upon a few geniuses?)

A number of Alpers's examples relate to this point. She contrasts Everdingen's "Dutch insistence on accommodating the past to what is present to the eyes" (p. 228) with Rembrandt's narrative. In comparing versions of *Susanna and the Elders* by Lastman and Rubens, we find that Rubens expresses everything with bodily gestures, while Lastman expects the viewer "to imagine a caption or a visible text" (p. 211). (Her comparison of the Lastman with a Dutch cartoon with inscribed words is, for us non-Dutch readers, unconvincing; we can only judge the cartoon by the expressive bodily gestures. It would be interesting to know if one has "read" it correctly.) An obvious response is that Everdingen and Lastman just are inferior artists. That may just be the claim of an Italian chauvinist, though what the history of Italian art shows is progress in story-telling without resort to words. While early Annunciations spell out the angel's words in a line running across to Mary, Leonardo makes the whole scene visually clear. There is something unaesthetic about an image not visually self-explanatory. Alpers seemingly confirms this traditional value judgment when she speaks of "the frequent awkwardness displayed by figures in northern works"; to add that this awkwardness is due "to a different notion of a picture and of its relation to a text" is puzzling (p. 212). Awkward Dutch narratives, like weak Italian paintings, fail to narrate clearly. It would seem more convincing to say that the Dutch, recognizing their lack of talent at story-telling, turned to genres more congruent with their culture's view of images. Alpers's suggestion that a Jan Steen *Bathsheba*, unlike Rembrandt's version, would be taken for a genre

scene without the letter she holds is relevant here. If Dutch sitters for historical portraits appear "dressed-up rather than transformed" (p. 14), as if they were playing parts they could not entirely believe in, perhaps we have a measure of the relatively large distance of the Dutch from a classical tradition in which the Renaissance Italians thought they could see themselves reflected.

Perhaps Alpers's discussion of how art history was traditionally centered on the study of Italian narrative painting doesn't provide the aptest way of placing her own work. Italian art history relates pictures not only to their textual sources but to a tradition of theorizing about art; so we can grasp the meaning of Piero in part by his relation to Alberti, and compare Vasari's account to Michelangelo's works. When such theorizing is missing, the historian is forced to become more speculative. Therefore, when Alpers says, for example, that Dutch mapmakers were called "world describers" and that painters might also be, though "the term was never . . . applied to" them (p. 122), she is rather in the position of Oleg Grabar, who tries to explain Muslim attitudes toward representations while noting the lack of any entirely helpful texts within Muslim culture (Grabar 1973:99). Like Grabar, Alpers is not so much exploring the artists' intentions as providing a visually relevant perspective which the artist did not and perhaps could not articulate. If our model of art history is debate about the textual source of Botticelli's *Primavera*, such an account will by comparison seem highly arbitrary. "The task of criticism," Richard Wollheim writes, "is nothing other than to retrieve the artist's intention"; but whether a social history of art like Alpers's can achieve that task is problematic (Wollheim 1979:13). Just as psychoanalysis and studies of advertising and some recent art criticism would turn our attention from the conscious intentions of individuals to the larger system of beliefs which perhaps no one person has articulated, so here that traditional model of interpretation may be all too Italian. Still, given the general Dutch interest in writing, why does no even approximate equivalent to Alpers's account appear within that culture? Is she reconstructing ideas which then were too obvious to need articulation or providing a perspective which only now is available?

Given her interest in Foucault and cultural history, there are two issues tantalizingly close to Alpers's concerns which she mentions only in passing. Italian belief in the superiority of Southern art was linked with patriarchy, as Michelangelo's famous observation that Dutch art is, as she paraphrases him, "an art for women" (p. 223) indicates. (A wit once suggested that Alpers identified the Renaissance as a "male chauvinist plot," and that is actually not an altogether silly idea.) She interestingly elides this claim that Dutch art is art *for* women, who for Michelangelo



lacked aesthetic judgment, and the claim that it *depicts* actual—ordinary, not beautiful—women. What might feminist art critics learn from these claims? Second, when she notes the parallels between Dutch paintings and mirrors (p. 42), one recalls Lacan's now famous account of "the mirror stage," the moment in individual and perhaps also cultural development when the individual can perceive the physical unity of his or her body. That stage marks a point in self-awareness closely related, I think, to her account of the Italian and Dutch uses of perspective (see Damisch 1979).

We might understand the originality and difficulty of *The Art of Describing* better by comparing it with a recent major, more orthodox book. Howard Hibbard's *Caravaggio* limits its forays into theory to refuting the farfetched suggestion that Caravaggio is "an artistic parallel to Galileo," to noting that an artist named Michelangelo "may have felt . . . anxious ambivalence," and to suggesting that his bloody beheadings show that he "unconsciously feared punishment for sexual thoughts or deeds" (Hibbard 1983:84–85, 154, 262). Hibbard's goal is to correctly attribute the artist's works and to study its visual sources, and so a gifted journalist like John Berger, who responds subjectively and empathetically to Caravaggio, reminds us how academic Hibbard's account really is. "Those who live precariously . . . develop a phobia about open spaces. . . . Almost every act of touching which Caravaggio has painted has a sexual charge. . . . In Caravaggio's art . . . there is no property" (Alpers 1977).<sup>2</sup> Do we again need a Leo Steinberg to remind us that current concerns with gay liberation and violence in film might be relevant to our interest in Caravaggio? Conventional art history achieves objectivity by treating great artworks as relatively isolated objects, related to other great art and influenced by the culture outside. By contrast, *The Art of Describing* offers a novel way of thinking about Dutch art and its culture, suggestively pointing to relations between that and modernist painting. If the book is relatively diffuse, that is in part because a narrative not centered around the story of one artist is hard to present. But unless art historians can, as Alpers but not Hibbard succeeds in doing, relate their work to such broader concerns, it is hard to see how the discipline can remain relevant to anyone except a small group of professionals (see Gowing 1970). Alpers's book offers much to argue with, and much worth arguing with; it deserves and will, I expect, receive much attention.

## Notes

- 1 See the articles by Bruce Russell and Joan E. Biren in Volume 9, Number 2 (Spring 1983).
- 2 Mark Roskill and I discuss this issue at length in our forthcoming *Artwriting*.

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**Ellen Winner.** *Invented Worlds: The Psychology of the Arts*. Boston: Harvard University Press, 1982. 431 pp. \$25.00.

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Ellen Winner's handsomely printed *Invented Worlds* does us all a tremendous favor by combining the two hitherto separate fields of the psychology and the developmental psychology of the arts in a general descriptive accounting. It is the successor to the Kreitlers' *Psychology of the Arts* (1972) and Howard Gardner's *The Arts and Human Development* (1973), with about two thirds in the general psychology domain and one third in the child domain. It is relatively nontheoretical as compared with those works and seems to prosper by not forcing its verdicts, particularly as it is so lucidly written and so explicit with respect to its own basic assumptions. Winner makes clear in her introduction that she will not be reviewing art education; she will not be concerned with the social dimension of the arts, or with the mediation of arts by culture, or with popular arts. Indeed:

This book examines how the adult perceiver responds to and makes sense of the art form in question, how these perceptual skills develop in the child, and how the ability to produce the art form develops. It thus delineates the adult end state of perceptual competence and the development of perceptual skills, and the development of productive skills in each art form. The book does not address the adult end state of productive competence. . . . Psychologists have tended to focus on the perception of art rather than upon its creation, probably because the former lends itself more readily to study in a laboratory. (p. 11)

So the question becomes how has she succeeded within these self-limitations which are so drastic that many might well contend that it is impossible to proceed.

She deals in turn with painting, music, and literature, but omits dance and theater. She details the struggle among psychologists over whether good art is a matter of psychodynamics (Freud), ego characteristics (Barron, McKinnon), or perceptual-cognitive processes (Guilford, Mednick, Goodman), and tends to come out for the less psychically encapsulated view that the answer might well lie in understanding the artist as a conscious craftsman deliberately moving through steps toward a goal (Arnheim, Perkins). Similarly, the perceiving audience is viewed in terms of contending psychological theories—psychodynamic, perceptual, and neurological—and once again

she tends to prefer the view that appreciation is based primarily on developed understanding and active engagement, although her most interesting evidence is from the work on individual differences in appreciation, much of which suggests that all of the psychological theories find some partial grounding in some kinds of atypicality. Her accounts on painting, music, and literature are largely descriptive of the present roles of perceptual and cognitive theory in psychology as applied to these art forms or rather as applied to some experimental analogue of them. Winner clearly approves of empirical and experimental approaches even if they are narrow or only partially relevant. She prefers these to logical and intuitive approaches (presumably theory of aesthetics), which tend to be highly relevant but too global. This is not to say she prefers Fechner to Freud, but rather she puts much weight on Berlyne, Arnheim, and Goodman. Unfortunately, one does not come away with the feeling that the empiricism of these and other psychologists has led to much more consensus about the nature of the arts than the logic of the aestheticians.

Her own conclusions from this book are that the perception of art is a problem-solving, active procedure tending to be at higher levels in those who are independent of mind and tolerant of complexity. Somewhat similarly she concludes that artists tend to be problem-seekers of much ego, strength, and autonomy, have a playfully daring attitude and a desire for experimentation, and are willing to violate convention. She protests, however, against the Western view that sees the artist as a solitary, driven creature, a creation of a culture that values Faustian exploration. And yet as her very results suggest it seems that that is the kind of artist being portrayed in these psychological results (autonomy, daring, violation, playfulness). The results both support the Western view and confine the psychological data to that very relativistic import.

Of greater interest to this reviewer was her construction of the young child's world of art in scribbling, making songs, and early stories. Here Winner is struggling with those who see children under the age of seven as merely an inadequate form of the adult, versus those who think there is something unique in the art that these youngsters produce. If a critic takes the viewpoint that the *production* of art is primarily what art is about, this part of the book becomes especially important because it is the only arena (albeit the production of infantile art) where the issue is faced. Younger children exhibit in their productions a preference for undulating melodies, clear contours, vivid contrasts, novelty, balance, high saturation, figurative expression, and climactic events. And there are parallels for their production in the work of chimpanzees, autistic Nadia, and damaged-right-brain



medical data, all of which she details in a most informative fashion. And paradoxically, most of which, if it is the underpinnings of artistic productivity, suggests that there may be more or less innate principles operating in very early artistic expression which make art, in infancy at least, a fairly generative noncognitive concern. That is as "cognition" is conceptualized in the adult centric traditions of information literature, which seem universally to privilege cognitive (formal) operations or reflectivity over other forms of intelligent responsiveness. But if art as music or story or painting or movement begins in forms which are a much more direct adaptation of perceptual response to textural possibility along certain fairly preset lines, then these early forms need more attention in any theory of artistic productivity.

Our discussion leads us to the major problem of the psychology of art: it seems to have so little to do with art. When nonartistic persons and their perception of art, or rather their perception of lines and shapes under laboratory circumstances, are the major subject matters, it seems very unlikely that this state of affairs has much to do with art. Thus I find myself in the paradoxical position of lauding Winner for her clear exposition of this psychological literature in a truly interesting book, and yet damning most of the enterprise she describes as very partially relevant to the function and form of art in human society. Throughout this work the individualistic tradition of the psychologist constantly leads to assertions that art is something that goes on in the head of the autonomous individual as perceiver or producer. That head is the same head that is the repository of all those other homunculi studied by psychologists and generally described by such names as traits, IQs, egos, divergent thinking, and the like. To study art only as an individual function is to make it a kind of fellow traveler with formalism and essentialism in aesthetic theory. In this psychology art is produced by transcendent psychic function, instead of transcendent spirit of art or of the times, the risk any scholar of art makes when he seeks to reduce art to psychological function and pays no attention to its social functions or its cultural mediation. Making it context-free may not be making it at all in a realm of experience which has more to do with hermeneutics than with prediction.

Further, I am persuaded there is something implicitly conservative in these worlds that are built by psychologists about art. By privileging adult appreciation over child appreciation and by neglecting adult productivity, the psychologists neglect dealing with the potential embarrassment that art can be to traditional views of culture or scholarly function. To act as if artistry is first and foremost an activity of the mind, as current cognitive approaches do, is to treat the mind

as if it exists only in a vacuum (or a laboratory), instead of always with its own body, legs, fingers, feelings, and in a context of persons, culture, and individual exigencies.

This book portrays the worlds invented by psychologists in their own derivative festival of the arts when they reduce that domain to their causalist and individualist metaphors. The invented worlds of artists appear not yet to have become accessible to the psychology of the arts, and perhaps they never will if psychologists don't make real artists their end state instead of Piaget and his formal operations.



**André Kertész.** *On Reading.* New York: Penguin Books, 1982. 64 pp. \$5.95 (paper).

**Reviewed by Gary Dean Jaworski**  
New School for Social Research

This recently reissued collection of photographs by the Hungarian-born photographer André Kertész consists of varied visions of the ubiquitous phenomenon of reading. What a fabulous idea—to photograph and make public the universal yet personal hold of the written word on our civilization! Or is it so? There is something inherently captivating about a person reading. One often is drawn to read what another is reading (we read over another's shoulder, or often, when someone is examining a newspaper's inner offerings, we try to peer at the front page), and capturing the phenomenon of reading in a picture seems to be a natural extension of this inquisitive instinct. Yet, at the same time, how odd that a photograph must remind us of the overpowering presence of the *written* word. Perhaps we should take this volume as the counterpart to the spate of recent writings on photography. Or perhaps it should be viewed as a celebration of a relation to images in decline, a sort of record for posterity of what used to be "reading." In any case, these photographs, I would argue, create an incomplete and distorted picture of reading. They do well in pleasing the eye but do not serve as an accurate commentary on the phenomenon of reading.

Most of the pictures are delightful and mark the presence of a master behind the lens, but all are disturbing in not being disturbing. Can this be the way reading is—ever serene, soothing, enjoyable? One may have difficulty in reading due to poor sight (p. 20) or lack of resources (pp. 10, 61), but, as such, reading is not a disturbing activity to Kertész' readers. All reading, however, and much to our good fortune, is not like reading a Harlequin "classic." The best books provoke or agitate the still of our hearts and minds. And even the most innocent book must cut into the mind of the reader, for when the mind stands still in reading, the resultant calm can turn to mental clay. The most evocative yet troublesome picture to me is of what seems to be a scholar sitting in a broad chair suspended amidst a landscape of books—piled on a mantelpiece and upon tables, stacked on the floor, lined on shelves, scattered at his feet—comfortably reading with legs crossed (p. 50). Lucky scholar! No paralysis, nausea, revulsion before his lifetime collection of books (the scholar, however, does sit with his back to the majority of books in view, perhaps to guard against their intrusion into his obvious equanimity). Reading may make life more bearable or en-

joyable, but not without some effort and pain—elements missing in this and all the pictures in the book. Moreover, the picture shows us this book in hand but cannot tell us *why* this book and not another. One can imagine the master asking the scholar to show him how he reads and waiting half an hour before his subject chose something that fit his interest and mood. Photographs cannot tell us of the many motivations of reading. One can read for entertainment in a serious surrounding or seriously in diverting places. Only the subject can tell us; the photograph remains silent.

Outwardly, as in a picture, reading is a passive taking-in, but inwardly it is an interrogation, a questioning in search of a response. We question our own potential for understanding, the author's intentions, sources, or choice of words, the relevance of the book to our current or lifetime goals. True, modern reading has lost much of the response and responsibility to the text that characterized earlier times (Steiner 1978). Most of us do not read with pencils in hand replying to and actively creating a dialogue with the text (the only pictures in the volume that show readers responding in this way are those of college students studying, on pages 13 and 33).

Indeed, we can expect to encounter less active reading of this sort as education moves from an emphasis on learning to instrumental training with its corresponding technology of response. Students now read not with pen or pencil in hand but with colored markers whose purpose is to "highlight" main points or paragraphs. One does not respond to the text as a living presence with these markers but entombs already dead letters in hideous colors to be resuscitated for an exam and discarded at its close. Each book yields a present occasion for forgetting. Quite opposed to their purpose, "highlighters" mark the demise of modern reading.

Yet even with reading in critical condition at present, the mind is not dead. We still strive, as we read reviews and back covers of books, or as we chat with bookstore clerks and owners, librarians, friends, or strangers, who have read what we have, to find meaning in what has been read. Reading continues well after we put the book down, as we must reckon for some time with what was read in order to understand it. While pictures appropriate the world in a snap, reading, much like music, takes time. The photographic image excludes the temporal aspect of reading by recording the *act* and not the *action*. In addition, the symmetry of the photographic image introduces an order to reading which it does not intrinsically possess. The symmetry is reflected in this volume in the tidy shelves of books in a Paris library (p. 6) and the personal symmetry of individual collections (pp. 38–39). Reading, on the other hand, is not like these photographed shelves: orderly, systematic,



and linear. We may read from the first page to the last (and even this is not necessary or recommended in some books), but within the reading one may take a hundred different detours in thought and mood, and consecutive readings may yield insights at first unrealized. Moreover, many books have excursions built in which become independent of the body of the text and can be read apart from the rest ("The Grand Inquisitor" in *The Brothers Karamozov* comes to mind), and readers may have favorite chapters or sections, conclusions or quotes, which stand out from the remainder of the book (one of my favorites is Mynheer Peepercorn's speech by the waterfall in Mann's *The Magic Mountain*). A photograph can only capture the straight lines of reading and not its circles, diversions, and detours.

All of this leads us to the observation that photography alone is ill equipped to render accurately the experience of reading. Perhaps if there were a text to supplement the pictures of Kertész' readers, the intertextuality of words and images would better reveal the reality of reading. But there is no text, only a listing of the place and date of each photograph at the end of the book. We are left only with the marvelous photographs of André Kertész and this one thought: photographs may open our eyes to aspects of reading otherwise unseen, but only written words themselves can reveal what of reading cannot be viewed but only experienced. This book reminds us that there is no substitute for reading in order to understand reading.

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**Paul Ekman, ed.** *Emotion in the Human Face*. Second edition. Cambridge: Cambridge University Press; Paris: Editions de la Maison des Sciences de l'Homme, 1982. 439 pp. \$39.50 (cloth). \$14.95 (paper).

**Reviewed by Stuart J. Sigman**  
Pennsylvania State University

The first edition of this book, written by Ekman and two colleagues, Wallace Friesen and Phoebe Ellsworth, met with generally enthusiastic and approving critical response. In one review, Izard wrote that *Emotion in the Human Face* "strike[s] a blow for the vindication of Darwin" and is an excellent source for "people who want to know the facts about facial expressions and their recognizability" (1973:219). However, Izard also suggested that the book lacked a firm theoretical base.

The present edition is a significant revision and expansion of the first one, containing over two hundred additional pages and discussions of several new topics. Chapter titles include the following: "What Emotion Categories or Dimensions Can Observers Judge from Facial Behavior?"; "Does the Face Provide Accurate Information?"; "An Evolutionary Perspective on Human Facial Displays"; and "Affect Theory." The inclusion of the last-named chapter (by Silvan Tomkins) is especially noteworthy in light of Izard's criticism of the lack of adequate theory in the first edition.

The book's primary concern is limited to "consideration of only one type of information that can be obtained from the face (information about emotion), from only one type of organism (human adults), using only one type of evidence (empirical research)" (p. 2). These are important and, in many ways, unfortunate restrictions. The book's exclusive focus on emotion displays permits little more than a single paragraph to be devoted to the multiple communication functions of the face. There is no discussion of the interrelations of the numerous systems and constraints operating on the face, a shortcoming for a contemporary book on nonverbal behavior.

Equally restrictive are Ekman's remarks about the methodological basis for his and his colleagues' data. Ekman equates science with the experimental method typically found in psychology; he suggests that experimentation provides answers as opposed to speculation, and he largely negates the usefulness of naturalistic fieldwork and phenomenological accounts. The arguments for such methodological puritanism



fail in the eyes of this reviewer, as in the case of Ekman's discussion of two different approaches to the study of emotion:

Though it would be important to determine which approach, categories or dimensions, is more similar to the phenomenology of social interaction, this is not the sole or even necessarily the most important criterion for choosing between these two schemes and judgment tasks.

One may also ask, which approach offers the more economical approach for measuring emotional information? That is, which employs the smallest number of independent variables to account for the information observed from the face? (p. 55)

A willingness to explore social actors' "emotion vocabularies" and "emotion grammars" might be of considerable value in the development of a more complete theory of the role of emotions in social life.

This book is rooted in Ekman's now widely published universalist approach to human emotions and nonverbal behavior. At one point in the volume, Ekman critiques the anthropologists who have been arguing for a cultural and contextual approach to gestural meaning. His rhetoric obscures the fact that he too has had to indicate that the full import of an emotion display is shaped by rules of situational appropriateness. Ekman should be seen as tapping into biological substrata of behavior, but not into social communication.

Recognizing the above reservations, I must hasten to note my belief that this book makes a number of important contributions to our understanding of the nonverbal aspects of communication and the place of emotions in face-to-face interaction. The book systematically and extensively roots Ekman's research program in several decades' worth of psychological work on emotions and facial configurations. Both the first and second editions provide extensive summaries and critiques of research from the 1900s through the 1960s (the latter book also includes a new review chapter on the seventies by Ekman and Harriet Oster). Especially interesting are the analyses of why certain "classic" studies should be dismissed, while previously ignored ones invite closer attention and appreciation. To wit:

In summary, Landis's findings, that observers could not make accurate judgments, as compared with either the expected emotional nature of the eliciting circumstance or the subject's self-reported experience, should be credited only if (1) the same or similar reactions were elicited during at least some of the situations in most of the subjects,

(2) the elicited reactions were different for at least some of the different situations, and (3) the selection of subjects and experimental arrangements did not encourage the subjects to mask or otherwise to control their facial behavior and/or to falsify their self-report. The three criticisms discussed suggest that these conditions were probably not met. (p. 61)

Other excellent methodological and substantive chapters are included in the book. For example, Ekman meticulously describes the work involved in establishing FAST and FACS, two of his systems for notating facial behavior. Maureen O'Sullivan presents a thorough discussion of the need to distinguish face validity and construct validity when studying individuals' perceptions of facial movement, and details the several stages in ascertaining construct validity. Finally, there is an accessible discussion by Tomkins of the original "affect theory," as well as of recent reformulations. Again, however, it is disconcerting to find in this paper no sociological awareness of the situational factors producing specific emotions.

To conclude, the book is most probably not suited for use in a beginning nonverbal course because of its specificity of content and the technicality of certain arguments. It should prove useful to advanced students and researchers seeking a detailed exposure to Ekman's approach and contributions to nonverbal research.

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## Briefly Noted

**William C. James.** A. A. Chesterfield: Ungava Portraits—1902–04. Agnes Etherington Art Centre, Queen's University, Kingston, Ontario, Canada. Exhibition Catalog, 48 pp. Cloth (n.p.).

A. A. Chesterfield was a clerk for the Hudson's Bay Company in their Great Whale River and Fort George outposts from 1902 to 1904. When he had the time, Chesterfield took photographs of the Cree and Inuit people who came to the outpost. In 1974, over seventy years after these images were produced, William James, who was on the faculty of Queen's University, discovered the glass plate negatives and records of Chesterfield. James put together an exhibit of the pictures and produced a catalog to accompany the exhibit around Canada. The photographs are extraordinarily strong. Many share the "confrontational style" of the Inuit photographs taken by Robert Flaherty a decade later. The people stare out at you in a way that is compelling and at times disturbing. Chesterfield took these images for his own amusement. Until James produced this catalog few had been published or exhibited. We know them at all simply because his widow decided to give the collection to someone who would preserve it. As more and more collections of photographs like those of Chesterfield, Flaherty, or Roland Reed emerge, we begin to realize how many more there must still be in attics and barns throughout North America. We also are beginning to realize that our assumptions about the photographic portraiture of native peoples has been based too much upon a handful of photographers when in fact there were hundreds, all trying to record the rapidly disappearing lives of the Native American.

**William Rothman.** Hitchcock—The Murderous Gaze. Cambridge, Mass.: Harvard University Press, 1982. 371 pp., ill. \$27.50.

This analysis of Hitchcock's work is based on a detailed examination of five of his best films: *The Lodger* (1926), *Murder!* (1930), *The Thirty-Nine Steps* (1935), *Shadow of a Doubt* (1943), and *Psycho* (1960). This particular combination of films serves as an excellent vehicle for the author's demonstration of developments in Hitchcock's use of formal devices and in the philosophy served by these devices. What sets this book apart from other books on Hitchcock—and, indeed, from almost all other books on film—is the extraordinary degree to which the discussion is based on a direct examination of visual material. The book contains hundreds of frame enlargements from the five films, and much of the text is tied directly to these illustrations. Thus, Rothman's remarks about such matters as point of view, camera angle, and visual metaphor are made with a degree of concreteness and authority that is rarely present in writing on film. It must also be noted, however, that the author's ultimate intention—to which the formal analysis is always secondary—is to arrive at an understanding of the philosophy which Hitchcock's films embody. Accordingly, much of the book is given over to an attempt to justify the claim that Hitchcock's films are self-reflexively preoccupied with the nature of the medium itself and with the relationship between filmmaker and audience. Readers interested in this line of interpretation will undoubtedly find this a most rewarding book.

**Raymond Bial.** Ivesdale: A Photographic Essay by Raymond Bial. Champaign County Historical Archives/The Urbana Free Library, Urbana, Ill., 1982. 57 plates. HB \$12.00.

According to the dust cover, this book is "a moment in the history of a small farming community in East Central Illinois." Photographer Raymond Bial has chosen to depict the place mainly through informal portraits taken where he found the people. One is reminded of the work of Bill Owens, particularly *Suburbia*. Bial, like Owens, lives near the community he portrayed. The subjects often confront the camera in an apparently relaxed manner. There is an implicit trust expressed that results from the photographer's participating in the life of the community he is trying to represent.



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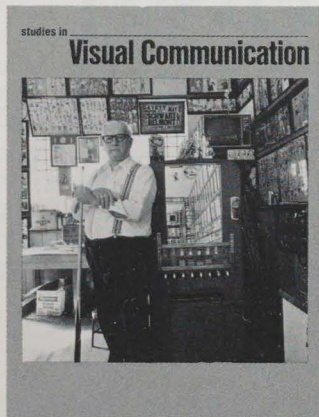
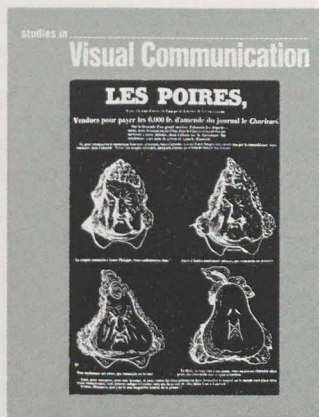
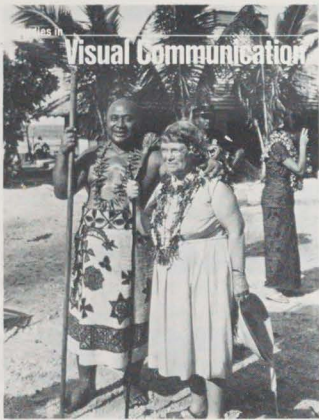
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